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Evaluation of the Integrated Environment and Climate Change Project (IECC) PAD

Final Evaluation Report

February 27, 2020

EVALUATION OF THE INTEGRATED ENVIRONMENT AND CLIMATE CHANGE PROJECT APPRAISAL DOCUMENT

Evaluation Report

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Acronyms

AOR	Agreement Officer Representative
ASAL	Arid and Semi-Arid Lands
AWF	Africa Wildlife Foundation
CIDP	County Integrated Development Plan
CBNRM	Community-Based Natural Resource Management
CCA	Climate Change Act
CCC	Climate Change Council
CCD	Climate Change Directorate
CCF	Climate Change Fund
CCVA	Climate Change Vulnerability Assessment
CDCS	Country Development Cooperation Strategy
CIFOR	Center for International Forestry Research
CLA	Community Land Act
COG	Council of Governors
COR	Contracting Officer Representative
CIDP	County Integrated Development Plans
DMD	Deputy Mission Director
DNA	Deoxyribonucleic Acid
DO	Development Objective
ESV	Ecosystem Service Valuation
FGD	Focus Group Discussions
GHG	Greenhouse Gas
GOK	Government of Kenya
GPS	Global Positioning System
IECC	Integrated Environment and Climate Change
IFMIS	Integrated Financial Management Information System
IP	Implementing Partner
IPCC	Intergovernmental Panel on Climate Change
IR	Intermediate Result
JOCC	Joint Operations Control Center
KALRO	Kenya Agriculture and Livestock Research Organization
KEA	Kenya and East Africa
KEFRI	Kenya Forestry Research Institute
KII	Key Informant Interview
KIRDI	Kenya Industrial Research and Development Institute
KFS	Kenya Forest Service
KSG	Kenya School of Government
KWS	Kenya Wildlife Service
KWTA	Kenya Water Towers Agency
LECRD	Low Emission and Climate Resilient Development Project
MD	Mission Director
MEF	Ministry of Environment and Forestry
MMWCA	Maasai Mara Wildlife Conservancies Association
MTP	Medium Term Plan
MOU	Memorandum of Understanding
NDI	Nationally Determined Indicators
NCCAP	National Climate Change Action Plan
NCCRC	National Climate Change Resource Centre
NDC	Nationally Determined Contributions

NGO	Non-Governmental Organization
NLC	National Land Commission
NNTF	Ngare Ndare Trust Fund
NWP	Nature, Wealth and Power
NRM	Natural Resources Management
NRT	Northern Rangelands Trust
NTV	Nation TV
PAD	Project Appraisal Document
PEER	Partnership for Enhanced Engagement in Research
PES	Payment for Environmental Services
PII	Personally, Identifiable Information
RCMRD	Regional Center for Mapping of Resources for Development
SDG	Sustainable Development Goals
SERVIR	NASA/USAID joint program on geospatial information for environmental decision-making
SMART	Spatial Monitoring and Reporting Tool
SME	Subject Matter Expert
TL	Team Lead
TMG	The Mitchell Group, Inc.
TVET	Technical and Vocational Education and Training
UNDP	United Nations Development Program
UNFCCC	United Nations Framework Convention on Climate Change
USAID	United States Agency for International Development
WCMA	Wildlife Conservation and Management Act
WILD	Wildlife Information Landscape Database
WRA	Water Resources Agency

Executive Summary

This evaluation report by The Mitchell Group, Inc. (TMG), outlines: (1) a description of the evaluation purpose; (2) a background to the Integrated Environment and Climate Change (IECC) Project Appraisal Document (PAD) and USAID/Kenya's Country Development Cooperation Strategy (CDCS), (3) the evaluation approach and methodology; (4) key findings and recommendations; (5) best practices and lessons learned; (6) sustainability considerations; (7) conclusions; and (8) recommendations.

Evaluation purpose: The purpose of the evaluation was to examine five years of project implementation (2014-2019) and to provide USAID/Kenya and East Africa's (KEA) Environment Office (ENV) with high-level systems findings, conclusions and recommendations, lessons learned and implications for sustainability. Recommendations are intended to inform the Mission's environmental strategy for its new CDCS, which was under development at the time of this report.

USAID/Kenya's previous CDCS (2014-2018) identified improved natural resource management (NRM), including biodiversity conservation, and climate change issues as entry points for its work with national and county governments, communities, the private sector, and civil society actors. USAID intended that its investments contribute to strengthening or improving: (1) inclusive governance systems; (2) community-managed conservation landscapes and ecosystems; (3) market-based water supply, sanitation and environmental service delivery and systems; and (4) development for lower emissions.

Data collection and fieldwork: After consultations with USAID/Kenya and the preparation of an inception report, field work began in early November and concluded in December 2019. The evaluation team conducted extensive in-person interviews and group discussions with 18 Nairobi-based partners, field work in the community conservancies in northern Kenya near Mt. Kenya (Laikipia, Isiolo, and Samburu Counties), and in conservancies adjacent to the Maasai Mara in Narok County.

Key Findings

The evaluation considered four main questions: To what extent has the IECC project: 1) strengthened inclusive governance systems; 2) improved community conservation-managed landscapes and ecosystems; 3) enhanced market-based environmental systems; and 4) supported efforts toward lower emissions development. The evaluation team identified several key findings and recommendations, which are summarized below.

Inclusive Governance Systems. The IECC project significantly improved the capacity of local communities and non-governmental organizations (NGOs) to conduct integrated development planning and budgeting, and to manage landscapes and protect wildlife. This increased capacity enabled conservancy associations to raise awareness and educate the public regarding the benefits of landscape management and wildlife conservation, to advance local livelihoods and development, and to give marginalized women and youth a meaningful voice in community affairs.

Public sector strengthening was less impactful. The evaluation observed a general lack of procedures, policies and protocols for collaboration and data sharing in and among public agencies. Further, project buy-in was uneven in some instances. Staff of the Ministry of Environment and Forestry (MEF), Kenya Forest Service (KFS) and Kenya Water Towers Agency (KWTA) said they felt marginalized during IECC project design and claimed to have been engaged in research studies only after they had been completed.

Environmental conservation was also hampered by incomplete devolution of authority and powers to counties as prescribed by Kenya's 2010 Constitution and the lack of clarity in national and county responsibilities for climate change planning, environmental conservation and management of natural resources including landscapes and wildlife. Although counties featured prominently in the PAD, the project did not address deficiencies in human and financial capital, which impeded the discharge of

mandated duties and responsibilities.

The project successfully championed the development of an enabling environment for natural resource use and landscape management. Several policies, laws and regulations for climate change, environmental conservation and protection were enacted with IECC support. At the time of this report, a new law on wildlife protection was being drafted and scheduled for parliamentary debate and approval in 2020. Nonetheless, Kenya requires a stronger legal and regulatory framework for land use and benefits-sharing, and more clarity in legal and regulatory language. Moreover, if new laws are to be applied, invoked and enforced, they need to be better known and understood by all relevant actors and stakeholders. Ministries, departments, and agencies need to be resourced to roll them out.

Community Conservation-Managed Landscapes and Ecosystems. Progress in this area continued over the life of the project (LOP). The area of biologically significant landscapes under improved natural resource management increased by an additional 1.5 million hectares. If water towers—which were the focus of IECC-sponsored research are included—the project exceeded the PAD target of two million hectares.

Outside of the national parks and reserves, conservancies bore most of the responsibility for safeguarding biodiversity and wildlife habitats. They provided highly effective platforms for advocacy, education and awareness-raising for environmental protection nationally and locally. The evaluation found that most conservancies invested in gender and youth strategies that feature livelihoods training, leadership development, and entrepreneurship. Beadmaking, beekeeping, cooking, and brickmaking were popular activities. Additionally, wildlife tourism generated substantial subsidies for bursaries and social welfare infrastructure. The evaluators noted, however, that conservancies were heavily reliant on tourism, and because tourism revenues fluctuate from year to year, further economic diversification was advisable. One possibility was to supplement tourist revenues with high-quality livestock breeding and game farming,

Market-Based Environmental Systems. The evaluation found that market-based environmental systems and payment for ecosystem services (PES) were not well-understood and practiced. Respondents appreciated the Kenya Forestry Research Institute (KEFRI) study, which ascertained that forests in the water towers were traditionally undervalued, and that indirect benefits such as pollination, flood protection, fresh air, and water outweighed monetary proceeds from firewood, timber, and agriculture. But valuation of environmental services needs to be better understood by policymakers and the public.

*Low Emissions Development***.** The evaluation determined that the project had sponsored studies of high caliber on low emissions development, but that most climate change activities were in a pilot phase and required more testing and experimentation. Through a partnership with UNDP, the project developed legal and institutional frameworks for financing climate change and transparent monitoring of emissions in Kenya. Support included: (1) the establishment of a climate change directorate with climate finance and greenhouse gas units; (2) implementation of the National Climate Change Action Plan (NCCAP), 2018-2019; (3) a greenhouse gas (GHG) inventory and communication strategy; (4) technical and vocational education and training (TVET) on solar technologies; and (5); voluntary green building standards and certification. These efforts contributed significantly to mainstreaming low emissions into sectoral plans and budgets, securing public and private sector finance for priority low-emissions development actions, and promoting effective implementation and transparent monitoring of low-emissions development actions.

In addition, the enactment of the Climate Change Act, 2016 (CCA) called for the implementation of the Climate Change Action Plan 2013-2017, the development of the NCCAP 2018-2022, and the National Policy on Climate Finance. These were particularly noteworthy, as they established an elaborate legal, policy and institutional framework for pursuing low emissions development in Kenya. Other important advances included the establishment of a climate change directorate, and climate finance and greenhouse gas (GHG) units. However, given the government's limited experience with accessing, managing and tracking climate finance, these latter legislative and policy instruments remain largely unimplemented.

As part of IECC support for water towers, the Intergovernmental Authority on Development (IGAD) Climate Prediction and Application Center (ICPAC) conducted a climate change vulnerability assessment (CCVA), which found that, under different emissions scenarios, temperatures in the three ecosystems could rise by as much as five degrees Celsius by the 2070s. Several respondents urged better communication and dissemination of research findings to policymakers.

Best Practices and Lessons Learned

The evaluation observed that mature, well-established conservancies owed their success to a highly inclusive and consultative process between and among conservancy directors, managers, and residents. Although such processes required significant time investments and clear, well-defined steps to achieve the end goal, they resulted in more effective monitoring and prevention of wildlife crime; inclusive policies and practices to engage youth and women in social and economic activities; and more participatory management structures.

Notwithstanding these gains, poaching continued in many lesser performing conservancies, particularly where residents vied with county governments over land. Land rights and authorities represented a contested arena where the young counties sought to exert control. County governments and residents need to balance land privatization and subdivisions with conservation.

The evaluation also noted that an unintended consequence of improved wildlife management was an increase in human-wildlife conflict (HWC). Conservancies will need more elaborate policies and procedures to address HWC.

In summary, given respondents' positive reactions to IECC-supported research and learning; technological innovations in landscapes, wildlife management, market-based services and low emissions development; and keen public interest in conservation and environmental protection; the evaluation concluded that conservation and climate change mitigation and resilience are areas where USAID should continue its multi-stakeholder engagement strategy with counties, central government, civil society and the private sector.

Sustainability

Self-reliance toward environmental sustainability has increased significantly, but further efforts are still required. On the positive side, USAID/KEA's long-standing commitment to conservancies has built their financial and management capacities, positioning them to receive and manage donor funding directly. Conservancies provide many infrastructure improvements and social welfare benefits including bursaries and scholarships to residents including youth and women. The continuity and sustainability of these benefits will depend on diversified revenue streams, uptake of PES, and implementation of policies and regulations embracing direct and indirect benefits of conservancy and water tower conservation.

On the less positive side of the ledger, implementation of the 2016 Climate Change Act (CCA) and establishment of its Council have yet to occur. Also, per constitutional provision, the national government must enact comprehensive legislation for conservancy benefits-sharing, and a national integrated financial management information system (IFMIS) for tracking climate finance and climate change investments is missing. Counties must invest in their physical environments, and they and their constituents must find ways and means to address long-term land use planning, development and sustainable use.

Recommendations

The evaluation identified 18 recommendations and grouped them thematically: 1) governance, 2) community-managed conservation, 3) environmental education, 4) mass media, 5) market-based environmental services, and 6) low-emissions development.

Governance

1. USAID should strengthen early engagement with key ministries, agencies and counties, particularly

during project development and implementation.

2. USAID should support development of GOK interagency data and information sharing platforms for environmental monitoring and reporting.
3. USAID should continue to support training and capacity building of community-based associations in environmental monitoring.
4. USAID should support vulnerable populations, including persons with disabilities, and continue to support increasingly diverse women and youth-led conservation enterprise development with conservation, livelihood and economic benefits.

Community-Managed Conservation

5. USAID should continue to support diversification of conservancy revenue streams.
6. USAID should support advocacy for favorable land use, tax reforms and burden-sharing.
7. USAID should support integrated conservation and development planning with targeted county governments.
8. USAID should support strengthened private sector engagement in support of conservation.
9. USAID should support the identification and restoration of degraded terrestrial and marine areas, and support further efforts to collect and disseminate data measuring change in these ecosystems over time.

Environmental Education

10. USAID should support embedding environmental education within the national curriculum.

Mass Media

11. USAID should support mass media coverage of conservation, climate change and environmental issues.

Market-Based Environmental Services

12. USAID should support capacity building on research methodologies and standards.
13. USAID should support research dissemination and sensitization within key GOK ministries, agencies and county governments on water towers.
14. USAID should support piloting of PES activities in the three critical water towers of Mt. Elgon, Cherangany, and the Mau Forest, as well as forest areas and rangelands.

Low Emissions Development

15. USAID should support integration of specific climate change mitigation activities in national and county development planning.
16. USAID should support increased GOK capacity for attracting, accessing and managing climate finance.
17. USAID should support development of frameworks to support low emissions development and the financing of climate change mitigation efforts including the use of carbon credits.
18. USAID should support implementation, monitoring and inventorying of low-emissions development activities.

1. Evaluation Purpose

This evaluation report was prepared by The Mitchell Group, Inc. (TMG) for USAID/Kenya and East Africa (USAID/KEA). The evaluation of USAID/KEA's Integrated Environment and Climate Change Project (IECC) Project Appraisal Document (PAD) is intended to examine five years of project implementation (2014-2019). In so doing, it documents evidence regarding the IECC's contributions to the Mission's Sub Intermediate Result: IR.3.2: *More resilient people and ecosystems to climate change in a green growth economy* and the contribution of these activities to the Mission's Development Objective (DO) 3 of Inclusive, market-driven, environmentally sustainable economic growth. Because the timing of the evaluation coincides with the development of USAID/KEA's new Country Development Cooperation Strategy (CDCS), the evaluation is also intended to provide the Mission with high-level systems findings to inform its environmental strategy for the next phase of programming.

2. Background

USAID/KEA's CDCS (2014-2018) identified improved natural resources management (NRM), including biodiversity conservation, and climate change as entry points for its work with national and county governments, civil society and the private sector. The PAD envisaged a nested and integrated approach for IECC including an ambitious set of activities related to environmental policy, biological diversity, market-based ecosystem services, climate change, water tower management, community conservancies, and wildlife trafficking. In developing its environmental results framework, USAID/KEA aimed to strengthen or improve: (1) inclusive governance systems; (2) community-managed landscapes and ecosystems; (3) market-based water supply, sanitation and environmental services and systems; and (4) lower emissions development.

IECC's theory of change posited that the development of an economy based on clean energy with improved management of natural resources would help restore ecosystem functions and support sustainable resource use and resilience. Key to achieving this change would be improved community management of conservation landscapes and ecosystems and increased market-based payments for environmental services (PES).

The viability of rural livelihoods in Kenya hinges on sustainable use of the country's valuable natural resources - land, water, forests, wildlife, and grasslands. However, as highlighted by the CDCS, these assets face serious threats. Among these are poor land use planning and insecure tenure; inadequate natural resource management (NRM); increasing population pressure and unregulated economic activity. These forces have contributed to land degradation, over-extraction and irresponsible NRM stewardship. Moreover, the CDCS noted a limited understanding of the inherent value of ecosystems and ecosystem services and their contribution to the country's natural capital and economic growth. Finally, the CDCS observed that natural resource decline was disproportionately impacting women. As an example, although women provide much of the agricultural labor and gather fuel, water, and food for their families, most do not hold titles to land.

3. Evaluation Approach and Methodology

The design and conduct of the evaluation were primarily qualitative, relying on over 60 hours of in-person interviews and group discussions and review of secondary source materials, including the project appraisal document, activity documents, and partner reports. Following consultations with USAID/KEA, and submission of an inception report, the team conducted field work from early November to early December 2019. In Nairobi, the team conducted extensive in-person interviews and group discussions with 18 project partners.

The Nairobi interviews provided useful context and perspectives for the field interviews and observations.

By design, the evaluation team visited mature, well-established community conservancies to gain exposure to and document good conservation practices. In northern Kenya, the team visited Northern Rangeland Trust conservancies near Mt. Kenya (Meru, Isiolo, and Samburu Counties).

Figure 1: NRT Rangelands Director and Map of Conservancies

In the south, the team visited conservancies adjacent to the Maasai Mara Game Reserve in Narok County.

In all, the team conducted 29 individual key informant interviews (KII), 13 focus group discussions (FGD) with 62 individuals and archived more than 100 key documents.

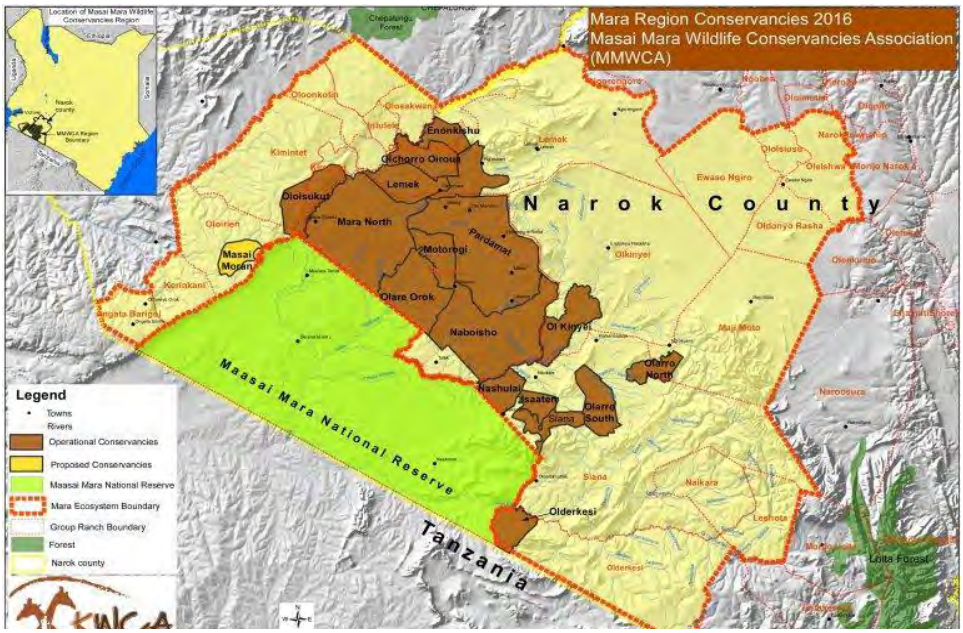

Figure 2: MMWCA Conservancies

Table 1: Key partners interviewed

No.	Partner Name	KII (No. of interviewees)	Group (No. of interviewees)
1.	USAID	1	5
2.	The Nature Conservancy	1	
3.	Kenya Wildlife Conservancies Association		3
4.	Ministry of Environment and Forestry	1	
5.	Ministry of Tourism and Wildlife	1	
6.	Kenya Wildlife Service	1	
7.	Regional Centre for Mapping Resources for Development	1	
8.	IGAD Climate Prediction and Application Centre (ICPAC)	1	
9.	Big Life		3
10.	Kenya Forest Service	1	
11.	CIFOR/US Forest Service	1	
12.	Kenya Water Towers Agency	1	
13.	Kenya Forestry Research Institute	1	
14.	UNDP	2	
15.	WildlifeDirect	3	
16.	Africa Wildlife Foundation		5
17.	Tsavo Trust	1	
18	Northern Rangelands Trust		
	Headquarters	1	4
	Kalama	1	8
	Nakuprat-Gotu	1	3
	Namunyak	2	3
	Westgate	1	8
19	Maasai Mara Conservancy Association		
	Headquarters	1	4
	Mara North		3
	Naboisho	2	11
	Olare Motorogi	1	2
	Olesokot	1	
	Pardamat	1	
	TOTAL	**29**	**62**

Analysis methods. The team gathered data from these sources, reviewed and triangulated it to isolate and assess success factors. Key themes were coded to permit robust cross-site comparisons and to identify IECC strategies and implementation patterns associated with successful and less successful outcomes. The findings offer several lessons and actionable recommendations, which are detailed in the sections that follow.

Evaluators analyzed data in two stages. First, they drew on field notes, audio recordings, and interview transcriptions to produce internal drafts by subject area. Field notes provided details on IECC contributions from each of the partners and field study locations visited. Data gatherers uploaded audio files at the end of each field day, while specialists transcribed the KIIs and FGDs, and shared transcripts with the evaluation team, generally within two days to enable real-time analysis. The team considered the results for each Implementing Partner (IP) or locale visited, analyzed and triangulated the results, and by grouping key and emerging themes related to Intermediate Result 3.2 and its sub-IRs, developed a matrix and analytical framework.

The second stage involved a cross-site analysis comparing and contrasting findings between and among partners. The December 13, 2019 validation workshop permitted key stakeholders to critique and refine

the initial interpretation of results, and many of their comments were integrated into the conclusions and recommendations.

Evaluation Limitations and Mitigation. The main threat to this evaluation was time on task in country. As a "whole-of-project" exercise, the evaluation endeavored to cover multiple activities implemented by several partners that involved public, private and civil society stakeholders from various sectors over vast areas. Exercises like these typically require more than the six weeks the field team spent in-country. Further, in the absence of baseline and midline data the evaluation assessed impact from "thirty-thousand-feet". Finally, given incomplete devolution, the evaluation did not include interviews with the Council of Governors (COG), and county officials charged with environment and conservation. These limitations were mitigated by extensive field based KIIs and FGDs with members of international and regional organizations, government ministries and services, and non-governmental organizations (NGOs); by on-site observations in eight conservancies, and by extensive review of secondary data.

4. Key Findings

Evaluation Question #1: To what extent has progress been made in achieving outcomes for a *'More resilient people and ecosystems to climate change in a green growth economy'*?

The IECC project adopted a multi-pronged approach to contributing to more resilient people and ecosystems and the promotion of a green growth economy. Key areas of focus were strengthening inclusive governance systems including capacity building of civil society and government; development and implementation of legal and policy frameworks for ecosystem conservation, management, and services; improving market-based environmental services and systems through ecosystems valuation and payment for ecosystem services; and mainstreaming low-emissions development.

A. To what extent has progress been made in strengthening inclusive governance systems in targeted landscapes?

The evaluation understood "inclusive governance systems" to mean the public arena where diverse community actors - including traditionally marginalized groups like women and youth – could voice opinions and concerns, and participate meaningfully in decision-making and implementation processes that influenced and impacted their lives, livelihoods and physical surroundings. Using a landscape approach, the evaluation defined "targeted landscapes" as conservancies and the three montane forest areas, or "water towers," which were the focus of IECC conservation efforts.

Capacity building of civil society and government

The evaluation found that the IECC's most significant contributions to sustainable protection and productive use of landscapes and natural resources were in capacity building. IECC partners strengthened the capacity of communities and local NGOs to conduct integrated development planning and budgeting, to manage their landscape assets, and to balance developmental prerogatives with wildlife conservation. Examples of capacity building that enhanced inclusive governance included community members' involvement in project planning and execution through elected representatives on project committees; leadership, finance and management training for conservancy leaders and board members; and recruitment and training of women and youth for employment by IECC implementing partners. Such skills were essential for sound conservancy management, which among other things, required informed citizen-user input to grazing plans and county spatial planning. By participating in these processes, marginalized women and youth made their voices heard in the public square, increasingly assumed responsibility for and ownership of their natural resource base and became more equal members of their communities.

IECC's contribution to public sector strengthening was less impactful. Officials of the Ministry of Environment and Forestry (MEF), Kenya Forest Service (KFS) and Kenya Water Towers Agency (KWTA) stated that they had largely been excluded from IECC project design. They claimed therefore to be generally unaware of USAID/KEA environmental strategies in the design phase and considered certain research agendas to be ad hoc. However, they acknowledged that they were engaged after research studies had been conducted, and felt that a recent memorandum of understanding (MOU) among the U.S. Department of the Interior, USAID, and the Kenya Ministry of Environment and Regional Development Authorities for National Wildlife Conservation and Management would improve cooperation and portended beneficial impact on natural wildlife conservation and management.[1]

Figure 3: Interviewing a Community Leader

The team also observed that ministry and agency respondents demonstrated a keen awareness of and appreciation for principles of diversity, inclusion, and public participation. However, they generally lacked formal procedures, policies and protocols for inclusiveness, collaborative implementation, and learning and data sharing with each other and with USAID/KEA. A more participatory and inclusive assessment and design process in the early stages of IECC might have created pathways for institutional capacity strengthening and enhanced inclusive governance across landscapes and communities served by key environmental agencies.

The evaluation also found that the IECC's contributions to developing legal and policy frameworks was most impressive, although implementation of these frameworks lagged considerably. Commensurate with the drafting of the CDCS and PAD, the GOK was developing the Wildlife Conservation and Management Act (WCMA 2013). This Act comprehensively covers wildlife resources on public, community and private land, and territorial waters. It recognizes and supports wildlife conservancies and sanctuaries, community wildlife associations, ecosystem-based planning, public participation in wildlife management, equitable sharing of wildlife benefits, and devolution of wildlife conservation to landowners and managers.

Building on this foundation, the IECC contributed to and accelerated the development of several key conservation and climate change legal and policy instruments, including:

- Reporting of Nationally Determined Contributions (NDC, 2015)
- Climate Change Act (2016)
- Community Land Act (2016)
- National Wildlife Strategy (2018) and Draft National Wildlife Policy (2019)
- Natural Resources (Benefit Sharing) Bill, (2018)
- Sustainable Waste Management Policy developed (2018) and Bill introduced (2019)
- County spatial land use plans (in progress)

Considering that law and policymaking are time-intensive, this record is exemplary, and USAID made strong contributions to this process through technical assistance, advocacy, and financial support through

1 As of December 2019, USAID reported that a new MOU between Kenya's Ministry of Finance and USAID had recently been formulated. Details of the MOU were not publicly available at the time of this writing.

partners such as the United Nations Development Program (UNDP). Indeed, respondents widely cited Kenya's continental leadership for its progressive NRM framework, and for being the sole sub-Saharan African nation to have adopted climate change-specific legislation.

Nonetheless, key components of Kenya's legal framework remain unimplemented. For example, the body charged with agenda-setting and policy oversight under the Climate Change Act (CCA)—the Climate Change Council (CCC)—is yet to be constituted, and the regulations for operationalizing the Community Land Act (CLA) have not been formulated. Therefore, no official mechanism presently exists to allocate and approve climate change funds, and no high government body is in place to supervise climate change activities. The lack of CLA regulations means that group ranches—which are meant to be converted into titled community lands—still have no official land titles. The absence of land titles could exacerbate looming conflict over county trust lands, where residents and counties compete to exert authority over land use and access. Finally, certain laws lack appropriate regulatory language and oversight bodies, while the courts, prosecutors and the police lack resources and clear principles and procedures for enforcing key provisions of the law.

Conclusion

Overall, USAID/KEA assistance for development of policies, laws and regulations has been impressive. Within a compressed timeframe, IECC supported legal frameworks for climate change, conservation, resource use and landscape management. However, concerted implementation, operationalization and clarity in legal and regulatory language are required to curb violations of the Wildlife Act and related laws. Moreover, GOK agencies need formal procedures, policies and protocols to expand and improve diversity, inclusion, and public participation. To enhance ownership and sustainability of interventions, GOK agencies must be more fully and meaningfully engaged at the project design stage. Finally, climate change, NRM and conservation data sharing among government agencies must be coordinated more effectively.

B. To what extent have ecosystem conservation, management, and services improved?

The evaluation determined that ecosystem conservation, management and services improved over the LOP, even though as noted, the team did not gauge project progress from a baseline or midline, and the sample was limited to on-site visits and remote data gathering from seven high performing conservancies and two lesser performers within the Northern Rangelands Trust (NRT), and the Maasai Mara Wildlife Conservancy Association (MMWCA).[2]

Figure 4: Giraffe in NRT Conservancy

Goal two of the Kenya Wildlife Conservancies Association (KWCA) strategic plan (2019 to 2024) is to "expand area under well-governed

2 NRT conservancy "high performers" included Ngare Ndare, Laikipia County; Kalama, Samburu County; West Gate, Samburu County; and Namunyak, Samburu County; NRT conservancy "low performers" included Nakuprat Gotu, in

and effectively-managed conservancies that deliver benefits to communities and nature." In the strategic plan it is noted that there are more than 160 conservancies in Kenya, covering 11% of its land mass. The area under conservancies increased over the funding period (from 2014) by about 1.5 million hectares (Figure 5). KWCA will be collecting data to update Kenya's area under conservancies for 2019 this year (2020).

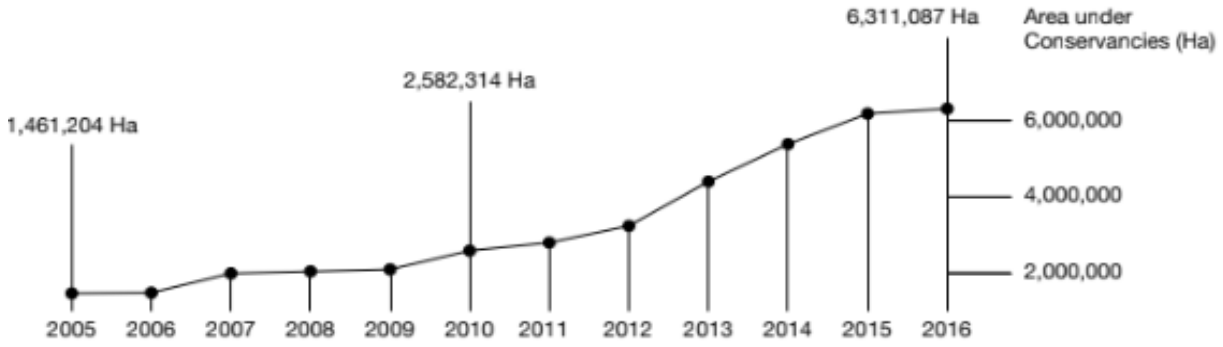

Figure 5: Growth in area under conservancies in Kenya
Source: KWCA strategic plan (2019-2024)

The water towers climate change resilience project mainly focused on conducting a climate change vulnerability assessment, ecosystem services valuation, capacity building and training, and strategic planning. These activities were conducted with the aim of providing recommendations that support informed implementation of climate change adaptation and resilience activities in Mau Forest Complex, Cherangany Hills and Mt. Elgon Water Tower ecosystems. The evaluation team did not collect data that addressed the number of hectares put under improved management in the water towers as this was not in the scope of the USAID PAD. However, the Ministry of Environment and Forestry (MEF) has sponsored intensive country-wide tree planting activities, especially in the water towers. For example, the 10 million trees initiative to rehabilitate the Maasai Mau water tower was launched in November 2019 and the national tree planting campaign was launched in October 2019 as part of a strategic campaign to increase forest cover to 10% by the year 2022.

The NRT, with USAIDs support, is also supporting community nurseries to raise indigenous trees for enrichment planting of the Ngare Ndare forest located on the foothills of Mt. Kenya (one of Kenya's water towers) through the Ngare Ndare Forest Trust (NNFT). The NNFT forms the southern boundary of the Lewa Wildlife Conservancy and acts as a critical wildlife corridor between the Mount Kenya and Laikipia-Samburu ecosystems. The NNFT supports 10 community tree nurseries to propagate trees for their annual tree planting where over 50,000 indigenous trees are planted in the forest. Additionally, to reduce firewood collection from the forest by communities living adjacent to it, NNFT runs a local biogas (methane gas generator) project and the primarily women-managed nurseries provide trees for on-farm planting and firewood.

Four themes emerged from the evaluation team's assessment of ecosystem conservation, management, and services, with each theme demonstrating improvement owing to IECC: 1) organization and advocacy for effective ecosystem conservation policy and action; 2) empowerment of traditionally marginalized

Isiolo. MMWCA site visits included three high performing conservancies: Naibosho, Mara North, and Olare Motorogi; a low performing conservancy, Olesokot, was inaccessible due to heavy flooding, necessitating remote interviews with conservancy managers at that site.

youth and women; 3) renewed determination to combat wildlife crimes utilizing a variety of tools and technology including mass media, awareness-raising and forensics; and 4) promotion of sustainable conservation through a mix of incentives including infrastructure and social-welfare services.

The role of NGOs in advocacy and empowerment

Policy Advocacy. One of the more impactful accomplishments of the project was to strengthen the capacity of the Kenya Wildlife Conservancy Association (KWCA), created in 2013. The KWCA is an NGO umbrella organization representing Kenya's conservancies and advocating on their behalf for sound wildlife conservation and habitat management. Prior to KWCA, conservancies acted individually. With IECC support KWCA has developed capacity for policy review, analysis, and advocacy; has expanded its staff from two to seven persons; and has established an influential Community Conservancies Policy Support Program (CCSP), which it implements in partnership with The Nature Conservancy (TNC).Through the CCSP, KWCA has advocated to national and county governments for pro-conservation laws, policies, and programs that support the establishment and growth of wildlife conservancies in the country. The CCSP has been instrumental in raising the voices of traditionally marginalized drylands and pastoral communities and has made legal texts and policies intelligible to ordinary citizens. Through CCSP, KWCA members collaborate with NGOs like WildlifeDirect for increased awareness on conservation in Kenya and across East Africa, through TV programs such as NTV Wild and Wildlife Warriors, and activities like "Eyes in the Courtroom," which monitors court proceedings, tracks wildlife crime cases, and builds the capacity of rangers, judges and prosecutors to deter and prosecute criminals.

Figure 6: Demonstration of IECC funded methane gas generator

Empowering Youth and Women. The team also heard that IECC-supported conservancies have done much to train, to encourage civic participation, and to promote livelihoods for traditionally marginalized youth and women. In male-dominated gerontocracies, older men typically hold land leases, and there is concern that members of the younger generation may not continue leasing land to conservancies once they obtain land titles. The conservancies therefore have developed strategies that target future lease holders - young men and women –offering them training in ecosystem conservation and livelihoods. Youth and women's enterprises include methane gas generation, beadmaking, beekeeping, and brick making. The Maasai Mara conservancies have emphasized economic and leadership skills for young Maasai. In some conservancies, women and youth are actively recruited as board members.

Combating Wildlife Crime. The Kenya Wildlife Service (KWS) and the high performing conservancies demonstrated a remarkable determination to combat wildlife crimes utilizing a variety of tools and technology including inter-agency information-sharing, community-based patrols, forensics labs for DNA analysis, and mass media awareness-raising. Notably, the number of poached rhinos was reduced from 30 in 2012 to four in 2018.

Organizationally, the KWS area directors and the Kenya National Police (KNP) are often represented on county security committees – an arrangement that has improved the sharing of poaching intelligence. The recruitment of "scouts" from within the conservancies has increased and improved surveillance of poaching hotspots. Scouts double as guides and are the conservancy equivalent of KWS rangers. Together with rangers, they have increased the number and frequency of patrols, mitigated human-wildlife conflict (HWC), and provided KWS with reliable reports on wildlife crime. These improvements have not gone unnoticed by community residents, who also have begun to report wildlife crime.

Figure 7: Human Wildlife Conflict in Nakuprat -Goku, and elephant destroyed water installation

The scouts in particular appear to be the "special ingredient" for wildlife crime deterrence and prevention of landscape degradation.[3] Their daily patrols and the quarterly patrols conducted with KWS have helped identify poachers, curb illegal bushmeat harvesting, stop unauthorized livestock incursions, and prevent destructive charcoal making. Ranger operations have greatly benefited from IECC financial support that has allowed the purchase of patrol vehicles and covered vehicle maintenance, equipment, uniforms and other operational costs.

The work of the scouts has been enhanced by improved technologies to monitor illegal activities, plan patrols and identify poaching hotspots. Innovations include a wildlife information landscape database (WILD), a spatial monitoring and reporting tool (SMART), cyber tracking, smartphones and global positioning systems (GPS). A sophisticated integration of these tools is found in the NRT's joint operations control center (JOCC).

Deterrence has further improved with USAID/KEA support for multiple law enforcement agencies that monitor key transit points and intercept transactions of wildlife trophies and bushmeat. This effort, combined with the installation of a forensic lab at KWS and support to the National Museums of Kenya for a reference library of DNA barcodes from endangered species to identify confiscated material, has contributed to Kenya's ability to more effectively prosecute wildlife crimes.[4]

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3 The importance of effective law enforcement by rangers is well documented over historical periods. For example, one study examined 50 years of records from Serengeti National Park in Tanzania and calculated the history of illegal harvest and enforcement by park authorities. The study showed that a precipitous decline in enforcement in 1977 resulted in a large increase in poaching and decline of many species. Conversely, expanded budgets and anti-poaching patrols since the mid-1980s greatly reduced poaching and allowed populations of buffalo, elephants, and rhinoceros to rebuild. Ray Hilborn et al., Effective Enforcement in a Conservation Area. Science 24 (2006):1266. More recently, Hauenstein, S., Kshatriya, M., Blanc, J. et al. studied data from more than 50 sites across the African continent, including 3 sites in Kenya, Tsavo, Samburu, and Meru, and found that wildlife crime has declined overall in Africa in the current decade. Annual poaching mortality rates in across more than 50 sites studied across Africa, from an estimated peak of over 10% mortality in 2011 to less than 4% in 2017. Based on these findings, authors of the Nature study suggested that continued investment in law enforcement could further reduce poaching but is unlikely to fully succeed without action that simultaneously reduces ivory demand and tackles corruption and poverty. African elephant poaching rates correlate with local poverty, national corruption and global ivory price. Nature Communications 10, 2242 (2019).

4 In 2012, Kenya became one of six partner countries in the Google-supported Barcode of Wildlife Project, which provided training to staff at the National Museums of Kenya and the Kenya Wildlife Service. As part of the U.S. National

Environmental Education and Media Dissemination

Table 2: Environment in the Media

NTV Wild show. The professionally produced WildlifeDirect series represents a partnership among the Kenyan broadcaster NTV, Kenya Wildlife Service (KWS) National Geographic and USAID. The TV production, a first of its kind, is an Africa-centric nature program. During its five-season run, the program attracted more than four million viewers, covering a wide range of environmental issues, including clean energy, urban wildlife and marine wildlife conservation. The program had two components, the NTV Wild Documentary series that aired award-winning conservation films and the NTV Wild Talk Show which provided a platform to discuss conservation matters.

Wildlife Warrior is a series airing on Citizen TV featuring Africans who conducted groundbreaking research in wildlife conservation. Its production quality rivals the best in international nature programming. and is supported by USAID, WildLives Foundation, and National Geographic. The series provides an African perspective on conservation through the stories of Africa's own conservation heroes and frontline soldiers. The TV series also showcases Kenya's iconic landscapes.

The evaluation found that wildlife conservation and habitat protection had entered the public mindset through mass media and education on biodiversity, conservation, and climate change. At the forefront, organizations such as WildlifeDirect, KWCA, and the Africa Wildlife Foundation (AWF) raised awareness and educated the public about conservation, climate change and the environment. These organizations effectively utilized television and radio, and developed curricula for conservancy-based schools. The establishment of a resource center at the Kenya Meteorological Department (KMD) with USAID, UNDP and AWF support provided an education and outreach program for primary school children.

Although it was not possible to independently assess the impact of IECC's environmental education and media dissemination, the large viewership of programs like "Wild Show" attest to the medium's awareness-raising potential for wildlife and landscape conservation.[5] Under LECRD, activities also included a successful Nairobi County Climate Change essay competition

for primary schools. The activity is now an annual event supported by the Ministry of Environment

and Forestry.

Challenges to Combating Wildlife Crime. The evaluation also noted several challenges to ecosystem conservation. Respondents reported continuing poaching in younger conservancies like Taita Taveta where residents and counties compete over land. In some instances, wildlife crime enforcement suffers from insufficient evidence, lax interpretation of the law, and, based on the judge's discretion, usage of the Forest Law, which has weaker penalties than the Wildlife Act. For example, under the Forest Act, illegal extractive and logging activities in forests are punishable by

Table 3: Joint Operations Control Center (JOCC)

JOCC is a conservancy communication center operated by NRT in Lewa, which works with communities, police, and the Kenya Wildlife Service to:

- Monitor wildlife security
- Identify wildlife location and movement
- Rescue endangered wildlife and humans
- Monitor conservancy rangers' positions
- Maintain wildlife population records

Academy of Sciences and the U.S. Global Development Lab's Partnership for Enhanced Engagement in Research (PEER), USAID awarded five research grants totaling $1.5 million to Kenyan scientists to improve local capacity for DNA analysis and molecular genetics in support of wildlife crime prosecution. For more information, see: DNA barcoding to combat wildlife crime.

[5]In-house media monitoring by Wildlife Direct showed that its programs featured in international media 113 times (2018 Annual Report).

community service, whereas such crimes under the Wildlife Act can attract fines of one million Kenya Shillings ($10,000), or five years in jail. However, prosecution of these cases is generally protracted. In one example, researchers reviewing 25 ivory cases between 2014-2018 found that conviction, withdrawal, or acquittal took an average of 20 months.[6] Moreover, although plans were being developed to increase the ability of the KWS to prosecute cases, as late as 2017, KWS had only two prosecutors covering the entire country.[7]

Finally, ministry officials and respondents from the NASA/USAID joint program on geospatial information for environmental decision-making (SERVIR), IGAD's Climate Prediction and Application Center (ICPAC), and the Kenya Forestry Research Institute (KEFRI) expressed their desire to establish platforms to better communicate and disseminate their research findings to specialized audiences like policy makers. Similarly, conservancy respondents such as KWCA expressed the need to correct public misinformation about conservancies such as the misleading belief that conservancies push communities off their lands.

Incentives and Challenges. The evaluators found that NRT and MMWCA conservancies offered a range of benefits to landowners and residents, which promote long-term sustainability. Among these are guaranteed monthly lease payments, bursaries, higher education scholarships and employment opportunities for children of landowners. Additionally, compared to neighboring areas, conservancies boast better road networks, numerous water access points, more schools, and functional health clinics. They also provide a minimum amount of consolation fees in cases of human-wildlife conflict, land management dispute resolution mechanisms, community livelihood funds that support conservancy projects, miscellaneous payments to landowners and technical assistance to herders and community residents in developing grazing plans. These incentives attract non-residents to apply for conservancy status because "membership has its benefits."

Nonetheless, conservancy association respondents indicated that long-term conservancy sustainability hinged on national government and county government support. In this regard, KWCA submitted a paper for consideration by the Cabinet Secretary Ministry of Wildlife and Tourism in August 2019 to incentivize wildlife stewardship through community-based conservation, which was believed to strengthen job creation, grow tourism and reduce threats to wildlife. The Benefit Sharing Bill (2018), which is currently before Parliament, also sought to enhance equitable sharing of environmental services among the national government, county governments and local communities.

Figure 8: Pastoral Celebration

Science and Indigenous Knowledge

The IEEC PAD viewed the use of science and analysis, as well as the application of indigenous knowledge and practices as important for planning and decision-making. The use of science was exemplified through the establishment of the National Climate Diagnostic Laboratory at the KMD and the installation of 20 automatic weather stations to increase data coverage in ten counties. These activities were supported by

[6]Jayanathan et al., Analysis of Prosecutions of Ivory, Rhino Horn and Sandalwood Crime in North Central Kenya – A Case Study. Space for Giants, 2018.

[7]Mike Pflanz, Independent (online) Kenya to increase number of wildlife crime prosecutors to win the battle against poaching. 29 August 2017.

UNDP and were useful in providing early warning information to enable rapid response to extreme climate events such as floods and droughts.

Evaluators observed the integration of indigenous knowledge and science in the conservancy rangelands. Pastoralists have their own experiences and knowledge, which they have used for generations to manage the rangelands. Historically, they grazed livestock in conservancy areas, which helped to create better pasture for wildlife. Research has substantiated this indigenous knowledge, confirming that livestock grazing in conservancies stimulates the growth of grasses beneficial to wildlife living in rangelands.[8] Conservancy respondents concurred with these assessments, observing that areas around abandoned cattle pens are typically covered with green grass even during the dry season.

Conclusion

Kenya's conservancies expanded the total area of biologically significant landscapes under improved management by an additional 1.5m hectares over the LOP. If water towers, which were also the focus of IECC research are included, the project exceeded the PAD goal of 2m hectares. The thematic areas where IECC appeared to most successfully promote ecosystem conservation, management and services were advocacy through the creation and efforts of the KWCA and its policy arm, and increased surveillance and application of technology for wildlife crime deterrence; empowering marginalized and disadvantaged youth and women, who as future stewards of the land, needed to acquire capacity, skills and community recognition; public awareness-raising through reality TV and education; and application of indigenous knowledge to cattle grazing and wildlife management.

Of continued concern were the sustainability of conservancies' monthly lease payments, bursaries, scholarships, and employment opportunities for children of landowners. Replicating and sustaining the model and its current menu of benefits to communities will require intentional, gradual burden-sharing by the national and county governments. Communities need good road networks, water access points, schools and health clinics, and other physical and social infrastructure, which demand greater, sustained public investment and financial resources than presently available or currently being injected into conservancies under the present model.

C. To what extent have market-based environmental services and systems improved?

The evaluation determined that IECC had helped to lay the groundwork for improved environmental services and for payment for ecosystem services (PES), but that a market-based system to sustain provision of such services was still nascent and largely not operational. For example, although the water towers ecosystem services valuation (ESV) study provided a foundation for assigning value to water, carbon sequestration and forest products, no PES framework had been established or was being applied in the water towers catchment basins and buffer zones. PES appeared to have gained traction in conservancies where entrepreneurial members were raising improved livestock, availing themselves of livestock services and promoting tourism.

[8]See for example, Robin Reid, "Livestock and wildlife in pastoral systems of East Africa: Inevitable conflict or unexpected synergy?" International Livestock Research Institute, Nairobi, Kenya, n.d.; and Brian Allan et al., "Can Integrating wildlife and livestock enhance ecosystems services in Kenya." Concepts and Questions, 2019.

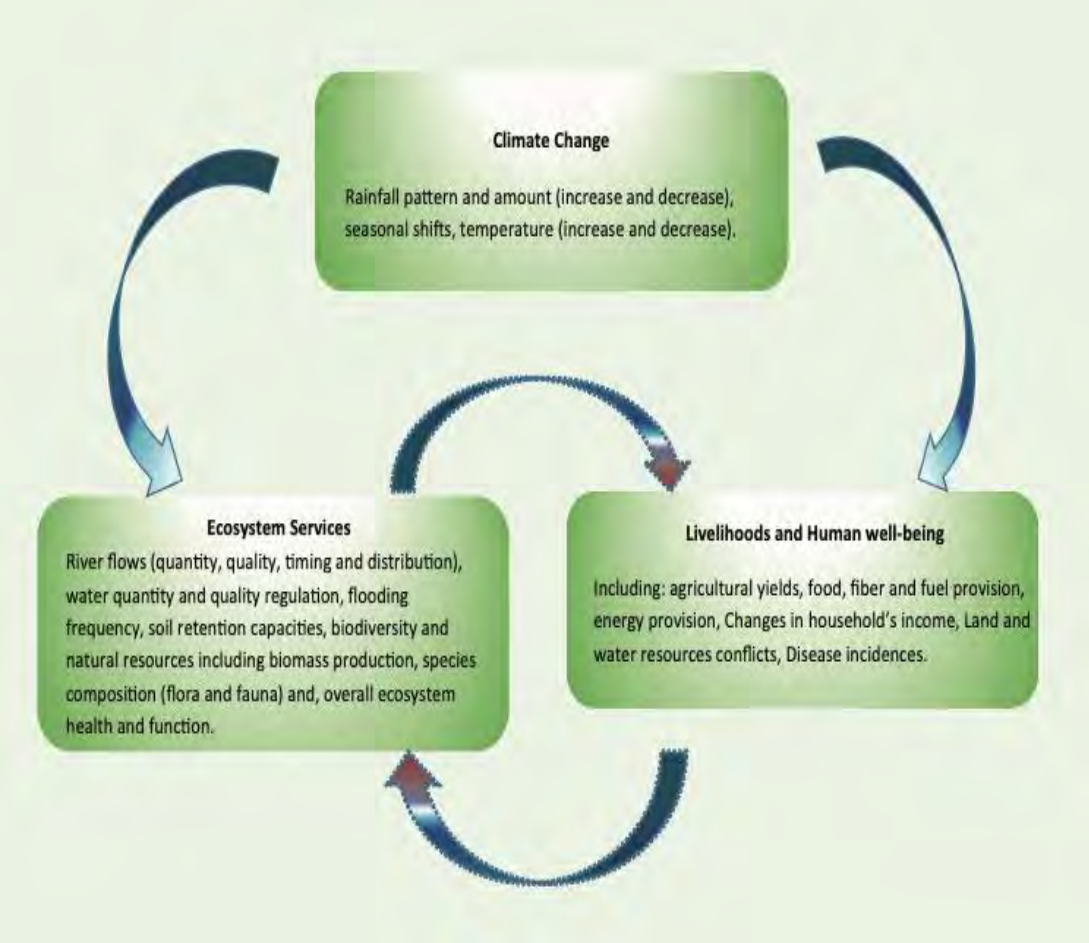

Figure 9: Water Tower Ecosystem Loop (KEPIFRI, 2019)

The PAD highlighted the importance of environmental economic analysis to decision-making for effective conservation management and services. Indeed, the IECC supported an ecosystem services valuation (ESV) study by the Kenya Forestry Research Institute (KEFRI).[9] The program focused on three water towers:[10] the Mau Forest, Cherangany Hills and Mt. Elgon ecosystems, which are Kenya's largest water sources and biodiversity hotspots.

The KEFRI study showed that the aggregate value of ecosystem services in the three water towers studied amounted to nearly 23 billion Kenya Shillings, or approximately USD $230 million.

9 Ministry of Environment and Forestry, Economic Value of the Mau Forest Complex, Cherangany Hills and Mt. Elgon Water Towers, 2018.
10 The term *water tower* refers to montane forest ecosystems that provide sources and filtration of water.

Respondents observed that conversion of forestland into other uses by adjacent communities and failure to intercrop or to adopt mixed forest use and sound environmental protection practices were causing soil erosion and landslides in fragile landscapes. Inappropriate land use was degrading riparian areas, which was harming water quality protection, structural support for stream banks, water capture and storage, flood control, stabilization of water flow in streams and rivers, habitat for aquatic and terrestrial wildlife, aesthetic and recreational benefits.[11]

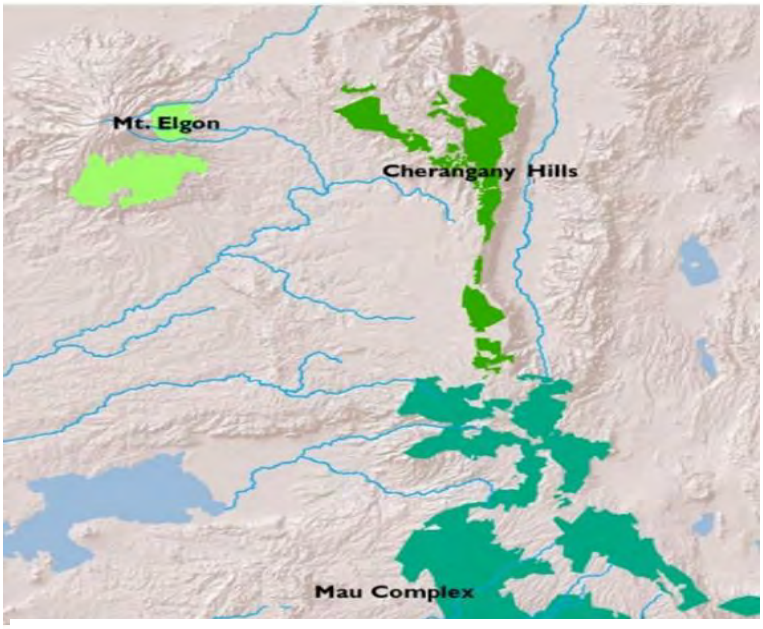

Figure 10: Water Tower Complex

Respondents were pleased with the KEFRI study's capacity building component for training community forest association members to collect data for the project. It was noted that 11 senior government officials attended a USFS international seminar on the economic value of waters, rangeland management, landscape restoration and innovative natural resources management solutions. The KEFRI study demonstrated that Kenyan forests have traditionally been undervalued, and that indirect benefits such as pollination, flood protection and fresh air and water provided greater public goods than the direct benefits accrued for firewood, timber and food.

11 Ministry of Environment and Forestry, Water Towers Conservation and Coordination Policy, 2019.

Forest Product	Aggregate Annual Value (KES)				
	Forest Ecosystem			Aggregate Annual Value (all)	Proportion (%)
	Mau	Cherangany	Mt. Elgon		
Agricultural tools	60,811,000	64,357,033	76,102,335	201,270,368	0.9
Animal browse	264,855,000	563,794,789	138,347,541	966,997,330	4.2
Animal fodder	2,918,176,000	2,244,291,336	956,673,263	6,119,140,599	26.7
Charcoal	22,404,000	197,033,558	181,538,745	400,976,303	1.7
Fibers	2,958,797,000	5,642,414	11,969,635	2,976,409,049	0.3
Firewood	49,250,000	389,615,459	482,308,193	921,173,652	12.9
Murram/soils	2,094,128,000	1,202,152	592,815	2,095,922,967	0.0
Fruits	23,000	190,760,794	115,082,148	305,865,942	7.7
Honey	1,457,562,000	841,526,994	16,996,108	2,316,085,102	4.0
Meat	47,839,000	95,383,510	46,848,326	190,070,836	1.5
Medicine	196,779,000	225,206,693	88,421,877	510,407,570	1.4
Mushrooms	15,287,000	2,116,823	60,199,640	77,603,463	0.5
Poles	49,497,000	1,359,887,743	847,733,944	2,257,118,687	20.0
Timber	2,380,586,000	26,710,613	13,733,809	2,421,030,422	0.2
Thatch grass	4,978,000	10,275,056	36,905,034	52,158,090	0.2
Water (domestic and livestock)	4,665,000	758,529,000	366,165,973	1,129,359,973	17.8
Total	**12,525,637,000**	**6,976,333,967**	**3,439,619,386**	**22,941,590,363**	**100.0**

Figure 11: Water Tower Annual Aggregate Value (KES) KEPIFRI, 2019

In addition, the East Africa Intergovernmental Authority on Development's Climate Prediction and Application Center (IGAD/ICPAC), which conducted a climate change vulnerability assessment (CCVA), found that, under different emissions scenarios, temperatures in the three ecosystems could rise by as much as five degrees Celsius by the 2070s. Notably, these studies culminated in the development of a water towers conservation and coordination policy (2019), and contributed to raising awareness of climate change issues and to developing the capacities of Kenyan research organizations for market-based approaches to conservation. Challenges cited by respondents included poor coordination between the agencies involved in the program, lack of a platform for the storage and access of the data collected or existing data on natural resources, and limited capacities in developing sustainable business models based on principles of PES. The evaluation found that scientists, together with public and NGO stakeholders involved in the management of water towers, need additional capacity for data collection, processing, usage and reporting.

Additionally, national agencies and county governments need to cooperate to gather and process data and information regarding water towers. Further, the mapping of ecosystem services and monitoring of the water towers' health should be continuous if Kenya is to achieve ten percent forest cover by 2022. Lastly, public-private partnerships in ecosystem conservation are vital to foster sustainable water tower investments.

In sum, IECC studies have proved valuable toward advancing a market-based approach to sustainable use of the natural resource base. The studies demonstrated that local communities had begun to value the

benefits provided by water tower ecosystems, but that communities needed greater incentives to adopt livelihoods that would reduce pressure on forests.[12] In addition, the studies showed that preserving the water towers depended on effective communications; improved data collection, storage and sharing; continuous mapping; and provision of finance mechanisms for sustainable extraction of resources. The success of such endeavors will depend on improved benefit-sharing mechanisms.[13]

Figure 12: Reforestation Project: Ngare Ndare

Payment for Ecosystem Services (PES)

Ecosystem services are direct or indirect benefits that communities derive from ecosystems including (1) food, forest soils, timber, water and hydropower generation (2) soil protection, carbon sequestration and gas regulation; (3) spiritual enrichment, reflection, recreation and aesthetic experience; and (4) production of biomass, oxygen, soil formation and retention, nutrient cycling, water cycling, and provisioning of habitats.

Although the PAD prioritized the development of a framework for PES, no framework yet exists. Progress toward this goal includes plans to (1) pilot PES in a limited number of water towers, (2) restore degraded sites, and (3) communicate the value of the water towers to policymakers including county governments. Selling carbon credits might also incentivize conservation assuming a robust global market for carbon exchange. However, the viability of PES requires additional individual and institutional capacity for research, valuation, awareness-raising, communication and setting of standards.

Scaling up Conservation Enterprises

The team observed that revenues generated by livestock enterprises and tourism were paying lease fees and, in cases of human-wildlife conflict (HWC), consolation fees to conservancy landowners. These revenues also paid staff salaries and road construction and maintenance. In some cases, the revenues also paid for classroom construction and improved water points for humans and wildlife. The demands on these limited revenue sources are considerable and likely will grow. Conservancies are feeling pressure to scale this model and find ways to operate more profitably and sustainably.

Livestock Enterprises. Following from the above, several conservancies and associations are emphasizing higher *quality* livestock breeds rather than herd size - *quantity*. Higher quality livestock are

[12]Findings and recommendations from the Kenya Water Towers Climate Change Resilience Program. Center for International Forestry Research (CIFOR), 2018.

[13]Water Towers Conservation and Coordination Policy, op cit.

more profitable, less cumbersome, and require less grass. For example, AWF assisted LUMO conservancy in Taita Taveta County to develop business plans for hay baling, livestock, and wildlife diversification. Thanks to IECC grants, which provided a tractor, mower and bailer, conservancy residents now bale hay commercially. AWF reported revenue of USD $6,000 in just two months in 2019. Similar operations are underway elsewhere. BIGLIFE manages a livestock improvement enterprise at the Kimana group ranch based in Amboseli, Kajiado county and MMWCA supports livestock enterprises in Mara North and Pardamat conservancies.

Tourism. Respondents viewed tourism as a consistent source of conservancy revenue and key contributor to sustainable development. In 2018, tourism accounted for 8.8% of Kenya's GDP.[14] In the same year, the sector achieved 34% growth in international tourist arrivals over the previous year, but during the five-year period from 2012-2017, the sector witnessed a decline.[15] Seasonality, safety, and security factor in the viability of the sector.

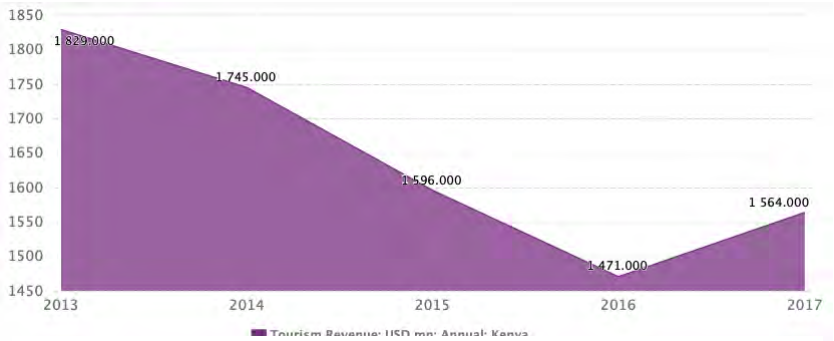

Figure 13: Tourism revenues in millions USD

The bulk of tourist revenue in the conservancies comes from gate fees and lodges. The LUMO conservancy owns the Lions Bluff Lodge; Olesokot conservancy partners with the Nyota Mara Lodge; and Kalama conservancy hosts the upscale SaruniLionsBluff Lodge, which recently expanded its bed occupancy from 14 to 32. AWF reported that the once failing Lions Bluff Lodge has been operating at full capacity since July 2019 and has experienced an 833% increase in gate revenues. Namunyak conservancy, supported by NRT, reported that its tourism revenue increased by 20% in 2017. Forty percent of the conservancies' commercial revenue goes towards conservancy operating costs. Communities spend the remaining 60% on livelihoods projects of their choice - typically water, healthcare, and education.[16]

Figure 14: Beadmaking for tourist sales

Given the significance of tourism to conservancy revenue, IECC partner AWF is exploring ways to apply technology to improve grazing tourism, walking safaris, cave expeditions and cultural tourism in conservancies like LUMO. For example, guides increasingly use geo-referencing to locate wildlife and to ensure optimal sightings. Additionally, many conservancies market their facilities online with sophisticated and informative websites.

[14] Kenya Travel Tourism exceeding global and regional levels in 2018. APA, 2019; Chart data from
[15] Tourism sector performance report 2018. Ministry of Tourism and Wildlife, 2018
[16] Community-Driven Tourism Set to Generate Ksh. 33 million for Namunyak Community in 2018. NRT, 2018

Conclusion

The IECC-supported ecosystem services valuation (ESV) study performed by KEFRI accentuated the importance of some of Kenya's largest water sources and biodiversity hotspots. This and other studies produced a water towers conservation and coordination policy (2019) and raised awareness of climate change. The studies also contributed to building the capacities of Kenyan research organizations for market-based conservation. Understanding human dependence on forests and the benefits they provide serves both economic and conservation objectives.

Respondents nonetheless cited several gaps and deficiencies hindering sustainable PES business models. For example, use of PES in watershed management in Kenya is nascent and appears disjointed in its implementation. The principle of PES schemes is based on voluntary engagements on agreed ecosystem service values and costs for provision. Hence, one challenge will be to get users and providers to agree on the value of the services, and then turn users into paying customers. Many of the PES programs running in the country such as Lake Naivasha Upper Catchment PES in Nakuru County and Mikoko Pamoja Project at Ganzi Bay in Kilifi County are small projects managed by external experts. More capacity-building of local entities for PES is needed to sustain these projects.

Finally, quality livestock intensification and tourism represent potentially high return on investment for increased PES. Modernization and superior livestock breeds create value for money and make fewer demands on fragile drylands. Tourism offers low environmental impact for high monetary returns. Marketing in the sector has become increasingly sophisticated and targeted toward the high-end customer, but is susceptible to global competition, market downturns, and political instability.

D. To what extent has low-emissions development been enhanced?

The evaluation observed that IECC contributed significantly to low-emissions development. The project helped to mainstream low-emissions development pathways into sectoral plans and budgets; develop enabling legislation, build capacity through training; secure public-private finance for low-emissions development; establish a GHG inventory; and conduct research on livestock emissions. This effort represented a bona fide attempt to jumpstart a greener, more healthful economy. However, implementation and uptake of green practices lagged. In recent years, CO2 fossil emissions continued to increase at a rate slightly above population growth with transportation and power industries accounting for most emissions.

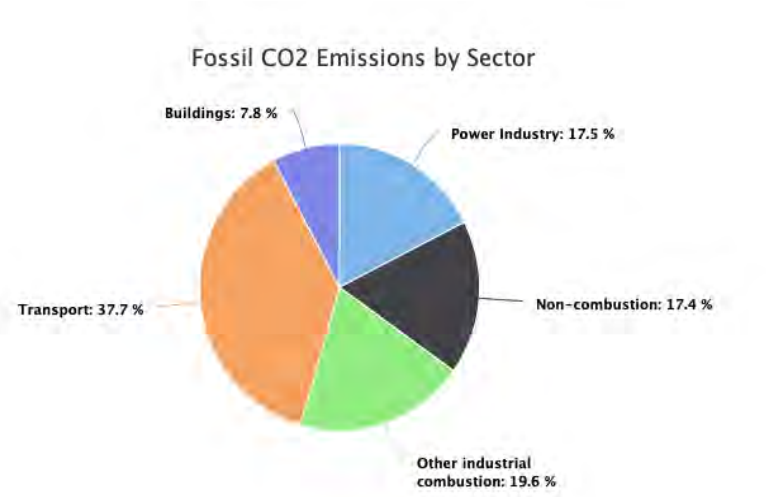

Figure 15: CO2 Emissions by sector

Table 4: Kenya Fossil CO2 Emissions					
Year	Emissions (m. tons)	Yearly change (%)	Emissions per capita	Pop. change	Share of world
2016	16.3	3.60%	0.33	2.45 %	0.05%
2015	15.8	1.44%	0.33	2.52 %	0.04%
2014	15.5	5.60%	0.33	2.59 %	0.04%
2013	14.7	12.36%	0.32	2.65 %	0.04%
Source: Worldometers					

Mainstreaming low-emissions development pathways into sectoral plans and budgets. Kenya is prone to extreme weather events like drought and floods, the impact of which is intensified by widespread poverty and fragile ecosystems. Mainstreaming low emissions in sectoral plans and budgets is viewed as one of several instruments to address climate change and to mitigate shocks.

Several IECC-sponsored interventions contributed to mainstreaming low emissions in sectoral plans and budgets. The low emissions and climate resilient development project (LECRD) secured public and private sector finance for priority low-emissions development actions and enhance effective implementation and transparent monitoring of low-emission development actions. As the delivery partner, UNDP held the funds received from USAID, while the authority for expenditure was with the Ministry of Environment and Forestry (MEF). A project steering committee, co-chaired by UNDP and MEF, supervised implementation. Activities were undertaken by the Kenya Meteorological Department (KMD), Kenya School of Government (KSG), Technical and Vocational Education Training Institutes, Kenya Industrial Research and Development Institute (KIRDI), Kenya Agriculture and Livestock Research Organization (KALRO), and the National Environment Trust Fund.

The IECC-supported Climate Change Act (CCA) in 2016 represented a major step towards mainstreaming climate change into national and county development planning, decision-making and implementation. The project also supported Kenya's second National Climate Change Action Plan (NCCAP) 2018-2022 and third medium term plan (MTP III). These policy tools and the ACT constitute vital instruments for setting national agenda and policy direction on climate change. In addition, the project's support for UNDP, the MEF and the Kenya School of Government (KSG) to mount a training program on climate change policy, planning and budgeting at national and county levels increased capacity. The inaugural training held in Nakuru in June 2017, attracted 27 participants - 10 from the national government and 17 from the counties.

IECC also sponsored workshops for the National Assembly and Senate Environmental Committees on the CCA, the National Climate Change Action Plan 2018 – 2022, climate finance and the Sustainable Waste Management Bill and Policy 2019. The Senate oversees devolution including development planning through the CIDPs and annual development plans and budgets. The National Assembly makes budgetary allocations and provides oversight at the national level.

Securing public and private sector finance for priority low-emissions development actions. Climate change adaptation and mitigation have struggled to acquire financing in part because national and county governments have had limited capacity to secure, manage and track funding for climate change activities. The handbook on climate finance developed jointly by the MEF, the National Treasury and the KSG with IECC funding, which targets national and county officials, represents a useful tool for promoting and tracking climate funding at national and county levels.

Section 25 of the CCA creates the Climate Change Fund (CCF), which as "a financing mechanism for priority climate change actions and interventions approved by the Council," supports the drafting of climate change fund regulations, resource mobilization strategy and the M&E framework. This taskforce was appointed by the Cabinet Secretary in charge of the National Treasury and Planning to steer the operationalization of the CCF. The draft fund regulations have undergone public and stakeholder consultations. Once enacted, the draft regulations will provide the institutional framework for coordinating private sector implementation of the NCCAP. As noted elsewhere in this report, the CCF is yet to be operationalized.

Finally, the project conducted trainings for national and county officers on incorporating climate change funding into an integrated financial management information system (IFMIS) and on establishing mechanisms to track climate finance flows. Commendably, this effort engaged county officials in national-level climate concerns.

Effective implementation and transparent monitoring of low-emissions development actions. The CCA created a Climate Change Directorate (CCD) and assigned it the responsibility for sector coordination, monitoring and reporting on ongoing climate change actions in the country, as well as monitoring and taking stock of actions implemented under the NCCAP. IECC supported the development of Kenya's second NCCAP 2018-2022. Kenya's commitment to LED pathway is contained in its NDI, developed through IECC-supported stakeholder consultations and submitted to UNFCCC in July 2015. The project also supported NDI awareness workshops and development of implementation plan workshops.

NDI requires progress monitoring and reporting and thus forms an important part of Kenya's climate change implementation and transparent monitoring framework for low emissions development. This process requires a GHG inventory as an essential tool for planning mitigation activities, projecting future emissions and identifying sectors for emission reduction projects. IECC supported the development of the GHG inventory for the third national communication. This report was prepared by sectoral teams from relevant ministries and agencies through a learning-by-doing approach with a view to improving sustainability for future inventories. Trainings were conducted for modelers through an online training course on development of GHG inventories. The inventory will be used for the country's third national communication to the UNFCCC and first Biennial Update Report (BUR).

The project also backed the establishment of a GHG unit at the National Climate Change Resource Centre to facilitate data sharing amongst GHG inventory teams. The unit plans to address inadequacies in climate data sharing and archiving system in Kenya. Draft data sharing agreements were prepared with the project's support. These agreements are particularly important where sensitive data is involved. In addition, data collection templates that define the type of data required, units of reporting, and reporting period were developed. These templates support appropriate climate change performance collection, inventorying and management.

Finally, IECC supported Kenya Agricultural and Livestock Research Organization (KALRO) to carry out research to develop Kenya-specific emission factors for manure in the agriculture sector. This initiative included: a survey for characterization of farm systems; on farm and on station research; and procurement laboratory consumables and equipment for KALRO's testing lab. It is anticipated that Kenya-specific emission factors will help improve accuracy in estimation of greenhouse gases from the livestock sector, a major source of greenhouse gases.

Conclusion

IECC contributed significantly to the implementation and transparent monitoring of low-emissions development pathway through various interventions to support low emissions mainstreaming into sectoral plans and budgets, securing public and private sector finance for priority low-emissions development actions, and promoting effective implementation and transparent monitoring of low-emissions

development actions. The enactment of the CCA and development of the NCCAP and the National Policy on Climate Finance were particularly notable, as they established an elaborate legal, policy and institutional framework for pursuing low emissions development in Kenya. Other important advances included the establishment of a climate change directorate, as well as climate finance and greenhouse gas units.

However, these legislative and policy instruments are nascent and remain largely unimplemented. For instance, despite its pivotal role in sector coordination, monitoring and reporting under the CCA, the Climate Change Directorate is yet to get a permanent director. In a similar vein, the National Climate Change Council has not been constituted and operationalized, yet under the CCA, it is intended to be the overarching national climate change coordination mechanism with the important functions of ensuring mainstreaming of climate change functions by the national and county governments and for overseeing implementation of the NCCAP. In addition, the GOK still has limited experience with accessing, managing and tracking climate finance.

5. Best Practices and Lessons Learned

Question #2: What key lessons and best practices emerged from implementation with regard to natural resource management, biodiversity conservation, and climate change?

The evaluation determined that IECC made the most progress in community conservation-managed landscapes and ecosystems.

Conservancies shoulder responsibility for safeguarding biodiversity and wildlife habitat within their borders; they provide effective platforms for livelihoods and social and infrastructural services; their associations perform advocacy, education and awareness-raising for environmental protection at national and local levels; their scouts and innovative technology deter wildlife crimes.

Figure 16: Discussing Lessons Learned and Best Practices in Conservancies

Best practices

Mature, well-established conservancies owe their success to a highly consultative process among conservancy directors, managers, and residents, which requires significant time investments, clear and defined steps to achieve the end goal, and much patience and perseverance. Key best practices are:

1. USAID/KEA support for conservancies has permitted the recruitment and training of scouts (community rangers), monitoring of wildlife crimes, and provision of incentives for landowners including consolation fees, employment opportunities, and infrastructure in support of conservation.

2. In addition to these efforts, conservancies have developed policies and practices for engaging youth and women in economic development activities and conservation management.

3. Through the application of spatial monitoring, reporting and cyber tracking within NRT's JOCC, and by applying policies with tough penalties for poachers, wildlife poaching has been all but eliminated in mature conservancies in the northern rangelands. The same can be said of the conservancies visited in the Maasai Mara, which have also invested heavily in wildlife security.

4. Regional conservancy respondents, particularly in the Maasai Mara, and to some extent in the NRT, indicated that they are close to reaching their goal of strengthening the financial and management capacities of member conservancies and have determined that several conservancies stand ready to receive funding directly from USAID. At the same time, regional conservancy associations such as NRT urge a measured approach to expansion of member conservancies until improvements in management in less well-established and less well-resourced conservancies have been further consolidated.

Lessons-Learned

1. Notwithstanding these gains in the mature conservancies, poaching remains an issue in many areas, particularly in Tsavo and Amboseli. Conservancy respondents from these areas noted that substantial funding has been directed to conservancies in northern Kenya and in the Maasai Mara. In contrast, newer conservancies, such as those in Taita Taveta—where residents are in a struggle with the county—receive less funding.

2. An unintended consequence of successful wildlife protection is the increase in human-wildlife conflict (HWC). The increasing numbers of wildlife coupled with human population pressures have replaced poaching as the major wildlife problem in conservancies. Railways, highways, agriculture and fencing have contributed to encroachment by restricting wildlife movement to narrow corridors.

3. Ministry officials placed a high value on coordination, documentation and resource allocation. Respondents suggested that mapping of all conservancy-based NGOs be conducted countrywide to coordinate research and resource allocation. A database would help quantify the revenues generated from the tourism industry in Kenya. Respondents recommended a natural capital accounting be conducted nationwide to document the contribution of tourism to Kenya's economy and quality of life that would allow for a more rational allocation of revenues for conservation.

4. Balancing conservation with privatization and subdivision of land presents a persistent challenge. The CLA provides for the recognition, registration and protection of community land rights; management and administration of community land; and specifies the role of county governments in relation to unregistered community land but has stalled. Counties need to be facilitators of conservation. However, they do not support conservancies financially, occasionally they interfere with conservancies politically, and some county governments regard independent conservancies and empowered communities as competitors for control of land. More understanding of and appreciation for the goals and approaches of successful conservancies are needed.

5. The evaluation established that coordinating multiple stakeholders within the GOK and between GOK and its financial and technical partners is a challenge. For example, although USAID/KEA supported initiatives in environmental services valuation, the impact of this work may have been stronger if USAID/KEA had directly engaged key GOK ministries and agencies, particularly during IECC project design. Timely and sustained consultation may have provided opportunities to set project goals, leverage resources and align with public priorities.

6. Respondents noted the misalignment between ministries at the national and county level. Unaligned administration makes it difficult to establish entry points with counties. The current practice is to aggregate several national ministries into one county ministry. County planning departments and climate change units provide entry points for training and technical assistance.

6. Sustainability

Evaluation Question #3: What elements are the most effective in supporting Kenya's journey to self-reliance?

Conservancy management

Because of USAID/KEA's long-standing commitment to conservancies, financial and management capacities of umbrella conservancy organizations (KWCA, NRT, and the Maasai Mara Wildlife Conservancy Association (MMWCA)) have been strengthened. Several individual conservancies, such as Mara North and Naboisho in the MMWCA area and Kalama in the NRT area, appear ready to manage donor funding directly. Diversification of revenue streams in conservancies, such as development of commercial livestock enterprises and wildlife farming are promising and needed, but the financial viability of these approaches is still unproven. Respondents suggested that an investor-driven conservancy framework be developed to strengthen private sector support to 1) develop diversified business approaches to conservancy revenue schemes, 2) develop effective marketing strategies for tourist facilities and activities and 3) manage conservancies for sustainability.

Youth are future landowners, and, to a large extent, the long-term success of conservancies lies in their hands. Youth are keen to start businesses, gain employment and become engaged in meaningful activities that strengthen their communities. They need secure incomes to guard against distressed and involuntary land sales. The evaluation team observed similarly that investing in women was paying dividends for future sustainability. Women were equal recipients of training, were represented in landowners' committees (LOCs), and employed as rangers, a traditionally male-dominated profession.

Payment for Environmental Services

Progress has been made in developing PES frameworks, but mechanisms for PES need to be developed and policies and regulations reviewed to calculate direct and indirect benefits of the ecosystems in water towers and conservancies. More capacity, Kenyan expertise and public awareness of and appreciation for PES is required to establish self-reliance.

Legislative, Regulatory, and Information System Frameworks

Kenya has embarked on its journey to self-reliance by establishing a legal, regulatory and information systems framework. Nonetheless, much work lies ahead. The 2016 CCA is yet to be implemented and its Council constituted. The Directorate of Climate Change (DCC), established by the Act, is without a director and the draft climate change policy is pending official adoption by Parliament. Little progress has been made towards enactment of comprehensive legislation on benefit-sharing as envisaged under the Constitution. The Benefit Sharing Bill (2018), which has been pending before Parliament, could establish incentives for conservation and foster greater self-reliance for counties and communities by providing a legislative framework for benefit-sharing among natural resource users, the national government, county governments and local communities. Capacity-building on an integrated financial management information system (IFMIS) and on climate finance tracking is critical to sustain climate change investments.

7. Conclusions

Governance. The evaluation established that overall, IECC built capacity across government institutions, local communities and the private sector in integrated development planning and budgeting, and management of landscapes and wildlife. The project strengthened institutional capacity to address the complexities of climate change resilience and conservation. However, greater engagement of GOK ministries, agencies and counties at the planning stage would likely have boosted local ownership and intensified and sustained impacts going forward.

The IECC's contributions to developing, reviewing and harmonizing laws, policies and strategies for climate change, conservation, resource use and landscapes management were impressive. However, much work remains to improve the enabling environment for climate change, land use, and ecosystems benefit-sharing. For example, the CLA and Wildlife Act are stalled, and many other laws need implementing regulations before they will be applied. Counties' responsibilities regarding benefit-sharing and land use must be

clarified.

The evaluation also established that unless government agencies are better resourced, their ability to address climate change, landscapes management and wildlife conservation will be compromised. Courts, prosecutors and the police lack adequate principles and procedures to deter environmental crimes and punish offenders.

Devolution presents opportunities and challenges for improving governance and achieving low emissions development, but several challenges persist. Effective environmental conservation is hampered by a lack of clarity in the division of responsibilities for climate change planning, conservation and management of landscapes. Further, although counties figured prominently in the PAD, their deficiencies in human and financial capital were not addressed, and consequently impeded the discharge of their mandated duties and responsibilities. The MOU recently signed by USAID, the Ministry of Finance, and the COG should pave the way for more productive relationships and generate spillover benefits like faster uptake of investment and performance templates for tracking county conservation management.

Ecosystem conservation, management and services. As noted elsewhere in this report, the project's investments in youth and women through training, capacity-building, entrepreneurship and leadership were generating positive impacts for conservation. Conservancies increasingly have gender and youth strategies that include livelihoods development such as beadmaking, beekeeping, cooking and brick making. However, to avoid market saturation, diversification will be needed. Education for breeding ostriches, crocodiles and guinea fowl for commercial purposes would be one way to diversify incomes and restock depleted conservancies. Institutionally, KWS county offices could provide extension services to promote game farming.

Conservancy partners and wildlife organizations like the KWCA enhanced and advanced legal, policy and institutional reforms and implementation through advocacy. An outstanding example was Wildlife-Direct's "Eyes in the Courtroom," whose TV court presence called attention to otherwise unknown cases and built popular support for law enforcement of wildlife crime. In the field, better planning, more frequent patrols, modern surveillance technologies and improved coordination and cooperation with the KWS and the KNP allowed conservancies to prevent and reduce wildlife crime. These positive developments were complemented with new curricula for school children on various conservation themes and topics. Nonetheless, more awareness is needed to correct public misperceptions that conservancies push communities off their lands. Lastly, as mentioned, strategies are needed to involve counties more fully in investments and incentives for long-term growth and sustainability.

Market-based environmental systems. The evaluation has noted that PES is relatively new, and that although the KEFRI report contained a detailed and well-developed methodology, concepts related to the valuation of environmental services require greater dissemination, particularly among policy-makers, as an essential step for fostering greater sustainability in conservation.

In addition, diversification of income and livelihoods is necessary in water towers and rangelands. The evaluation found that modernization of livestock enterprises with emphasis on higher *quality* livestock breeds rather than on *quantity* showed promise to increase incomes while protecting fragile rangelands. The evaluation also established that grazing plans improved pasture even during the dry seasons.

Enhancing low-emissions development. The project developed laws, policies and strategies to mainstream low-emission development into sectoral plans and budget. Examples include the CCA (2016), National Climate Change Response Strategy (NCCAP) 2018-2023, Climate Finance Policy, and the Sustainable Waste Management Bill and Policy of 2019. However, climate change policy was yet to be adopted and existing policies and legislation remained partially implemented owing to limited technical and financial resources.

Similarly, the IECC helped develop financing climate change and low-emissions policies, but laws and policies were relatively new and unimplemented. The evaluation noted that weak technical capacities and

limited experience continued to undermine funding climate change activities at national and county levels. However, new policy and learning tools should accelerate low-emissions development.

Sustainability. The project helped diversify conservancy revenue streams from commercial livestock and wildlife farming, but these enterprises were nascent and their long-term financial viability unproven. A private sector investor-driven conservancy framework is needed to strengthen diversified conservancy revenue schemes, and to develop marketing strategies for sustainable conservancy tourism.

8. Recommendations

Evaluation Question #4: What opportunities should be considered for future project development and the new USAID Country Development Cooperation Strategy?

This evaluation suggests steps for future project development under the forthcoming USAID CDCS. Based on the evaluation's findings, these recommendations are intended to improve environmental conservation and productivity and enhance the sustainability of conservation outcomes.

Governance

1. **USAID should strengthen early engagement with key ministries, agencies and counties, particularly during project development and implementation.**

Many GOK respondents indicated that USAID/KEA needs to work with GOK entities at the earliest possible stage of program design and development to ensure better agenda-setting and alignment of priorities. They also indicated that such collaboration would improve leveraging of resources, instill ownership and create synergy.

2. **USAID should support development of GOK interagency data and information sharing platforms for environmental monitoring and reporting.**

GOK respondents welcomed USAID/KEA support to establish data sharing platforms, protocols and procedures. Respondents acknowledged gaps in this area and recognized that efficient and effective knowledge management would improve environmental decision-making and national ownership of environmental policymaking and implementation.

3. **USAID should support vulnerable populations, including persons with disabilities, and continue to support increasingly diverse women and youth-led conservation enterprise development with conservation, livelihood and economic benefits.**

GOK respondents indicated that local communities, particularly youth and women members of forest, water, and wildlife associations, can play important roles in sustainable enterprises and environmental monitoring in water towers, wildlife rangelands, and forest ecosystems.

4. USAID should continue to support women and youth's enterprise development in support of conservation.

Conservancy respondents emphasized the close relationship between rural livelihoods for women and youth, and sustainable landscapes and NRM conservation.

Community-Managed Conservation

5. USAID should continue to support diversification of conservancy revenue streams.

Conservancy respondents expressed concern about their ability to leverage resources for conservation from public and private sources. They viewed diversifying revenues, through mechanisms like increased tourism and modern livestock management, as critical to the long-term sustainability of conservancy NRM and landscapes management.

6. USAID should support advocacy for favorable land use, tax reforms and burden-sharing.

Conservancy staff and stakeholders further expressed concern that the social-welfare and infrastructural services they provide conservancy residents have had the unintended effect of allowing counties and the national government to burden-shed. In their view, greater recognition and incentives from the public sector for these services would encourage private investment in conservation as a land use option.

7. USAID should support integrated conservation and development planning with targeted county governments.

Respondents expressed concern that county governments undervalue conservation and lack capacity to mainstream conservation and climate change into their integrated development plans (CIDP) and spatial plans. USAID/KEA's liaison with COGs has been primarily through its office of Economic Growth and Trade. Environment and conservation should be integrated into USAID/KEA's work with COG as envisioned by the PAD because the COG provides a useful mechanism for establishing common practices and promoting climate change resilience and conservation.

8. USAID should support strengthened private sector engagement in support of conservation.

Respondents expressed the need to provide incentives for private sector engagement in conservation. The incentives they proposed include tax rebates and other innovative options for wildlife farming.

9. USAID should support the identification and restoration of degraded terrestrial and marine areas, and support further efforts to collect and disseminate data measuring change in these ecosystems over time.

Respondents considered degradation of rangelands, water towers and marine environments as a major threat to environmental sustainability. They stated that continuous mapping of the changes in ecosystem integrity and function is needed and recommended ecosystem service mapping to identify/quantify areas put under improved management in terrestrial and marine ecosystems and hotspots for intervention measures.

Environmental Education

10. USAID should support embedding environmental education within the national curriculum.

Biodiversity, conservation, and climate change education are preparing the next generation of conservationists. Embedding conservation and environmental learning within the national curriculum would be an ambitious, but worthy activity for long-term change and could be coordinated with the Mission's education office.

Mass Media

11. USAID should support mass media coverage of conservation, climate change and environmental issues.

Respondents indicated that enhancing the public's awareness about conservation, climate change and the environment through mass media would enhance biodiversity conservation and management efforts.

Market-Based Environmental Services

12. USAID should support capacity building on research methodologies and standards.

Respondents demonstrated interest in the use policy-backed market-based instruments to promote conservation, but they lacked information, knowledge and experience regarding how to apply these instruments in different socio-economic and environmental contexts.

13. USAID should support research dissemination and sensitization within key GOK

ministries, agencies and county governments on water towers.

Respondents underscored the need to encourage investor-driven conservation through policy research and dissemination. They viewed research as a potent avenue toward diversification of business approaches to conservancy revenue schemes, effective marketing strategies for tourist facilities and activities, and sustainable management of water towers and conservancies.

14. USAID should support piloting of PES activities in the three critical water towers of Mt. Elgon, Cherangany and the Mau Forest, as well as forest areas and rangelands.

Respondents expressed concern that despite research, ESV and PES tools remain largely untested. Respondents advised more participatory testing of these instruments to achieve conservation objectives.

Low Emissions Development

15. USAID should support integration of specific climate change mitigation activities in national and county development planning.

The evaluation found unique opportunities for climate mitigation and low emissions development at the national and county government levels across sectors. Foundational planning could be done through formal development planning instruments such as medium-term expenditure plans (MTPs), national climate change action plans (NCCAPs), and CIDPs. However, limited knowledge and experience in climate change mainstreaming at national and county levels limit progress.

16. USAID should support increased GOK capacity for attracting, accessing and managing climate finance.

Respondents believed that limited knowledge, experience and technical expertise to attract, access and manage climate finance from the private sector and global multilateral organizations was restricting progress in climate change mitigation.

17. USAID should support development of frameworks to support low emissions development and the financing of climate change mitigation efforts including the use of carbon credits.

Respondents noted that Kenya lacks clear strategies and frameworks for harnessing financial and technical resources to support climate mitigation and resilience.

18. USAID should support implementation, monitoring and inventorying of low-emissions development activities.

Respondents urged capacity building for more accurate assessment and inventorying of GHG sources and emissions levels, and capacity to implement and monitor climate change activities. They viewed lack of capacity as a major brake to meeting climate change obligations and green growth objectives.