Synthesis Report

Policy Dialogues for Integrated Landscape Management in Kenya

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Landscapes for People Food and Nature

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Contents

Introduction

Challenges with food security, poverty, climate change, ecosystem degradation and biodiversity loss are highly interlinked. These interconnections are increasingly apparent in Kenya's growing economy, where ecosystem degradation enhances food insecurity and poverty, and poverty and food insecurity exacerbate the pressure on scarce natural resources. Furthermore, many of these interactions occur at a scale that spans multiple jurisdictions, only adding to its complexity. For example, ensuring adequate quality and quantity of water in Lake Naivasha, which many smallholder farmers and large horticulture and floriculture businesses rely on, requires combatting deforestation and land degradation in the upper portions of the watershed. Similarly, reducing pressure on forest land in Lari and Bungoma requires improving the livelihoods of smallholder farmers. And, in Embu, dealing with land degradation requires reducing the division of farmland into increasingly smaller pieces, a practice driven by poverty and the increase in population in the region. Finally, combatting human-wildlife conflicts in Laikipia requires ensuring that pastoralists' livelihoods can be enhanced by protecting wildlife through community-run ecotourism ventures.

Integrated solutions that sustain vital ecosystem services, enhance food production, and improve human health and well-being simultaneously and operate at a landscape scale are required to address these complex challenges. Integrated Landscape Management (ILM) is one increasingly used approach to achieving these types of integrated solutions that maximizes synergies and minimizes tradeoffs between different land uses. ILM refers to the long-term collaboration among different groups of land managers and stakeholders to achieve multiple objectives required from a landscape, which typically includes agricultural production, provision of ecosystem services, protection of biodiversity and development of local livelihoods. While there are many different approaches to ILM, most share features of broad stakeholder participation, negotiation around objectives and strategies, and adaptive management based on shared learning (Scherr et al. 2013).

Box 1: The Five Critical Elements of Integrated Landscape Management

1) Shared or agreed management objectives that encompass multiple benefits from the landscape

2) Field, farm and forest practices are designed to contribute to multiple objectives

3) Ecological, social and economic interactions are managed to realize positive synergies and mitigate negative trade-offs

4) Collaborative, community-engaged processes for dialogue, planning, negotiating and monitoring decisions are in place

5) Markets and public policies are shaped to achieve diverse set of landscape objectives (Scherr et al. 2013).

Despite the many successes with integrated approaches to landscape management in Kenya, there remain considerable challenges, including poor coordination among stakeholders within the landscape, inadequate training and skills, lack of awareness and information, inadequate funding and incentives, and poor infrastructure, to name a few. Furthermore, to be implemented effectively, integrated landscape approaches require a framework of enabling policies and institutions to support multi-sectoral coordination and planning at a landscape scale. With the birth of the new Constitution in Kenya in 2010, provisions were made for the devolution of many

functions of the government in multiple sectors to 47 county governments. One of the main objectives of this action was to give the powers of self-governance to the people and enhance their participation in the exercise of the powers of the State and in making decisions that affect them. In addition to new opportunities, these recent changes also present important challenges for policy change and coordination.

To understand these opportunities and challenges further, EcoAgriculture Partners, in partnership with the World Agroforestry Centre's (ICRAF) Sustainable Rural Institutions (SRI) project under the coordination of the Landscapes for People, Food and Nature (LPFN) Initiative began a process to improve the policy and institutional framework for ILM in Kenya based on policy-maker and civil society engagement. The LPFN is a collaborative initiative to foster cross-sectoral dialogue, learning and action. The partners involved aim to understand and support integrated agricultural landscape approaches to simultaneously meet goals for food production, ecosystem health and human wellbeing. EcoAgriculture Partners is a pioneering non-profit organization that promotes ILM approaches around the world. The SRI project, managed by the Eastern and Southern Africa regional offices of ICRAF, is an action research process to strengthen and improve the institutional capacity of rural grassroots organizations in Kenya, Uganda, and Tanzania.

While there are roles for the public sector, private sector and civil society in the promotion of ILM, this process focused primarily on the role of the public sector in creating an enabling policy framework and supportive institutional environment for ILM. Researchers began by assessing the elements of Kenya's current policy and institutional framework related to the implementation and scaling up of ILM from the perspectives of both civil society and policymakers. Then, key stakeholders in five sites identified policy needs and recommendations that could be addressed by national or sub-national policymakers. In the next phase of this process, civil society leaders and key county- and national-level policymakers will work together to improve the policy environment for ILM in Kenya through a facilitated, national-level policy dialogue.

This paper sets the stage for the national-level policy dialogue by presenting a synthesis of the information acquired thus far from the five sites. After describing the methodology used for the consultations and several cross-cutting entry points for ILM, this paper highlights the ways the national and county governments in Kenya are already supporting ILM as well as the current challenges for government action. In the final section of the paper, several recommendations for improvements to the national and county policy and institutional frameworks, which were identified by stakeholders in the five sites, are presented. It is hoped that discussions with key county- and national-level policymakers during the national-level policy dialogue will help to clarify these current policy challenges and, by the end of the process, county-level policymakers, national-level policymakers, and civil society will have developed concrete action steps to improve the policy framework for ILM in Kenya in collaboration.

Methodology

Five sites were selected for in-depth scoping studies to develop a more comprehensive understanding of the policy and institutional environment for ILM. These sites were selected based on the type of agro-ecological zones, livelihood characteristics and the type of institutional arrangements or stakeholder platforms present to ensure a diverse set of integrated landscape initiatives operating in a variety of policy and institutional conditions. These sites included a range of stages of multi-stakeholder coordination; some sites had formal multi-stakeholder platforms, while in others, the stakeholders were

only coordinating informally previously and were all brought together for the first time during these discussions. The five sites include:

1. *Embu:* Embu County is located in the humid highland slopes of Mt. Kenya. It covers an area of 2,555.90 km^2. The main agricultural activities include growing cash crops, such as tea, coffee, cotton and macadamia nuts, as well as livestock rearing and food production for subsistence purposes. While there is no multi-stakeholder collaboration platform that focuses on ILM exclusively at this point, there are many groups of stakeholders that have been collaborating within the landscape on issues of poverty, land fragmentation, market development, environmental degradation, water use, climate change, and human-wildlife conflict. These groups include Water Users Associations (WRUAs) and Community Forest Associations (CFAs), among others. Furthermore, Embu was one of the sites for the Strengthening Rural Institutions (SRI) Project, which builds the capacity of smallholder farmer groups through a participatory process.

2. *Lari:* The Lari Landscape is part of the larger Kikuyu Escarpment that lies on the eastern slopes of the Aberdare Mountains of Central Kenya. The landscape, which is approximately 442 km^2, is located in Kiambu County. It is divided into two agro-ecological zones, the lower and the upper highland zones; rainfall varies depending on the altitude. Forest covers about 37,000 hectares and is designated as an Important Biodiversity Area. Ninety percent of the population is engaged in cultivation, and the average size of the land is 0.8 hectares. While tea is the main cash crop in the landscape, there has been shift to livestock rearing and high-value horticultural enterprises in recent years. Dairy production, mostly zero grazing, is practiced due to the small land holding per household. Kijabe Environment Volunteers (KENVO) has been involved in the management of the landscape since 2007, with the aim of achieving both biodiversity conservation and livelihood improvement. In early 2012, KENVO, in partnership with EcoAgriculture Partners, facilitated a visioning workshop for the landscape to discuss the specific objectives and goals of the landscape platform.

3. *Naivasha:* The Lake Naivasha Landscape is located in the eastern Rift Valley in Kenya and encompasses about 3,400 km^2 of the Lake Naivasha watershed, including the upper water catchment area in the mountains, the middle water catchment area, and the lower catchment area which feeds into the lake. The lake is designated as a Ramsar Convention site and an Important Bird Area. The principal land-use activities in the landscape are smallholder agriculture, pastoralism, forestry and tourism. The Lake Naivasha Landscape includes area in three administrative counties: Nakuru, Narok and Nyandarua. The Imarisha Naivasha Management Board was officially created in May 2011 by the Kenyan government to manage the coordination of the Lake Naivasha Catchment Restoration Programme. The Board is composed of representatives from various stakeholder groups, and it reports to the Inter-Ministrerial Technical Committee, which is now housed in the Ministry of the Environment, Water and Natural Resources. The objectives of the Imarisha-Naivasha Management Board are, broadly, to coordinate the activities of the various stakeholders who are engaged in the conservation of the Basin; monitor compliance with laws and regulations; develop and enforce local codes of conduct; and develop and execute a Trust to receive and manage financial resources for the conservation of the Basin. In consultation with stakeholders in the Basin in 2012, Imarisha-Naivasha developed the Sustainable Development Action Plan (SDAP) for 2012-2017, and it plans to release an integrated management plan for the entire Lake Naivasha Basin in April 2014.

4. *Bungoma:* Bungoma County covers 2,068 km^2 of land along the foothills of Mt. Elgon in western Kenya. The main economic activity is agriculture, with farmers mainly cultivating maize, sunflower, sugarcane, coffee, tobacco, potatoes, beans and some cattle. While there is no multi-stakeholder collaboration platform that focuses on ILM exclusively at this point, there are many groups of stakeholders that have been collaborating within the landscape around issues of land fragmentation, water scarcity and pollution, poverty, deforestation, and soil fertility. Furthermore, Bungoma was one of the sites for the Strengthening Rural Institutions (SRI) Project, which builds the capacity of smallholder farmer groups through a participatory process.

5. *Laikipia:* The Laikipia Landscape covers the whole of Laikipia County, which is located on the Equator in central Kenya. It covers an area of 9,462 km^2, including a plateau bordered by the Great Rift Valley to the West, the Aberdares Mountain Range to the South and Mt. Kenya to the South-East, with the Ewaso Nyiro River and its tributaries flowing from South to North through the Landscape. The altitude varies between 1500 meters above sea level in the Ewaso Nyiro Basin in the North to 2611 meters above sea level around Marmanet Forest. The Landscape is endowed with several natural resources, including pasture land, forests, wildlife, and water resources. Wildlife has become a major source of conflict between the farming and pastoralist communities; however, tourism plays a key role as a source of income within the County. Eighty-five percent of the population engages in agriculture (both crop and livestock production) which is the most important source of household income. The East Africa Wild Life Society has had a long engagement with stakeholders in the Landscape and has helped the stakeholders to establish the Laikipia County Natural Resources Network (LAICONAR). This platform was formed in February 2012 through a series of consultations on natural resource issues affecting Laikipia County, and it includes Civil Society Organizations (CSOs), Community Based Organizations (CBOs), the private sector, national and county government organizations, and academia.

A team of researchers spent three days in each site to meet the key actors, convene focus groups with important stakeholder groups, review documentation and visit important areas. The researchers surveyed individuals and groups in each of these sites using a five stage process, which was composed of the following elements:

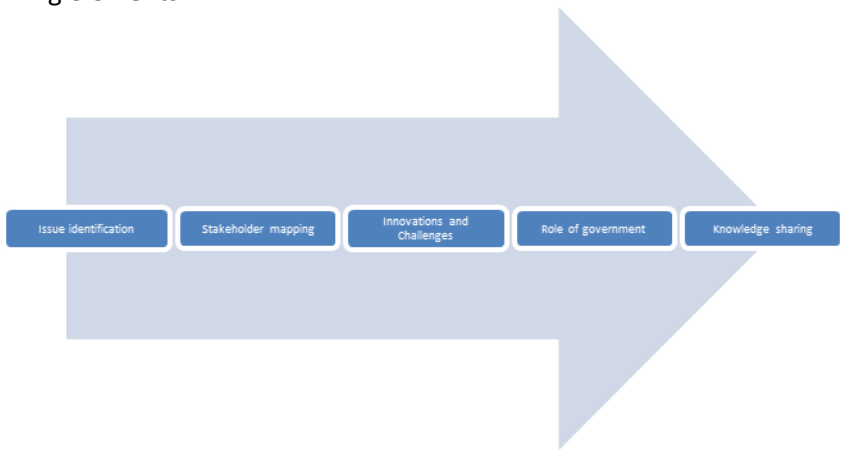

Figure 1: Stages of the policy dialogue process

1. Issue Identification: Participants were asked to identify landscape issues that incorporate the tenets of agricultural production, environmental conservation and rural livelihoods. Then, through a priority voting mechanism, the participants identified the top ILM issues to be deliberated in the next stages.
2. Stakeholder mapping: Participants were asked to identify relevant stakeholders who should be involved in addressing each of the top landscape issues.
3. Identification of innovations and challenges: Participants were asked to identify best practices they have used to tackle these landscape issues as well as challenges they currently face.
4. Role of public policy in the ILM context: Participants were asked to outline helpful roles the government has played in the landscape as well as current gaps in public policy and recommendations for how policies and institutions could be developed or modified to better support ILM.
5. Knowledge sharing and learning networks: Participants were asked to identify successful aspects that they would be willing to share with other landscapes and problem areas in their landscapes that could be addressed by learning about successful practices in other landscapes.

The information acquired from this process in each of the five landscapes was analyzed based on a framework which identifies specific roles the public sector can play in support of ILM. These include: 1) lawmaker/regulator, 2) funder/incentivizer, 3) convener of stakeholders, 4) knowledge and capacity builder, 5) visioner, and 6) infrastructure developer (LPFN Policy Working Group 2014) (Box 1). The

Box 2: Possible roles of the public sector in ILM:

1. *Lawmaker/regulator*: As a lawmaker and regulator the government can harmonize the regulations and legislations within a landscape across sectors, jurisdictions and levels of government; endorse specific regulations and laws concerning land management that takes into account landscape scale aspects; amend the legal framework to guarantee that land and natural resource rights encourage long-term sustainability, incentive collaboration and are consistent across different sets of rights.
2. *Funder/incentivizer*: As funder and incentivizer the government can modify economic incentives to encourage the full set of landscape goals such as subsidies, taxes, PES, easier credit for ILM activities, and develop new institutions and mechanism for long term financing of ILM investments.
3. Convener of stakeholders: As a convener of stakeholders the government can; establish and support institutional platforms for stakeholders' collaboration across various administrative boundaries and sectors that values the existing decision making bodies and the local rules.
4. Knowledge and capacity builder: As a knowledge and capacity developer the government can reinforce the capacity of stakeholders for ILM including support for education, extension, landscape planning and capacity to coordinate, as well as promote and finance the technical components of a landscape initiative, including spatial planning.
5. *Visioner*: As a visioner the government can devise national strategies that support the implementation of ILM and incorporate these into overarching national development strategies.
6. *Infrastructure developer*: As an infrastructure developer the government can maintain existing infrastructure and develop new infrastructure that supports ILM-related activites (LPFN Policy Working Group 2014).

supportive government actions, challenges for government action and policy recommendations were classified into these six categories of public sector roles and then grouped together into broader themes.

Cross-cutting entry points for ILM

In each of the sites, stakeholders were asked to develop and prioritize a list of key "landscape issues." Landscape issues are issues that require the integration of environmental conservation, agricultural production and rural livelihoods development as well as the consideration of spatial interactions between land uses at broader scales in order to manage them effectively. After analyzing the information collected, it was observed that discussions in all five of the landscapes focused on five common themes: water, land, forests and wildlife. These four entry points are used to contextualize the discussion of the broader themes in the sections on supportive government actions, challenges for government action, and public policy recommendations presented below.

Table 1: "Landscape issues" identified by stakeholders in five sites

Entry points	**Embu**	**Bungoma**	**Lari**	**Naivasha**	**Laikipia**
Land	• Land fragmentation	• Land fragmentation • Soil fertility and unsustainable agriculture	• Agriculture production • Land fragmentation and degradation	• Land use planning	• Land use planning
Water	• PES	• Water scarcity and pollution		• Water scarcity • Pollution	• Water use and management
Forests	• Forest degradation	• Deforestation	• Deforestation	• Deforestation	• Forest destruction
Wildlife	• Human-wildlife conflict				• Poaching
Diverse	• Poverty • Unorganized markets • Climate change • Poor financial management	• Poverty and low income		• Lack of access to public natural resources	• Poor road infrastructure

Box 2: Four entry points for ILM discussions:

1. *Water:* Water shortage and pollution due to degradation of water catchment areas, over abstraction, and lack of proper water management structures/technologies were cited as issues in all five landscapes.
2. *Land:* Land degradation and fragmentation due to increasingly subdivided land, poor land management practices, conflicts over land tenure, and inadequate land use planning were cited as issues in all five landscapes.
3. *Forests:* Forest degradation and deforestation due to high demand for forest products and an increase in forest encroachment by agriculture were cited as issues in all five landscapes.
4. *Wildlife:* Human-wildlife conflict due to encroachment on wildlife areas and competing land uses as well as poaching were cited as an important issue in Embu and Laikipia.

Government actions that currently support ILM

Stakeholders identified many things the national and county governments are currently doing to support the development of ILM. These include implementing supportive laws and regulations, providing of funding and incentives, facilitating the coordination of stakeholders, developing knowledge and building capacity, creating a common vision, and developing of supportive infrastructure.

1) Laws and regulations

Implementing existing supportive laws and regulations

The National Government has many existing laws that help to form an enabling framework for the integrated management of water, forest, land, and wildlife resources.

- *Cross-cutting:* The Environmental Management and Coordination Act (1999) provides regulations to control pollution, mechanisms for the development of Environmental Impact Assessments and Environmental Audits, the establishment of the Environmental Court, and the licensing of many extractive industries. The National Climate Change Action Plan (2013-2017) improves the adaptive capacity of communities through improved access to information and services and promotes mitigation through climate smart agriculture, agroforestry, and the restoration of forests.
- *Water*: The Water Act of 2002 created the current institutional arrangements for water management, including the Water Resources Management Agency (WRMA), Water Services Board (WSB) and Water Services Providers (WSP). The law also provides for the creation of Water Resource Users Associations (WRUAs), which are community groups that work in partnership with WRMA to conserve riparian areas within water catchments through the creation of sub-catchment management plans. The creation of WRUAs has allowed WRMA to more easily reach the grassroots level and coordinate actions within a water catchment. Furthermore, the Water Act (2002) provides a means for regulating water use, through the allocation of water permits and the development of water allocation plans, which is crucial to the effective management of scarce water resources, like in the Lake Naivasha Landscape.

- *Forests*: The participatory approach to managing forest resources, emphasized in the Forest Act (2005), was cited by many stakeholders an important change to help enhance the conservation and multi-functional use of forested areas. The law provides for the creation of Community Forest Associations (CFAs) and the co-management of forested areas between the national government and the CFAs. It also provides a mechanism for sharing the benefits of forest conservation with the CFAs, by allowing them to employ certain user rights in the forest and by reintroducing the PELIS program, in which CFAs are able to use fertile land within plantation forests for agriculture and grazing in exchange for caring for the plantation seedlings.
- *Wildlife*: The new Wildlife Act (2013), which designates higher penalties for wildlife damage to crops and human life, was mentioned by many stakeholders as a positive development for mitigating the impact of human-wildlife conflicts.
- *Land*: The Land Control Act (2010) limits the subdivision of land if the size of any parcels will be less than one hectare, which helps to prevent land fragmentation. Additionally, the establishment of the National Land Commission and the devolution of its functions to the county level through establishment of Land Control Boards is improving land tenure security. The Registered Land Act (2010) provides that all registered land is subject to certain overriding interests, such as natural rights of water. Additionally the Water Resources Management Rules (2006) require the owner of riparian land to undertake a conservation plan at their own cost and that an authority may direct what activities can be undertaken. The Agriculture Act (1955) also defines land preservation rules, which help to prevent land degradation, and agroforestry rules (2009), which require farmers to establish and maintain farm forestry on at least 10% of their land.

While the implementation of these laws is challenging, the government has undertaken some actions to improve enforcement. For example, stakeholders in the Laikipia Landscape highlighted the creation of the wildlife crime division within the judicial system as an important mechanism to assist with the prosecution of wildlife-related crimes, as well as the recruitment of more rangers by the Kenya Wildlife Service (KWS) to enforce the new Wildlife Act (2013).

Creating new laws and regulations

New laws are in the process of being created which may further promote the development of ILM. With the devolution of power, many counties are creating laws and policies that are more tailored to local conditions. In Laikipia County, for example, the County Assembly is debating a Spatial Planning Bill, a Survey and Mapping Bill, and an Environment Management and Conservation Bill, among others, and it has recently passed a County Wildlife Act. Furthermore, all counties must develop an Integrated County Development Plan to coordinate development within their jurisdiction, which is a positive step towards more integrated land use planning. The National Government is also in the process of formulating a Community Land Bill, which seeks to recognize, protect and support the registration of community land rights, establishes community land management committees, and provides the mechanisms for community land-use planning. Stakeholders in the Laikipia Landscape cited this new bill as a positive step towards addressing some of the conflicts over land tenure and the illegal acquisitions of land in their communities.

2) Funding and incentives

Providing general funding, resources and incentives

The government also serves as a general provider of funding, resources and incentives that support the activities of many integrated landscape initiatives.

- *Cross-cutting:* The national government provides direct funding to individuals and groups through the *Njaa marufuku* program, which many stakeholders have used to fund the construction of improved water harvesting structures,. The Economic Stimulus Program, a government-run initiative, has provided the funding to introduce fish farming into several of the landscapes. There are also many county-specific funding institutions, like the Constituency Development Fund of Embu and the Laikipia County Development Authority, which support resource mobilization for development projects at the county level (which are, in theory, part of the integrated development plan for the county).
- *Water:* The Water Services Trust Fund finances the development and implementation of Sub-Catchment Management Plans, which are managed by the WRUAs. In the Lake Naivasha Landscape, there is a public-private partnership between the floriculture industry and the Imarisha-Naivasha Board, which helps to fund conservation activities within the Lake Naivasha Basin. Furthermore, the National Government provides direct funding for many of the functions of the Imarisha-Naivasha Board through the Imarisha-Naivasha Trust. Additionally, the government is involved in promoting a PES scheme in the Lake Naivasha Landscape.
- *Forest:* KFS provides seedlings to CFAs and WRUAs for reforestation projects and some funding for CFA-initiated projects, such as for the development of an ecotourism business plan in the upper forest regions of the Lake Naivasha Landscape.
- *Wildlife:* In the Laikipia Landscape, the government has helped facilitate the development of several Corporate Social Responsibility projects to address problems with poaching.

3) Coordination of stakeholders

Facilitating coordination between public sector bodies

Another way the government currently supports ILM is through the promotion of interagency coordination and cooperation. One of the most striking examples of this type of coordination is the ongoing merger of KWS and KFS. Additionally, stakeholders in the Laikipia Landscape highlighted the National Government's creation of the Parliament Select Committee on Land, which is a task force designated to address the problem of land acquisitions and historical land injustices, as a positive step towards a more integrated management of land. The Ministry of Devolution and Planning also plays a role as a coordinating unit, especially regarding the process of devolution. Finally, at the county level, there are many ongoing, ad-hoc processes for coordinating activities between sectors, such as monthly sub-county meetings for ministries to exchange information in the Lake Naivasha Landscape (which replaced the District Executive Committee Meetings that are no longer in place following devolution).

Facilitating coordination among public, private and civil society organizations

The government has also supported the development of ILM by facilitating the coordination of public, private and civil society organizations. For example in the Laikipia Landscape, the government has helped coordinate the activities of community-based conservation organizations. In the Lari Landscape, the Department of Agriculture has helped promote common interest groups, such as beekeepers or zero-grazing dairy producers, to enable farmers to work together to access markets for sustainable agricultural products. On a broader scale, the Office of the Prime Minister (which no longer exists) created the Imarisha-Naivasha Board, which regroups public, private, and civil society groups around the issues of water management within the Lake Naivasha Basin. Moreover, as mentioned previously, the government is responsible for the empowerment of many community-based natural resource management organizations (CFAs, WRUAs, Beach Management Units, etc.) and has facilitated linkages between those groups and county, national, and even international entities, which allows them to coordinate their activities at a broader scale.

Another important function of the government is the facilitation of forums for dialogue among stakeholders. For example, in Laikipia, the County Government has organized dialogues on land issues (through the Ministry of Agriculture), public participation forums on town planning and dam creation, and discussions with private ranchers on land taxes. The County Government in Nakuru (one of the counties in the Lake Naivasha Landscape) has also provided funds for intra-county forums on natural resources management. There has also been some some ad-hoc, inter-county coordination, such as an inter-county partnership between Laikipia and neighboring Isiolo County on the management of Crocodile Jaws Mega Dam, which provides water to northern Laikipia.

4) Knowledge and capacity building

Training stakeholders in specific field and farm practices

The government provides training, often through its extension agents, in specific field and farm practices that support ILM.

- *Water:* WRMA, the Department of Agriculture, and KFS teach WRUAs how to rehabilitate degraded land, stabilize river banks, and use farming practices, like terraces, that minimize soil erosion. In the Lake Naivasha Landscape, these trainings are sometimes as part of a PES program where downstream water users pay upstream farmers to adopt these sustainable land management practices. Similarly, the WSB and Department of Agriculture provide training on the construction of water harvesting structures to help community members who face issues with water shortages. The Fisheries Department in the Lake Naivasha and Lari Landscapes also helps to build awareness and support farmers to establish fishponds as an alternative livelihood which does not rely heavily on water abstraction.
- *Wildlife:* KWS provides training to community rangers to enhance the security of community conservancies in the Laikipia Landscape.
- *Forest:* KFS provides training to CFAs in the construction of tree nurseries and reforestation practices.
- *Land:* The Department of Agriculture provides training to farmers in sustainable agriculture techniques, including compost making, agricultural product value addition, greenhouse construction and drip irrigation, in order to maximize the agricultural productivity possible from small land sizes.

Several stakeholders highlighted that, in some ways, the devolution of the government makes it easier for individuals and groups at the grassroots level to access these government services, because they are managed at a local level. However, the confusion with the recent governmental changes following devolution has meant that funding to these extension agents has largely dried up, as it has not yet been transferred from the county governments to the sub-county bodies.

Creating awareness

Another key role that the public sector plays in the development of ILM is the creation of awareness about the importance of sound environmental management, and the dissemination of information to all stakeholders. This supports the exchange of information on best practices and current conditions as well as the coordination of different bodies.

- *Wildlife:* In the Laikipia Landscape, KWS holds regular meetings with communities living near areas impacted by wildlife to disseminate information and help to prevent conflict. KWS also helps to create awareness about the importance of biodiversity and wildlife conservation.

- *Land:* The Department of Agriculture advises farmers on the correct fertilizer to use, shares important weather information, and spreads awareness about the potential of high-value crops to reduce the need for larger agricultural land sizes.
- *Forests:* In the Lari Landscape, there are many green initiatives in schools to help sensitize the younger generation about the importance of forests to their lives and livelihoods.
- *Water:* In the Lake Naivasha Landscape, WRMA and Imarisha, along with other partners, have developed eight large signs to alert users about the current water level in the Lake and advise water users on the amount of water abstraction allowed given current conditions. The Fisheries Department in Lake Naivahsa also holds annual stakeholder forums and open days to disseminate best practices and current research to fishermen in the landscape.

Developing technology and directing research

The government also directs much of the research and development of technology in Kenya, and many of these advancements support ILM. For example, the development of mobile soil nutrient testing systems has enabled farmers to have a better understanding of what to plant where. Additionally, in Laikipia County, the Planning Department is using technological improvements in spatial planning to better coordinate and plan diverse land uses. The government also provides funding for research institutions like Kenya Marine Fisheries Institute (KEMFRI) and Kenya Agriculture Research Institute (KARI), which play a significant role in research to develop new agricultural practices.

5) Common vision

Developing strategic plans and targets

Finally, the government also supports ILM in Kenya through the development of strategic plans and targets. Stakeholders in the Laikipia Landscape, highlighted that Vision 2030, a national-level strategic plan, has allowed for the creation of larger projects, like dams, which help to provide water resources in Laikipia County. Furthermore, stakeholders in many landscapes mentioned the national goal of establishing 10% tree cover as an important target, which increases their drive to reforest many degraded lands.

6) Infrastructure

Establishing a supportive infrastructure

In a broad sense, the public sector is also responsible for developing supportive infrastructure and an enabling environment, which provides the opportunity for ILM at the local level. For example, the national and county governments provide arrangements for security, conflict resolution, and arbitration, which make multi-stakeholder management possible. Furthermore, they provide essential infrastructure, such as roads, water systems, dams and electric fences to keep wildlife separate from human settlements.

Challenges for government action to support ILM

While there are many progressive government policies that help to support the development of integrated landscape initiatives in Kenya, there remain significant challenges for government action at both the national and county levels. These challenges have also been classified into difficulties with laws and regulations, funding and incentives, the coordination of stakeholders, knowledge and capacity development, the creation of a common vision, and infrastructure.

1) Laws and regulations

Enforcing laws and regulations

As highlighted above, many of the existing sectoral laws and regulations support ILM; however, in practice, there are challenges with enforcement.

- *Water:* In the Lake Naivasha Landscape, while the Water Allocation Plan has been developed, it is not well enforced because WRMA does not have adequate staff and the WRUAs are not significantly empowered to enforce the law. Similarly, there are challenges with the enforcement of regulations on land use practices in riparian areas, water quality and solid waste management in urban areas.
- *Land:* Land laws regarding the procedure for changing uses and users and development plans are not well implemented, which leads to uncoordinated development and land fragmentation. Furthermore, regulations on on-farm practices are not well enforced.
- *Wildlife:* Many stakeholders feel the Wildlife Act is not adequately enforced, because there is delayed compensation for wildlife damage.

Developing intersectoral policies and regulations

There are also many conflicting policies and regulations that result in confusion, inefficiencies and lost opportunities. Some of the confusion stems from the recent devolution of the government, as the devolution guidelines are new, and in some sectors, they remain unclear. Additionally, many of the national-level policies have not yet been adopted at the county level, leaving a policy void in many sectors.

- *Water:* There are conflicting policies between the Ministry of Agriculture, WRMA and KFS regarding the management of riparian lands. Specifically, there is difference in the requirements for the minimum size of river bank protection, confusion about whether fishponds should be established in riparian areas, and discrepancies about what tree species are appropriate to plant. There is also competition and confusion regarding the ownership of water between the county and national governments, and many stakeholders highlighted that the transition of the Water Department into the Ministry of the Environment has been confusing and challenging.
- *Land:* In the Lari Landscape, the County Government has not yet adopted the national agricultural policies or established a new county-specific agriculture policy, which has left some stakeholders questioning which mandate to follow.

2) Funding and incentives

Providing targeted and coordinated funding for ILM

Stakeholders in all of the sites discussed challenges with accessing adequate funding for their activities and the fragmented and short-term nature of many of the funding streams. At the county level, government agents in all of the sites emphasized their struggle to fund administration and personnel, because very little funding had been transferred to the devolved government services from the county governments.

- *Water:* In the Lake Naivasha Landscape, representatives from the WRUAs explained that there is not adequate funding to implement the activities specified in their sub-catchment management plans, and when they do receive funding it is from multiple donors and government agencies, which makes the coordination of activities difficult.

- *Forests:* KFS does not have adequate funding allocated for the formation of co-management plans, and many CFAs find it prohibitively expensive to develop these plans, which are required for the co-management of forest resources.

Establishing specific incentives for ILM

Stakeholders in all five of the sites emphasized that the government has challenges with providing adequate incentives to promote ILM, including benefits sharing mechanisms.

- *Water:* Stakeholders in the Lake Naivasha and Lari Landscapes highlighted the lack of benefits for the conservation of riparian lands in their communities, because clean water flows to downstream users and the revenues go directly to the government. Moreover, where PES schemes do exist, these are largely small in scale and ad-hoc, as there is currently no policy that formally addresses PES.
- *Forest:* Representatives of the CFAs in the Lake Naivasha Landscape emphasized that the rules regarding benefits sharing under the PELIS program are inadequate.
- *Land:* The government experiences challenges with providing adequate incentives to adopt new technology, like drip irrigation, biogas creation, and greenhouse farming, which would better promote sustainable land management.

3) Coordination of stakeholders

Establishing formal coordination mechanisms among government bodies

The lack of coordination between policies in various sectors is also a result of the lack of coordination between government bodies. This limited coordination is due, in part, to the insufficient clarity in institutional mandates following devolution and the insufficient formal mechanisms in place to promote coordination between government bodies in different sectors and jurisdictions.

- *Water:* WRMA, WSBs and the Department of Water have overlapping roles; however, the coordination between these units is often challenging. In the Lake Naivasha Landscape, which spans three counties, there are no formal coordination mechanisms between the government officers within the water sector who operate in separate administrative jurisdictions within the same water catchment basin. Furthermore, these technical officers operate at different scales: for example, WRMA officers have county-wide jurisdiction whereas extension agents from the Department of Water operate largely within sub-county regions.
- *Land:* There is limited coordination between the agriculture, forest, water and wildlife sectors in the development and implementation of land use plans.

Supporting coordination among stakeholders within the landscape

Many stakeholders also highlighted, that while the government does play a role in facilitating coordination between different stakeholders in the landscapes, the support is often not adequate. For example, many representatives of WRUAs emphasized that there is little formal support from the government for the administration of individual WRUAs, and there are no formal mechanisms for coordinating activities between WRUAs within a landscape, or between WRUAs and other community-based organizations, like CFAs. Representatives of the CFAs also highlighted this predicament, which impairs their ability to coordinate activities within the same forest region. Finally, in the Lari Landscape, agricultural producers lamented the insufficient government support in the development and management of marketing cooperatives, which have failed in the past due to poor financial management and administration.

4) Knowledge and capacity development

Building the capacity of civil society organizations

In addition to insufficient funding, many of the government offices also face challenges with the amount of qualified personnel available to provide support and build the capacity of grassroots organizations. Many farmers reported that they do not have any contact with extension agents unless they solicit their services directly.

- *Water:* In the Lake Naivasha Ladscape, WRMA and the Department of Agriculture do not have adequate personnel to provide training to farmers in sustainable agriculture practices who want to participate in the PES program.
- *Land:* In the Lari Landscape, there is a lack of extension officials in the Department of Agriculture to provide information to farmers on soil testing and how to add value to agricultural products.
- *Forests:* KFS has limited capacity to convince farmers of the importance of trees and to support them in planting trees on their farms and in riparian areas.

Dissemination of information about laws, policies, programs and research

There is insufficient information among stakeholders in the landscapes about existing laws, policies and programs that may support their activities. For example, in the Lake Naivasha Landscape, many farmers are unaware of the PES program or what activities would help promote the conservation of riverine areas. This may be because there is a lack of information that is easily accessible and has been translated into local languages.

Moreover, many stakeholders cited a lack of research and information in key areas that would enhance their activities in the landscape. For example, in the Lari Landscape, there is no current inventory of natural resources available or their spatial distribution. Furthermore, many farmers emphasized that they have inadequate information about what markets they could access, the possibilities for the eco-certification of products, and how climate change will impact crop production.

5) Common vision

Implementing and tracking the vision over time

While Vision 2030 and the 10% tree cover targets have been developed, the government faces challenges with the implementation of these long-term, strategic plans. For example, KFS does not have adequate funding to be able to achieve the 10% tree cover target. Furthermore, the national government faces challenges with monitoring the progress towards these strategic goals over time.

6) Infrastructure

Maintaining supportive infrastructure

Many stakeholders emphasized that poor infrastructure often interferes with their ability to manage their resources and promote sustainable livelihoods. For example, in the Lari Landscape the main access roads are often in disrepair, and this hampers the ability of farmers to get their products to regional markets in a timely manner. Similarly, in the Laikipia Landscape, the inadequate road infrastructure interferes with the tourism industry, which is a major source of livelihood for many inhabitants of Laikipia County.

Table 2: Supportive government actions and challenges for government action to support ILM

Government actions that currently support ILM	Challenges for government action to support ILM
Laws and regulations	
• Implementing existing supportive **laws and regulations** • **Creating new laws and regulations**	• Enforcing laws and regulations • Developing intersectoral policies and regulations
Funding and incentives	
• Providing general funding, **resources and incentives**	• Providing targeted and coordinated funding for ILM • Establishing specific incentives for ILM
Coordination of stakeholders	
• Facilitating coordination between public sector bodies • Facilitating coordination among public, private and civil society organizations	• Establishing formal coordination mechanisms among government bodies • Supporting coordination among stakeholders within the landscape
Knowledge and capacity development	
• Training stakeholders in specific field and farm practices • Creating awareness • **Developing technology and directing research**	• Building the capacity of civil society organizations • Disseminating information about existing laws, policies, program and research
Common vision	
• Developing strategic plans and targets	• Implementing and tracking the vision over time
Infrastructure	
• Establishing a supportive infrastructure	• Maintaining supportive infrastructure

Recommendations

Stakeholders in each of the landscapes developed several recommendations for government action that would better support their work managing water, forest, land and wildlife resources in an integrative way, while enhancing sustainable agriculture-based livelihoods. These recommendations fell into six major categories, including the improvement of laws and regulations, funding and incentives, coordination of stakeholders, dissemination of information and capacity development, promoting a common vision and improving supportive infrastructure.

1) Improve laws and regulations for ILM

Enforce existing laws and policies

Stakeholders in the five landscapes recommended that the national and county governments improve the enforcement of existing policies, especially those on land use and water management. To do this, many stakeholders suggested that the government increase the capacity of its extension officers so that they can better monitor and enforce regulations, especially those that pertain to land use like planting

on steep slopes, farming in riparian areas, and clearing land for settlements. In the Lake Naivasha Landscape, members of the WRUAs even advocated that they be given the power to help WRMA enforce the Water Act and the Water Allocation Plan.

Improve integration of policies and regulations between relevant sectors and jurisdictions

Many stakeholders recommended that both the national and county governments work to harmonize conflicting policies, improve the integration of policies between sectors, and clarify fragmented policies post-devolution. For example, the regulations on riparian land management need to be harmonized between WRMA, Ministry of the Environment and Ministry of Agriculture. Additionally, because many county governments are currently in the process of creating new policies, there is a need to ensure that these policies align with the national policies already in place. Along with that, it is important to clarify fragmented devolution guidelines regarding forest resources, the ownership of water, and land-use planning, as well as to realign existing legislation, such as the Agriculture Act, with the devolved government framework. Similarly, it is necessary to clarify the roles of government institutions regarding natural resource management and agriculture, especially after the changes post-devolution.

Develop new policies at both the county and national level that would better promote ILM

In addition to enforcing and harmonizing existing policies, many of the stakeholders in the sites advocated for the development of new policies at both the county and national level that would better promote ILM. Developing a more effective land policy that focuses on the development of integrated land use plans was mentioned several times.

2) Improve funding and incentives for ILM

Develop new programs and enhance current programs that incentivize ILM

Stakeholders in the five sites recommended that the national and sub-national governments develop new programs and enhance current programs that incentivize ILM. For example, several stakeholders in the Lake Naivasha Landscape advocated for the legislation of the PES program, the provision of tax breaks to private sector actors who participate in PES, and the priority provision of water infrastructure for communities who participate in water conservation. In the Laikipia Landscape, stakeholders recommended that the government provide incentives for community policing of wildlife poaching. Similarly, stakeholders in the Lari Landscape recommended that the government provide opportunities for the certification of products from areas managed with ILM and other climate-smart technologies.

Improve disbursement of funding and consolidate funding streams across sectors

Stakeholders in all five sites recommended that the national and county governments improve the mechanisms for disbursing funding to public sector agencies and consolidate funding streams across sectors to reduce the duplication of programs. Additionally, stakeholders suggested that the government improve the accessibility of financing for community-based groups by improving the Agricultural Finance Coroporation services and changing their lending policies so that loans are available to those who do not have a land guarantee (i.e. women and youth).

3) Improve coordination of stakeholders for ILM

Develop new mechanisms to facilitate coordination between government bodies

Stakeholders in the five sites recommended that the governments develop new institutions and mechanisms to facilitate coordination between government bodies. For example, in the Lake Naivasha Landscape, stakeholders suggested that the government establish a coordination mechanism between

KFS, CFAs, WRUAs and WRMA to decide on the priority reforestation areas within the landscape. Similarly, there needs to be a better link between the new county governments and existing government institutions, as well as new cross-county planning mechanisms to facilitate the coordination of activities between jurisdictions.

Facilitate linkages between landscape stakeholders and national and international networks

Stakeholders also recommended that the national and sub-national governments work to facilitate linkages between landscape stakeholders and broader national and international networks, such as international carbon markets, public-private partnerships, and research institutions.

Fund coordination and administration of platforms for ILM

Many stakeholders recommended that the national and county governments do more to fund the coordination and administration of groups involved in landscape management. Representatives of the CFAs and WRUAs in the Lake Naivasha Landscape recommended that the government fund the coordination and administration of these bodies by allocating a percentage of fines and permits for water and forest resource use. Similarly, stakeholders in the Lari Landscape suggested the government fund the coordination and administration functions of agricultural cooperatives to improve the marketing of agricultural products from the landscape.

4) Improve information dissemination and build capacities for ILM

Provide training and support to community groups

Stakeholders in the five sites recommended that the national and sub-national governments provide training and support to community groups in appropriate field and farm practices and group management. Many farmers and pastoralists indicated that more training in agro-pastorlism, agro-forestry, sustainable land and livestock management, and appropriate techniques for farming on small parcels of land would help them to improve their production, while sustainably managing forest, water and wildlife resources. Furthermore, many producer groups highlighted that their collectives would greatly benefit from training in financial management, good governance practices, and how to conduct market research.

Recruit and increase the capacity of government extension officers in ILM

In order to provide this training, stakeholder in all five landscapes recommended that the national and county governments recruit and increase the capacity of government extension officers in ILM specifically. By increasing the funding for and the number of government extension officers, many stakeholders hoped they would have an easier time accessing government services.

Disseminate information of existing policies and best practices relating to ILM

In addition to providing training, stakeholder in all five sites recommended that the government extension officers do more to disseminate information and build awareness of existing policies and good practices relating to ILM. In the Embu and Lari sites, stakeholders recommended developing information centers to disseminate technical information, especially on climate change risks, adaptation strategies, carbon financing, and soil testing techniques. They also hoped the government extension officers could help disseminate information on ILM problems and best practices, and work to build awareness among civil society of existing government policies and programs and civil societies' rights to natural resources.

Invest in developing technology to support ILM

Finally, stakeholders in all landscapes recommended that the national government invest more money in developing technology to support ILM. For example, in the Laikipia Landscape, stakeholders

recommended that the government invest in technology to promote the electronic registration of land to help ease problems with land tenure conflicts and in technology that would assist with spatial planning at a larger scale.

5) Promote a common vision for ILM

Develop a common strategy between sectors for promoting ILM

Stakeholders in all five sites recommended that the national and sub-national governments work to develop and promote a common strategy between sectors for promoting ILM.

Increase high-level political support for ILM

In addition, many participants suggested that the national government work to increase high-level political support for ILM, so that it can be used more widely as a strategy.

Table 3: Summary of recommendations

Recommendations for government action to support ILM
Improve laws and regulations for ILM
• Enforce existing policies (especially those on land use and water management) • Improve integration of policies and regulations between relevant sectors and jurisdictions • Develop of new policies at both the county and national level to better promote ILM
Improve funding and incentives for ILM
• Develop new programs and enhance current programs that incentivize ILM • Improve disbursement of funding and consolidate funding streams across sectors
Improve coordination of stakeholders for ILM
• Develop new mechanisms to facilitate coordination between government bodies • Facilitate linkages between landscape stakeholders and national and international networks • Fund coordination and administration of platforms for ILM
Improve information dissemination and build capacities for ILM
• Provide training and support to community groups • Recruit and increase the capacity of government extension officers in ILM • Disseminate information on existing policies and good practices relating to ILM • Invest in technology to support ILM
Promote **a common vision** for ILM
• Develop common strategy between sectors for promoting ILM • Increase high-level political support for ILM
Improve supportive infrastructure for ILM
• Maintain existing infrastructure • **Develop new infrastructure**

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