RESTORING KENYA'S RANGELANDS: THE WAY FORWARD

17 NOV 2022

10:00 AM-12:30 PM EAT

WELCOMING REMARKS

Welcoming Remarks And Introductions

Ms. Caroline Kawira,
CIFOR - ICRAF

Restoring Kenya's Rangelands: the way forward webinar
17th November 2022

Introduction

Caroline Kawira

Presentation outline

- Background to the rangelands action group
- Purpose of the action group
- Membership of the action group
- Issues/ topics handled in the action group meetings
- Organisation of the webinar

Background

The Kenya Rangeland Restoration and Conservation Action Group was formed after Kenya National Landscape Restoration Scaling Conference (9th to 16th July 2021)

Why rangelands?

- In Kenya, ASALs cover over 83%of the country's land mass Support over 70% of the country's livestock and 85% of the wildlife population

- Rangelands are severely degraded but also face many challenges

Purpose of the action group

1. Identify and prioritize key issues to support action in Kenyan rangelands.

1. Clarify each of these issues in a dedicated session in view of promoting actions supporting rangelands conservation and restoration. Share some solutions/experiences of some actors in overcoming these issues/bottlenecks and using opportunities.

Key Issues prioritized

1. Documentation and sharing of experiences/knowledge on good rangeland management practices and their impacts
2. Assessing and monitoring rangeland health for multiple targets and commitments e.g. the Land Degradation Neutrality (LDN) and UN Decade on Ecosystem Restoration
3. The current and future threat of invasive species and how to address it
4. How to enhance resilience to changing climate, markets, and interests
5. Exploring the role of the youth and women and how to strengthen their involvement and capacity
6. Supporting national and county policies/ commitments/targets/plans in for advancing rangeland restoration
7. Identifying and addressing the drivers of rangeland degradation

Webinar flow

- Presentations from speakers
- Q&A
- Breakout sessions
- Presentations of outcomes from the break out sessions
- Closing remarks

We will be glad if you can stay with us to the end.

SESSION 1. PRESENTATIONS

Regreening Africa

Speakers

Dr. Petronilla Nduthu
Mr. Micheal Bolton Onyango
Dr. Hanspeter Liniger
Ms. Amina Maalim
Dr. Urs Schaffner
Dr.Stephen Mureithi
Mr. Meshack Muga

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Supporting national and county policies/ commitments/targets /plans for advancing rangeland restoration

Dr. Petronilla Nduthu, Range Resource Development Division, State Department of Livestock

Presentation outline

1. Background
2. Challenges
3. Approaches adopted to address the issue
4. Lessons learnt
5. Way forward

Speakers & contributing organizations

Dr. Petronilla Nduthu, Director, State Department of Livestock- National and county range management restoration policy, strategy, and plans

Paul Gacheru, Program Manager, Nature Kenya– The Restoration Initiative

Background

- Kenya has two levels of government responsible for policies, commitments and targets to advancing rangeland restoration i.e., the county & national levels

- As such, the need to support the various level of governments

- Non state actors in restoration (CSOs, NGOs, Development partners, Research organizations, etc.) support state actors, county and national governments by contributing to drafting the rangeland policies, reviewing existing ones & mainstream restoration targets into the County Integrated Development Plans (CIDPs)

Challenges

1. **Low technical capacity and awareness on restoration among county directors, officials & administrators** e.g., awareness of low-cost restoration approaches suitable for rangelands due to the misconception that restoration is tree planting that **results in the lack of political goodwill for restoration**
2. Lack of county spatial/land-use plans with clear regulations & the lack of enforcement of spatial plans in place

3. **Limited funding at both county & national level for**:
   - Disseminating national level policies and strategies at county level e.g., for printing the copies of the policies and strategies, etc.
   - Implementing rangeland restoration initiatives e.g., the lack of proper financing mechanisms especially for trust lands that are held in trust for the communities by the county government and communal lands

4. Lack of adoption of rangeland management/restoration policies, plans and strategies due to the lack of sensitization linked to the lack of extension services

-

5. Lack of synergy among stakeholders involved in rangeland management and restoration required for upscaling restoration

How actors are supporting national &county policies/ commitments/targets/plans for advancing rangeland restoration

Organization	Contribution
State department of Livestock	Mandated to develop range management policies, regulations, strategies, and plans; develop capacity and research; pastoralism and value chain development; plan and rehabilitate rangeland and develop and conserve rangeland genetic and feed resources
Nature Kenya	• Promotes policy formulation processes at national and county levels and support county policy processes to integrate restoration e.g. Tana River County Forest and Landscape Restoration (FLR) Action Plan, Forest and Landscape Restoration Implementation Action Plan (FOLAREP); Lamu County FLR Action Plan, etc. • Supports counties to integrate restoration targets into CIDPs • Supports local policy implementation processes by building the capacity of local community institutions in sustainable land management and restoration
International Livestock Research Institute (ILRI)	Supported the development of County Rangelands Management Bills designed to be compatible with the Community Land Act in Wajir, Isiolo, Marsabit, and Garissa counties
Ministry of Water, Sanitation & Irrigation	Has developed a Land Reclamation Policy that cuts across all ecosystems and landscapes including rangelands

How actors are supporting national &county policies/ commitments/targets/plans for advancing rangeland restoration

Organization	Contribution
Northern Rangelands Trust (NRT)	Has worked with the Samburu & Isiolo County governments to develop the county range management policies
Grevy Zebra Trust	Has worked with the NRT to support the development of Range Management policies
Centre for Agriculture and Bioscience International (CABI)	Has supported the development of the National Prosopis Strategy for Kenya aimed at the sustainable management of the Prosopis juliflora
Enonkishu Conservancy	Collects data for rangeland management (developing grazing plans), for scientists, carbon credits and policy and decision making

Lessons learned

- **A variety of approaches can be used to support the integration of rangeland restoration into county and national level policies/plans/targets i.e.:**
  - Supporting the development of national rangeland management and restoration policies, plans, strategies, etc.
  - Supporting the development of county range management plans, county spatial plans/Land use plans
  - Supporting counties to mainstream restoration targets into County Integrated Development Plans (CIDPs)
  - Support local community Institutions set up/strengthened to enhance sustainable land management e.g Community Forest Associations (CFAs), Water Resource Users Associations (WRUAs), Beach Management Units (BMUs), Village Natural Resources and Land Use Committees (VNRLUCs)
  - Implementing large scale rangeland restoration projects such as TWENDE involving multiple stakeholders including county and national level governments for better coordination and for learning

Lessons learned

- Creating awareness of the need for rangeland restoration and capacity building on the restoration approaches suitable for rangelands at county level is vital for creating political good will for it

- Funding is required to support the dissemination of national level range management or restoration policies/plans/strategies & support their development at county level

THE END

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Assessing and monitoring rangeland health for multiple targets and commitments e.g., the Land Degradation Neutrality (LDN) and UN Decade on Ecosystem Restoration

Bolton Onyango, Field Researcher & Range management consultant, Enonkishu conservancy

Presentation outline

- Speakers and contributing organizations
- Background
- Challenges
- Addressing the key issue
- Context of: Enonkishu, NRT & WOCAT
- Lessons Learnt
- Opportunities
- Actions required
- Message of Hope

Speakers &contributing organizations

	Bolton Onyango, Field researcher, Enonkishu Conservancy – Assessing and monitoring rangeland health: Enonkishu conservancy
	Mohamed Shibia, Senior Rangelands Management Officer,Northern Rangeland Trust – Assessing and monitoring rangeland health for multiple targets and commitments
	Hanspeter Liniger, Associated Senior Research Scientist & Programme Director,WOCAT– Land Degradation Neutrality (LDN) – UNCCD reporting/monitoring till 2030

Background

- Rangelands cover 54% of global terrestrial surface (148,326,000 km2) to a total of 79,509,421 km2(Rangelands Atlas,2021)
- 78% (approximately 62,000,000 km2) are classified as drylands, covering 41% of the earth's landmass
- Supporting 1/3 of the world's population
- Whose livelihoods is dependent on Range natural resources
- Host to a wide range of biodiversity (KBA) and act as important carbon sinks
- Cover43%oft the land area in Africa
- Host 240million agro-pastoralists and 25 million pastoralists

Challenges

- Range land livelihoods, rangeland natural resources and Rangeland health in general are faced with a myriad of challenges including:
  - Climate change and variability
  - High levels of soil and land degradation
  - Biodiversity loss
- Exacerbated by
  - Human activities coupled with complex socio-cultural factors e.g., Poor rangeland management practices, breakdown in traditional decision-making systems, inconsistencies in livestock movement etc.
  - Increasing human and livestock populations in RLs
  - Widespread poverty and health
  - Weak governance and Institutions
  - Remoteness, rendering decision making and infrastructural support difficult
- Calling for Range land restoration initiatives and activities to reverse rangeland degradation.
- Assess and monitor rangeland health for multiple targets e.g Land degradation neutrality and UN decade for ecosystem restoration.

Addressing the key issue

- The “Rangeland Health” concept.

Rangeland health is the degree to which the integrity of air, water, soils and rangeland ecosystem processes are maintained and balanced for sustainability

- Assessment and monitoring is done on the state and trend of Rangeland attributes i.e.
  - Soil stability- ensuring minimal loss and redistribution of solid resources
  - Integrity of biotic community- fostering functional and structural communities that build the ecosystem’s resilience and ability to recover from disturbance.
  - Hydrological function- creating a site capable of capturing, storing and safely distributing precipitation, by reducing runoffs and degradation.

Context of Enonkishu

Biomonitoring. Assessing and monitoring of the 4 ecosystem processes i.e

- Nutrient cycle-the cycle of nutrients through the physical and biotic components of the environment.
- Water cycle-The capture, storage, and redistribution of precipitation.
- Community dynamics- state and trend of functional and structural biotic communities.
- Energy flow- seamless flow of solar energy through the trophic levels and conversion to plant and animal matter
- Transects across the landscape are set to sample the above indicators. Landscape changes are captured with time series photos.

Indicators:

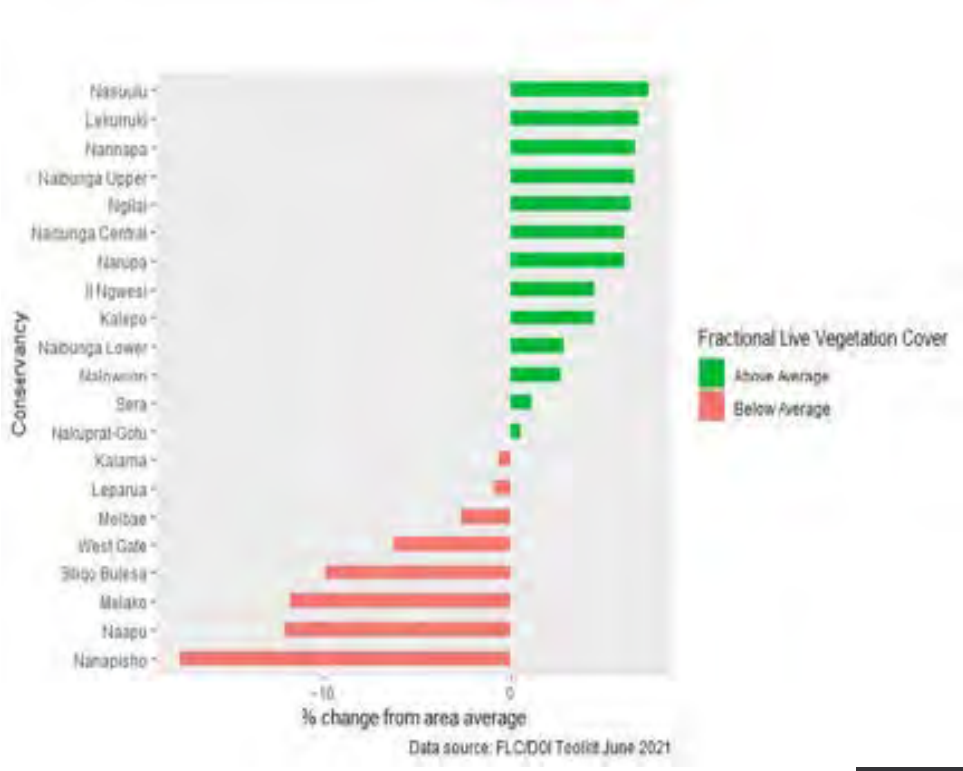
Functional composition of plant species

Flow patterns on bare grounds

Rate of litter decomposition

Context of Northern Rangeland Trust

- Monitoring of rangeland health though the following indicators
- 1. Fractional live vegetation cover
- 2. Rate of growth
- 3. Amplitude (The amount of forage in each megapixel
- 4. Bare ground (%)
- 5. Gaps between plants (%)
- 6. Perennial grass (%)
- 7. Plant base (%)
- Transects are used to sample the key indicators 4,5,6,7.
Remote sensing indices are used to monitor indicators 1 to 3



Context of WOCAT

- Land degradation neutrality (LDN) and UNCCD report/ monitoring framework
- Assessments monitor sub-Indicators under indicator 15.3.1: proportion of the land that is degraded over the total land area, land productivity, and carbon stocks (above and below ground).

Lessons learned

- Several institution have different indicators and metrics to measure rangeland health
- Assessments and monitoring of these indicators are done through ground truthing and remote sensing indices.
- Limitations
  - False positives- ‘desert forest’ , irrigation fields reported as greening
  - Selection of sites for monitoring, i.e., what are the representative sites for various land uses/land cover types?
  - Vastness of rangelands make it difficult to ground truth data

The way forward: Opportunities

- A Sustainability Index for Landscape Restoration be developed and tailored to specific sites.
- Which not only measures restoration impacts on ecological aspects of rangelands but also the social aspect of rangelands
- Simplicity of monitoring tools e.g LandPKS allows monitoring of complex ecosystems at the palm of your hands.

The way forward: actions required

- A platform or a framework to share rangeland health monitoring data between institutions needs to be developed and implemented.
- Ways of communicating results from monitoring rangeland health to the wider community needs to be developed

"we need to shift from doing conservation and rangeland restoration for the community to conservation and rangeland restoration by the community" – Dickson Kaelo, KWCA

The way forward: support required

- Relevant stakeholders to build capacities of local communities to assess and monitor rangelands.

- A national initiative with an agreement of all the rangeland players with a budget for rangeland assessment and monitoring and making these results available up to date should be established.

Message of hope

THE END

Liniger

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How to enhance resilience to changing climate?

Hanspeter Liniger,
Former Director WOCAT,
CDE, University of Bern

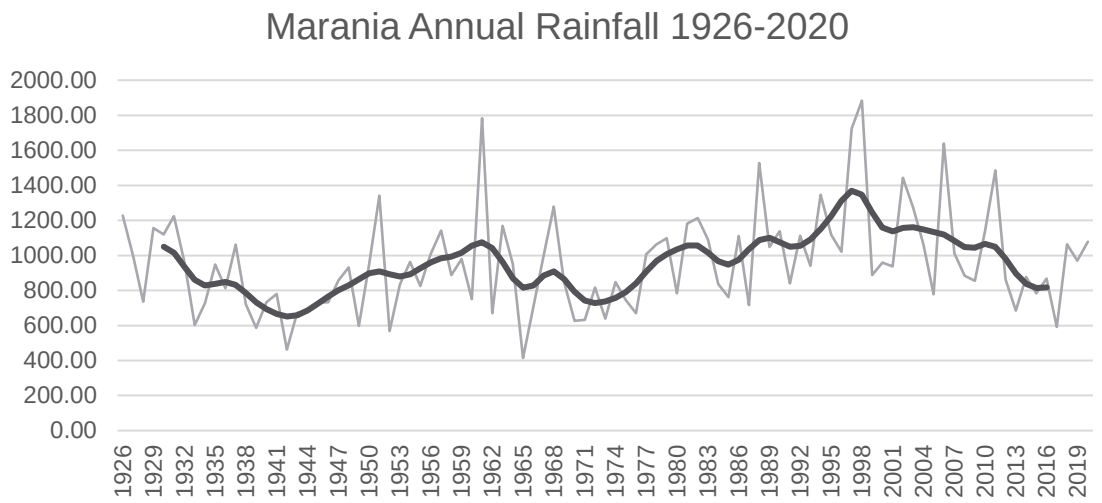
Lucy Waruingi, ACC Director

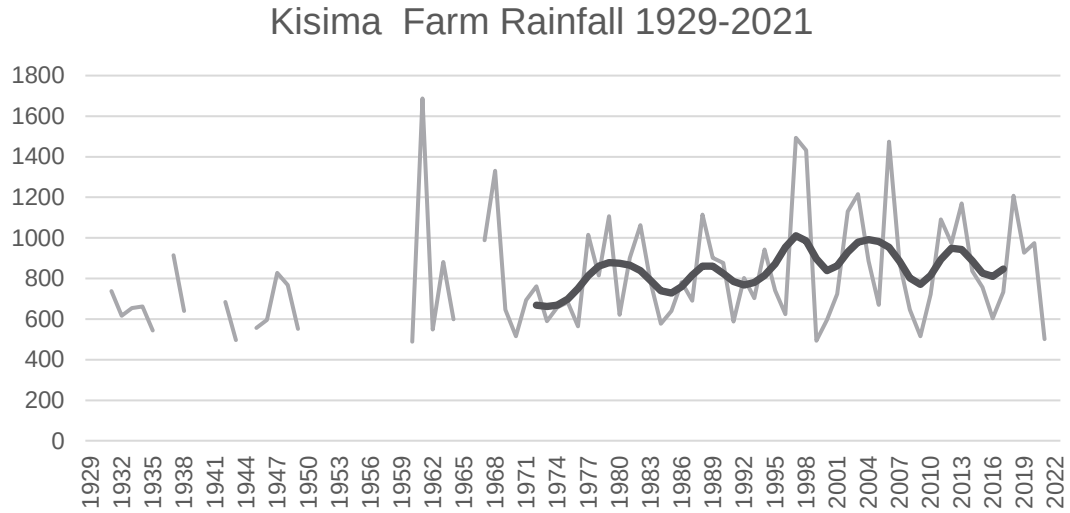
Background on Myths and Facts of CC

Temperature: is clearly increasing

Rainfall:

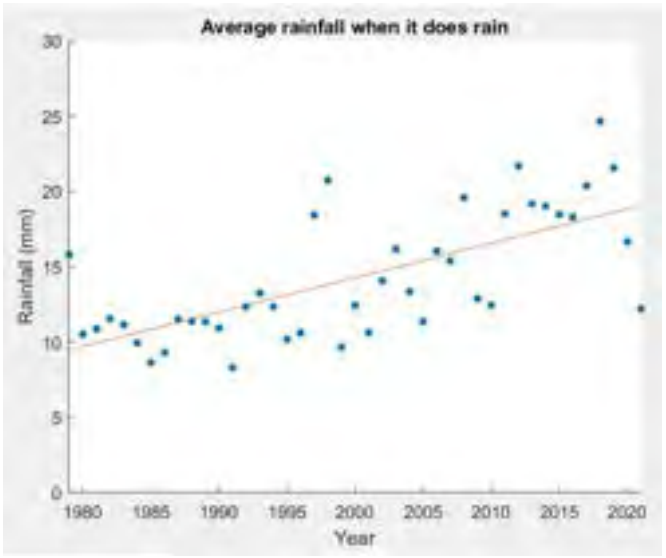
- is highly variable in time and space
- **Perceptions**: rainfalls are declining
  → not based on measurements but
  → rangelands are becoming less green than before.
- **Facts**: not below average, rather increasing
- Recent drought is serious but not part of a downward trend
- Not many good and long-term records to prove change

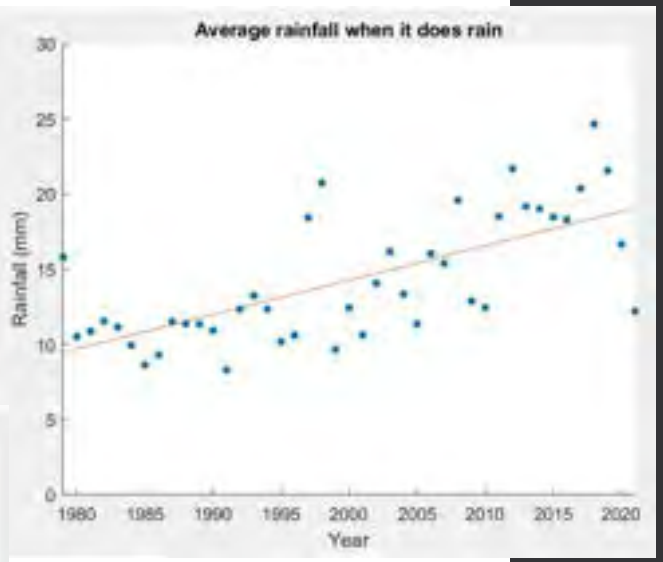


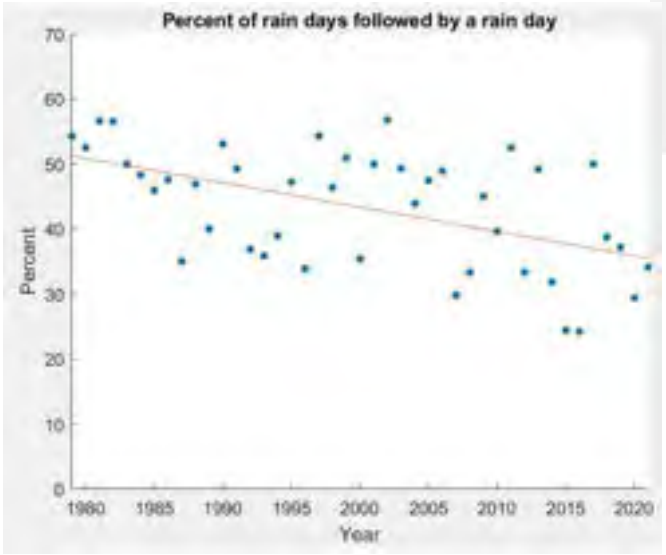


Challenges

- Very variable in time: seasonal / annual
- Very variable in pace: due to mountains
- Long rains decreasing?
  Short rains increasing?
- Rainy days: Less but
  more rain per rainy day
  → heavier storms
- Dry spells more variable → longer
- → Key: resilience of the land







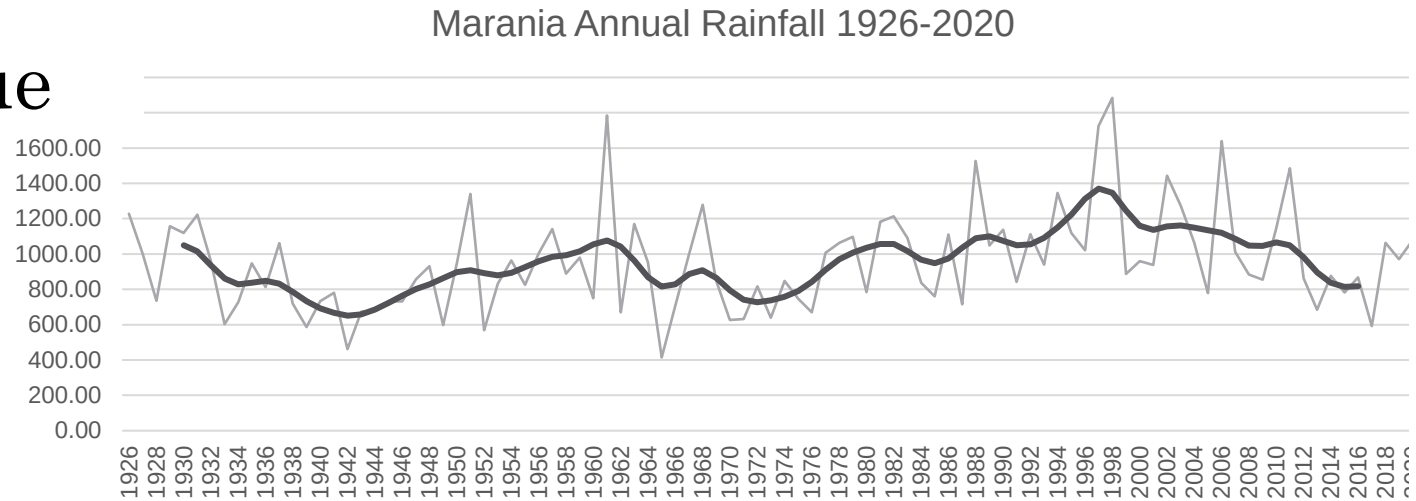
Source: Rural Focus 2022, Schmocker et al. 2015, CETRAD

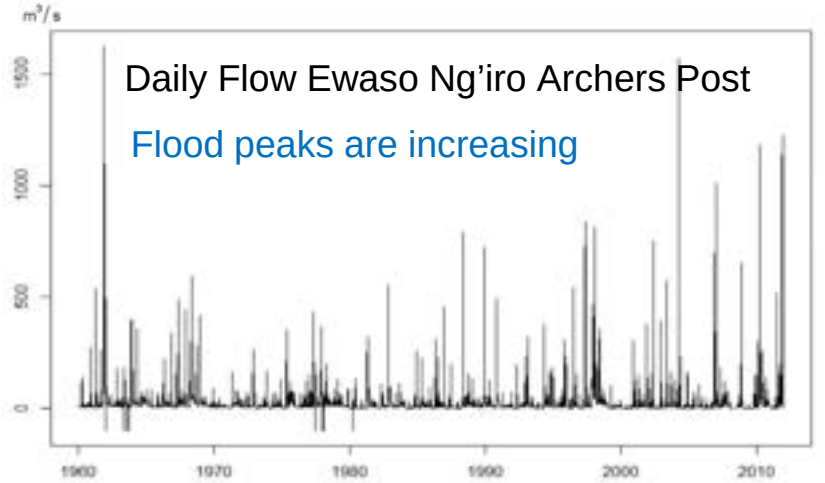
Addressing the key issue

Impact of Climate Change and/or land use /mgt change?

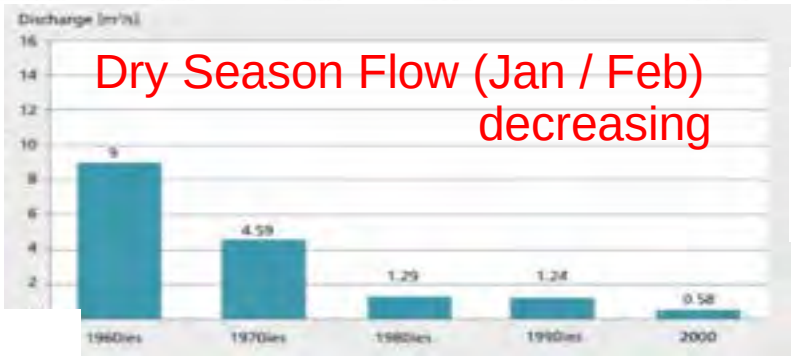
Too much followed by too little

→ The land degradation syndrome: upstream - downstream
→ Aggravated but not caused by CC





Land mgt!



Abstraction and Land mgt

Source: Linger, Mekdaschi-Studer 2019 https://www.wocat.net/library/media/174/

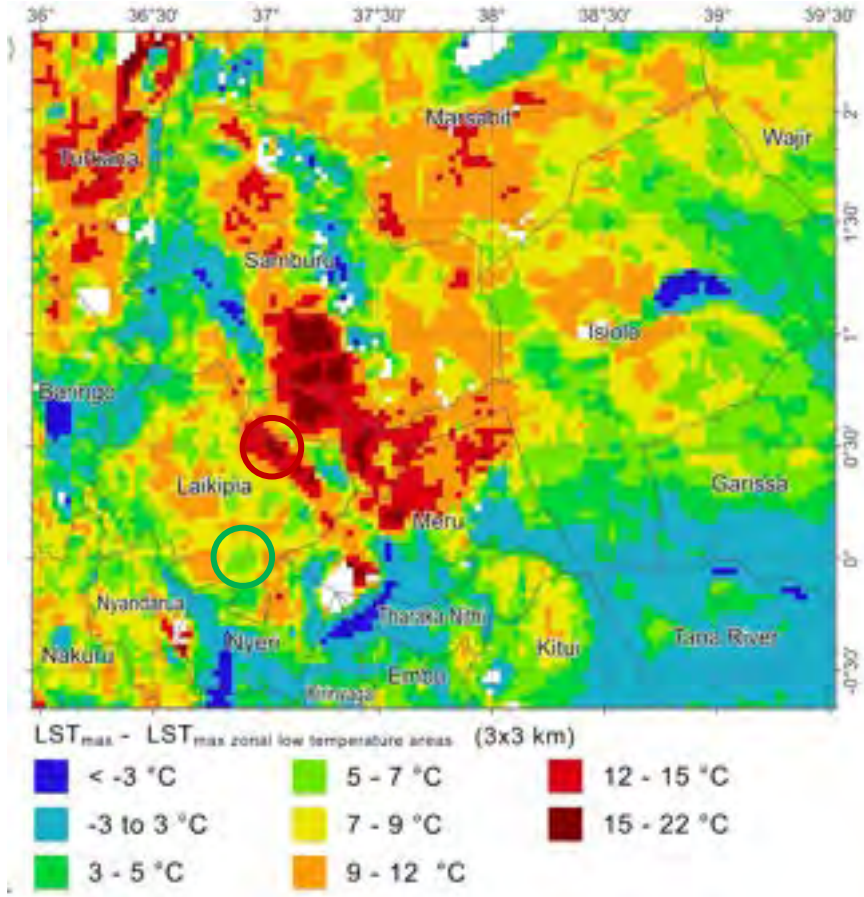
… key issue?

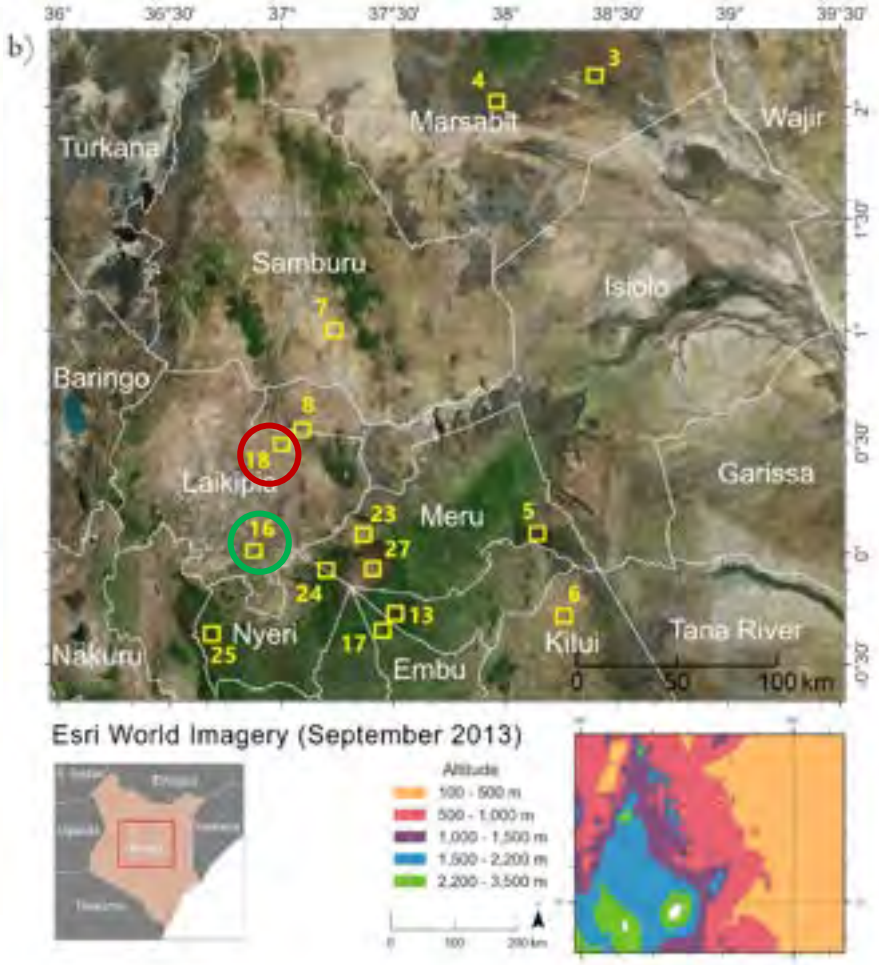
Impact of cover on surface temperature
→ Air temperature? Consequences?

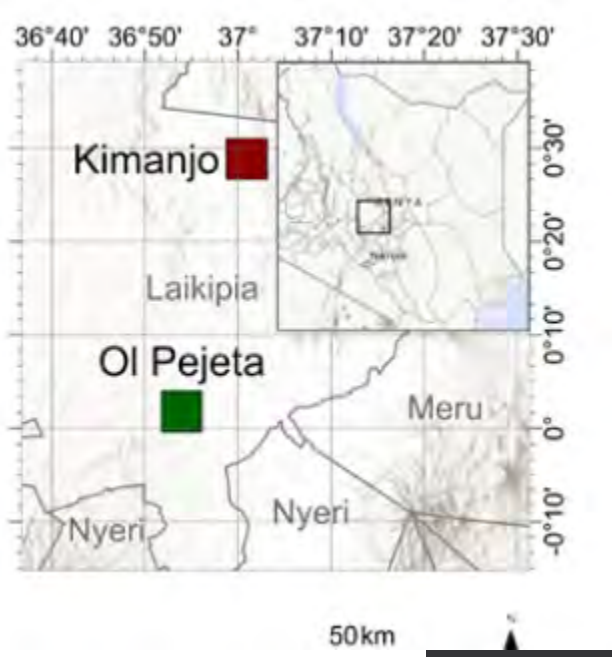
- Extreme soil surface temperature
- Destroying the living organisms of the top soil
- Creating unfavourable micro-climate? / macro-climate?

… key issue?

Surface Temperature Increase: February Mean Max → Hot spots!







Let us prove it!
SLM impact on Climate change!

Indicator for Land Degradation and regional warming?

Interested in collaborating?
Contact hanspeter.liniger@unibe.ch

Source: Julian Bernegger (2021)

Lessons learnt

Resilient land mgt

Example of climate resilient rangeland management practice

Boran livestock in a wet season grazing area (Ibrahim Jarso).

Dedha grazing system as a natural resource management technology (Kenya)

Jars Dedha

DESCRIPTION

The Dedha grazing system is an ancient, traditional governance system for land and its resources practiced by Boran pastoralists. It carefully balances how pastoralists use rangeland resources. The basis of the technology is three grazing rangeland governance zones: wet season grazing, dry season grazing, and drought reserves. There is also water governance based on a traditional hierarchy of rights. Through this system, Boran pastoralists adapt to severe and recurrent droughts.

This grazing system is applied in Isiolo County, Northern Kenya. The Waso rangelands are inhabited by Boran pastoralists with Somali, Samburu, Rendille and Turkana herd-

LOCATION

CLIMATE CHANGE

Climate change/ extreme to which the Technology is exposed	How the Technology copes with these changes/ extremes			
Gradual climate change				
seasonal temperature increase	not well at all		very well	Season: dry season
seasonal rainfall decrease	not well at all		very well	Season: dry season
Climate-related extremes (disasters)				
drought	not well at all		very well	
land fire	not well at all		very well	
general (river) flood	not well at all		very well	
flash flood	not well at all		very well	
epidemic diseases	not well at all		very well	**Comment:** Tick [illegible]
Other climate-related consequences				
reduced growing period	not well at all		very well	

Key principles:

- Enabled mobility
- Rotation
- Good grass / herbaceous cover
- Securing dry season / drought forage
- Community based land use planning/mgt
- Emergency markets

Contact WOCAT:
nicole.harari@unibe.ch; wocat@unibe.ch

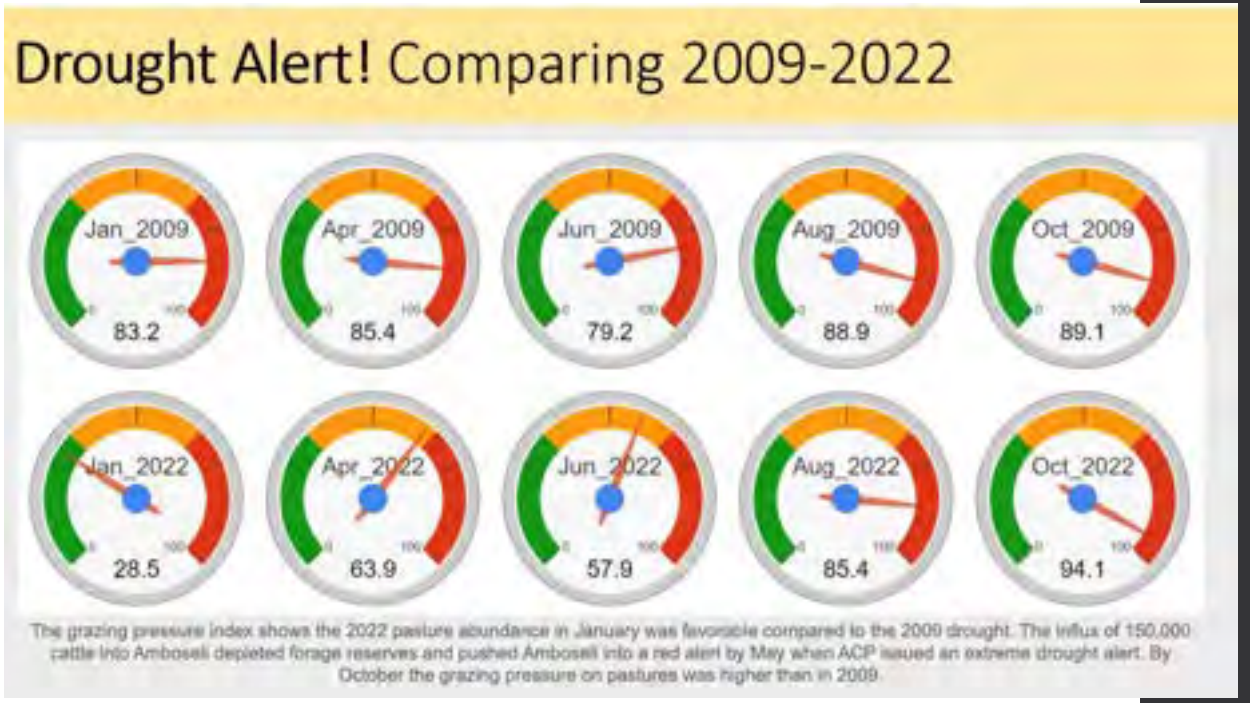
Source: Linger, Mekdaschi-Studer 2019
https://www.wocat.net/library/media/174/

Lessons learned

A Restored plot

A NON-Restored plot

Ecological monitoring by YOUTH from the local communities

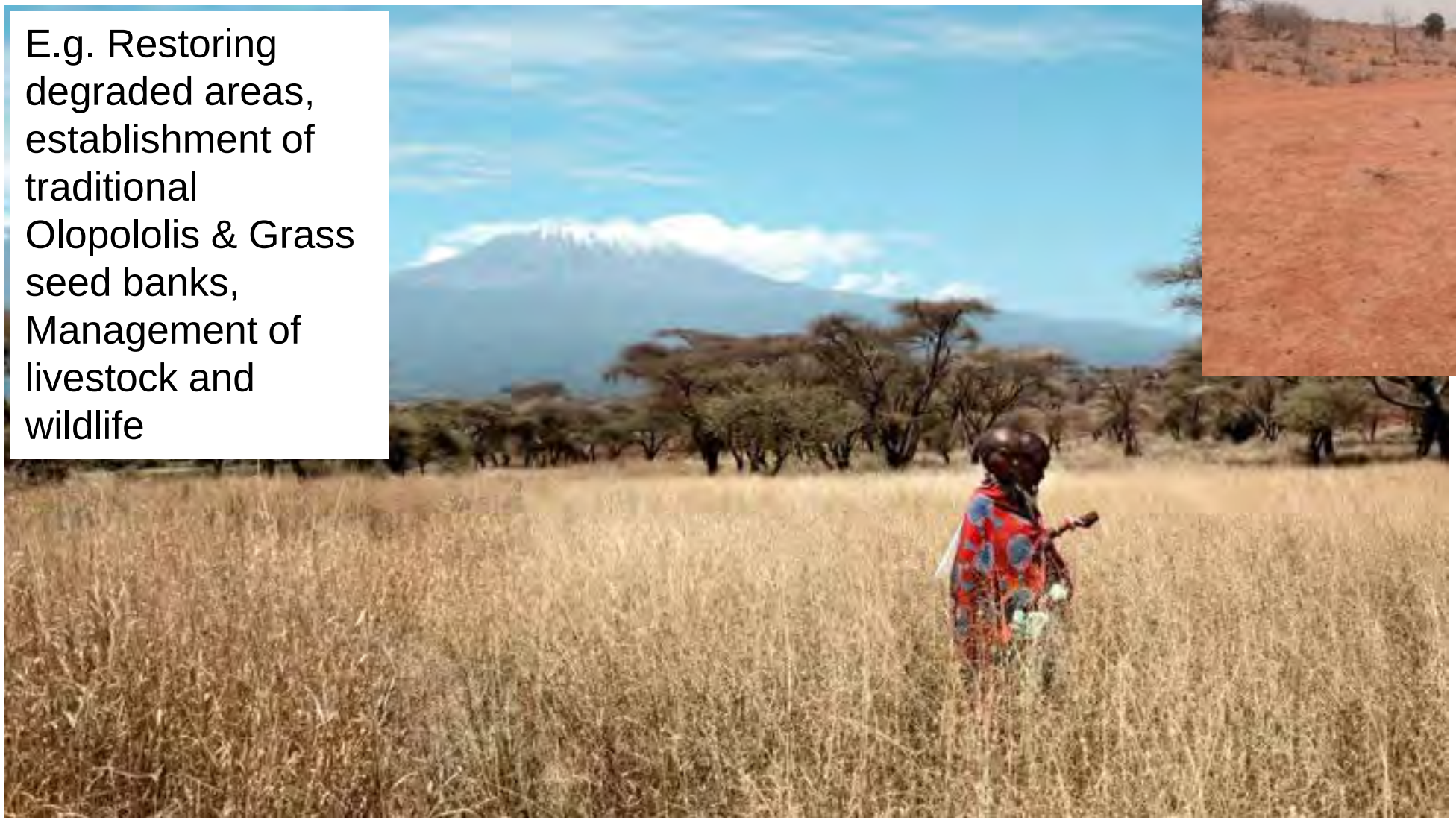


The results when compared with rainfall for various periods show that there is **decreasing grassland productivity** even for the same amount of rainfall

The way forward: Opportunities

AFRICAN CONSERVATION CENTRE

E.g. Restoring degraded areas, establishment of traditional Olopololis & Grass seed banks, Management of livestock and wildlife

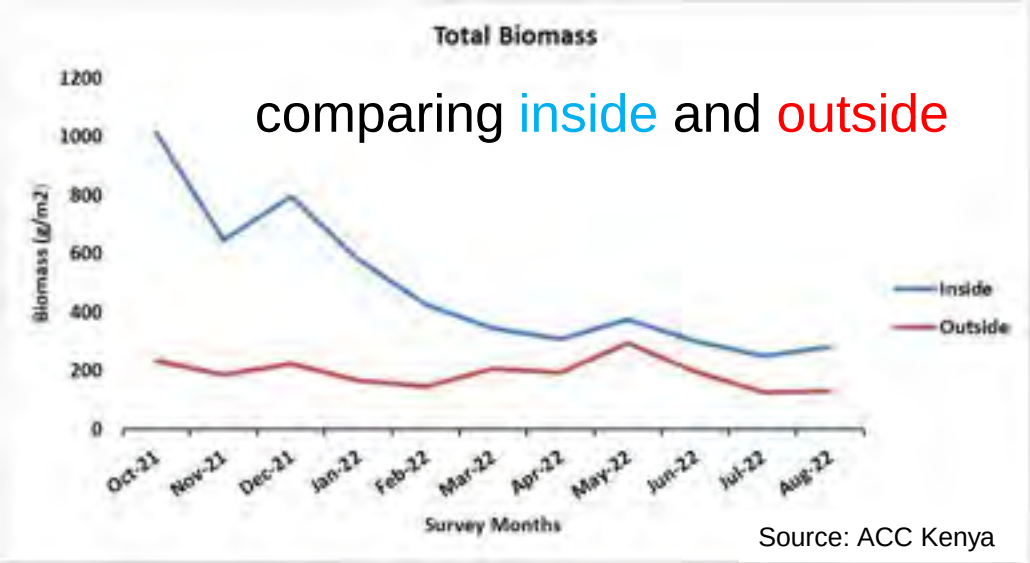


The women's adaptive capacity has increased through selling hay & seeds

The way forward: actions & support required

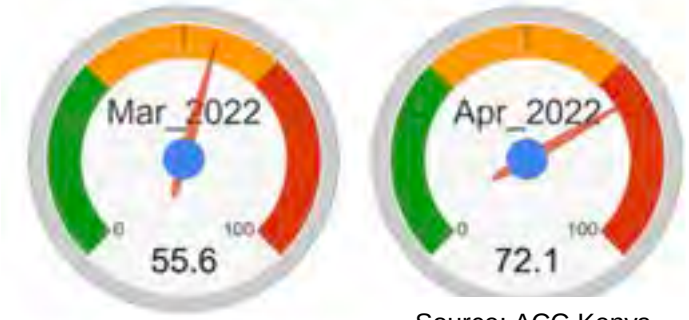
- Documentation and sharing of resilient practices
- Monitoring rainfall, river water & groundwater recharge
  → long term data and proper analysis of change
- Monitoring land use / cover, rangeland mgt and health

Source: Kenya Rangeland Action Group



Source: ACC Kenya

ACP's pasture biomass barometer for the month of April 2022 was already in the red, an early warning of extreme shortages and coming droughts in previous years.



Source: ACC Kenya

Grazing pressure gauges in amber for March and in red for April 2022

The availability of pasture is a key determinant of **how severe the drought will be.**

Source: ACC Kenya

Key messages

Let’s not use climate change as a scapegoat for disasters and
for loosing productivity and resilience!

Rangeland management is the key to improve resilience to extremes: heavy rains / droughts:

→ improve cover / top soil conditions
→ to be proven: great impact of land mgt on micro and macro climate
→ resilient land management practices need to be shared and impacts monitored

Contacts: hanspeter.liniger@unibe.ch, lucy.waruingi@acc.or.ke

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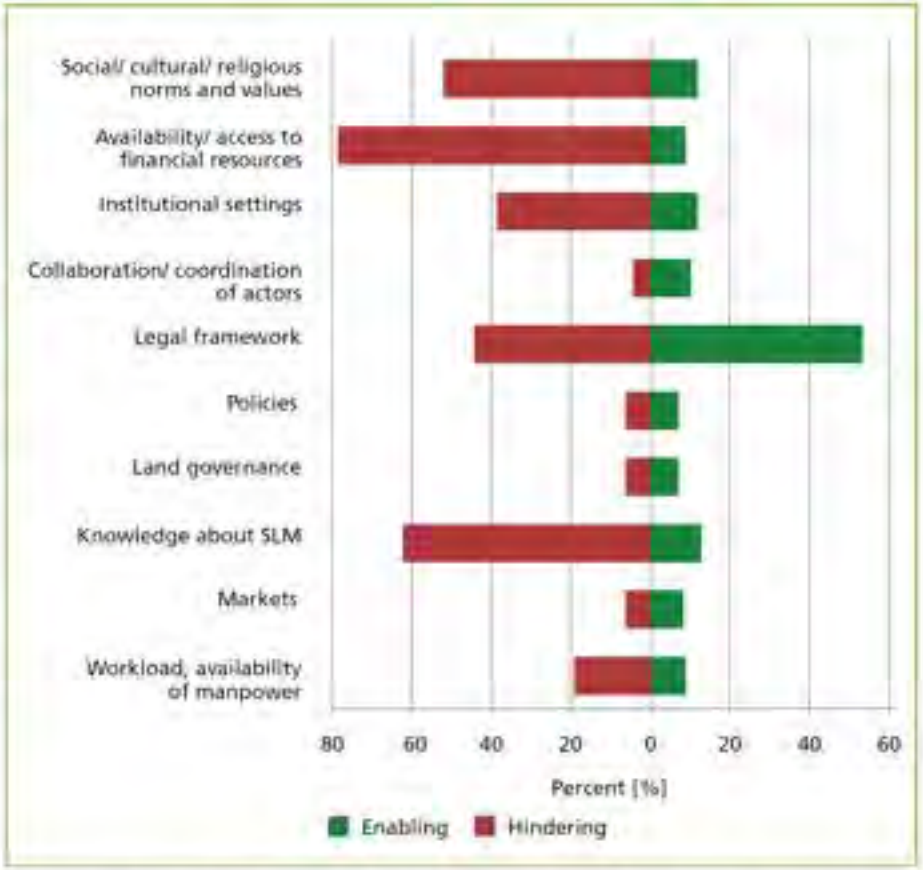
Documentation, and sharing of experiences/ knowledge on good rangeland management practices and their impacts

Hanspeter Liniger,
Former Director WOCAT,
CDE University of Bern

Background and Challenges (1)

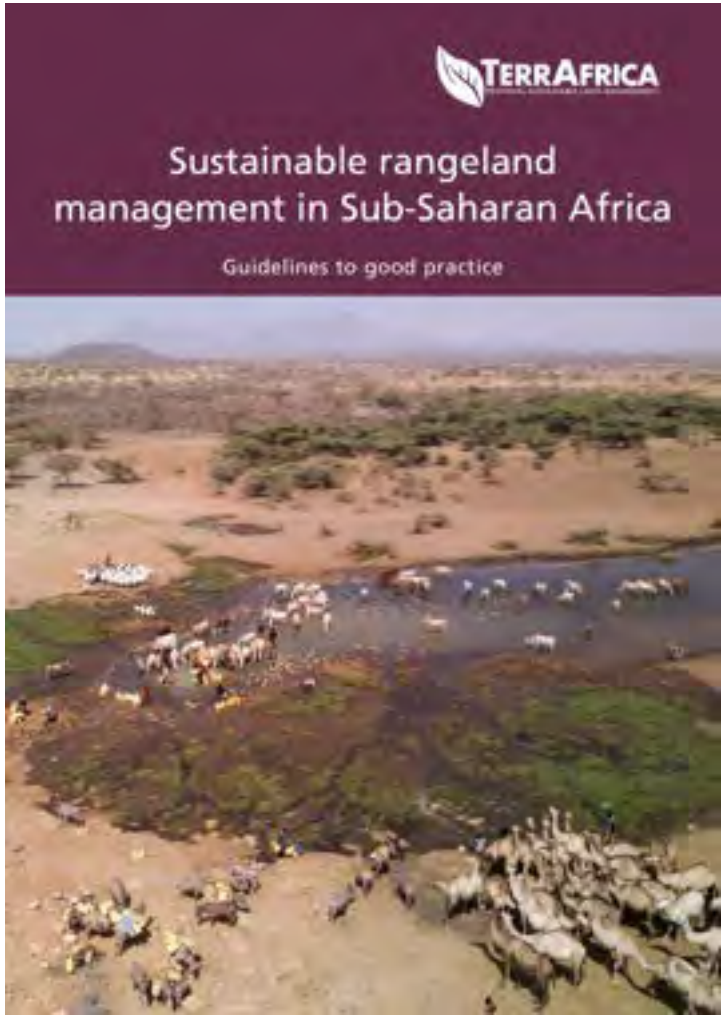
- **Knowledge** is still a **most important hindering as well as enabling factor** for the uptake and spread of Sustainable Rangeland Management (SRM)
- **Result of an internal AG survey**:
  Many organization have “their own” system for documentation and monitoring yet in various levels of comprehensiveness and not standardized
  mostly used for internal report, presentations, case studies,… publications
- **Access to this knowledge is difficult and not open** access, mostly internal, clearly less for rangelands than for cropland!
- Continuity is not secured
- Updating is not systematic



Source: Linger, Mekdaschi-Studer 2019
https://www.wocat.net/library/media/174/

Background and Challenges (2)

- WOCAT made an effort with the book on **Sustainable Rangeland Management in sub-Saharan Africa** and the documentation of the SRM Practices. Kenya has the highest number of practices documented
- Yet the WOCAT platform is not widely used in Kenya for continued rangeland documentation and updating of new practices as well as adaptations.



Source: Linger, Mekdaschi-Studer 2019
https://www.wocat.net/library/media/174/

Key issues for documentation and sharing

- standardized & harmonized questionnaires for data collection
- easy and open access database
- allowing flexible search
- Enabling easy outputs, analysis, reports, learning materials and knowledge products for various purposes
- used widely by extension services, practitioners, students, planners, decision makers
- different languages
- One common database but assigned ownership
- …

Pastoralists undergoing Index Based Livestock Insurance (IBLI) training in Loiyangalani, Marsabit County (Credits to ILRI)

Northern Rangelands Trust - Livestock to Markets (Kenya)

DESCRIPTION

Northern Rangeland Trust works across the rangelands of northern Kenya to improve market access to pastoral communities across 20,000 km$_2$. The program improves local revenue generation, incentives to reduce herd size, and channels funding into improved rangeland management across the conservancies.

The Northern Rangelands Trust (NRT) is a non profit organisation established in 2004. It works with communities to develop community conservancies, to transform peoples lives, secure peace and conserves natural resources in northern Kenya. NRT works cross 20,000 km$_2$ with 33 conservancies.

NRT established NRT Trading to identify, incubate, and pilot, and scale sustainable business across the NRT conservancies. The help to incubate and run business that encourages conservation ethics, while improving livelihoods.

The Livestock to Market Program (LTM) was established in 2006 as a partnership between NRT, NRT affiliated conservancies, and two private conservancies - Oi Pejeta and Lewa. The program was funded by Flora and Fauna International and The Nature Conservancy.

LOCATION

Location: Baringo, Garissa, Isiolo, Laikipia, Meru, Samburu, Turkana and Lamu Counties, Kenya

Northern Rangelands Trust - Livestock to Markets (Kenya)

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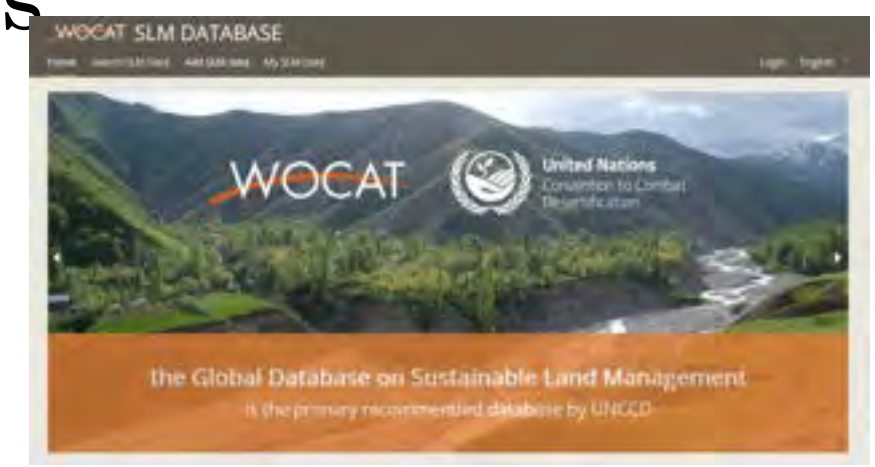
Dedha grazing system as a natural resource management ... (Kenya)

The Dedha grazing system is an ancient, traditional governance system for land and its resources practiced by Boran pastoralists. It carefully balances how pastoralists use rangeland resources. The basis of the technology is three grazing rangeland governance zones: wet season grazing, dry season grazing, and drought reserves. There is also ...

The way forward: Opportunities



WOCAT provides **a knowledge sharing platform** suitable for further rangeland documentation

Many projects and practitioners have experiences to share

Use it for multiple purposes to highlight importance of rangelands:

- for LDN reporting
- Towards the IYRP 2026
- Reporting on the initiatives of the restoration decade
- Climate change adaptation / mitigation experiences
- Disaster Risk reduction separate Module,
- Gender module

Recommended by UNCCD

https://qcat.wocat.net

The way forward: actions and support required for documenting and sharing rangeland experiences

- Result from AG survey: Is there a **need for joint action for documentation and sharing in order to advance rangeland restoration?**
  - **yes! BIG**
  - **MoUs** needed for involvement of researcher, community of practice,
  - need for **more evidence on impact**!
  - **need for generous and specific budget line and dedicated persons, with allocation of time.**
  - **need for capacity building for M&E documentation,**
  - Need for **a coordinating organization** to assist and follow-up with different projects and experienced practitioners

→ Need for a **concrete action plan and funding**

Contacts: hanspeter.liniger@unibe.ch, WOCAT: Nicole.Harari@unibe.ch, WOCAT@unibe.ch

Key messages

- Rangeland systems **are complex** and under permanent change.
- **Valuable knowledge** about the sustainable use of the rangelands is not sufficiently made available.
- WOCAT offers **an open access knowledge sharing platform**: covering a comprehensive documentation of rangeland management practices including the natural and human aspects.
- Awareness on the **value** of documentation and building of a knowledge base, and its use for implementation and decision making needs to be improved.
- There is need for **a joint and concrete** action to build up capacity and to document and share SRM knowledge
- **From a voluntary activity to a priority task** with clear allocation of responsibilities and resources and action plan.

Participatory mapping, database building, and monitoring of rangeland resources

Bounded with wildlife conservancy and community ranching

Contacts: hanspeter.liniger@unibe.ch,
For WOCAT: Nicole.Harari@unibe.ch, WOCAT@unibe.ch

Restoring Kenya's Rangelands: the way forward webinar
17th November 2022

Exploring the role of the youth and women and how to strengthen their involvement and capacity

Ms. Amina A. Maalim,

Research Scientist, Kenya Forestry Research Institute-KEFRI

Presentation outline

- Background
- Challenges faced during restoration
- Approaches used
- Lessons learnt
- Way forward
- Opportunities
- Key messages

Speakers & contributing organizations

Renee Bullocks, ILRI, Learning from women's engagement in PRM in Baringo County, Kenya

Leitoro Adrian from Nature and People as One - Ecosystem restoration and wildlife conservation in partnership with local and indigenous communities. Restoring nature, empowering communities

Issa Mohammed, Founder & Isiolo Conservationist's Trust - Exploring the role of youth and women in rangelands restoration and how to strengthen their involvement and capacity

Mana Omar from Spring of the arid and semi-arid lands (SASAL) - Greening the ASALs

Background on the issue

- Youth and Women are ***critical actors*** in dryland restoration process
- Their engagement in restoration activities could accelerate/ speed up success
- **Who are the young people first? Age** : Youth (18-40), Women: (18 and above)
- **Challenge** engaging Young women: facing challenges in meeting daily basic needs-Early marriages and pregnancies

Mostly apply ***community -based approach*** (climate smart approach) by;

- Engaging the community itself **directly** in land restoration activities
- Using **traditional indigenous knowledge** from the community to inform restoration approaches, species and sites to use for restoration
- **Main trees** planted include: Indigenous trees, Neem, fruit trees (Pawpaw, lemon) Fodder trees, and other vegetable crops i.e. chillies

Aims of the restoration initiatives by the various youth- led restoration NGOs and Initiatives

- Food security and nutrition
- Promotion of climate smart technologies
- Reducing land under the alien invasive species
- Advocating for sustainable use of environment and natural resources goods and services.
- Provision of shade from the scorching sun
- Enhancing biodiversity conservation -Bee keeping and birds
- Additional household income i.e Honey, hay selling
- Improved soil fertility
- Accelerating engagement & leadership of young women and men in restoration work

Challenges bottlenecks to rangelands restoration/conservation

1. Lack of financial resources and equipment/tools for restoration
2. Unpredictable and Prolonged drought that affects our restoration work
3. Lack of hub for nurturing innovative restoration technologies/ideas by young people
4. Youth Knowledge gap in dryland restoration technologies
5. Culture and mindset change
6. Unreliable labour -especially young people
7. Invasive Alien species 1.e *P. juliflora*
8. Overstocking (Competing land use systems): Damaging young plants/Nursery seedlings
9. Power relations -Land use & ownership rights
10. Lack of support from local leaders -Nepotism, showcasing medium lacking
11. Lack of international representation e.g COP 26, 27
12. Vast area of scope, challenges of travels.

Addressing the key issue

- Approaches to addressing the key issue (based on the case studies presented by the speakers (all the speakers who presented during the session) and discussions held after the presentations)

Mostly apply ***community -based approach*** (climate smart approach) by;

- Engaging the community itself **directly** in land restoration activities
- Using **traditional indigenous knowledge** from the community to inform restoration approaches, species and sites to use for restoration
- **Main trees** planted include: Indigenous trees, Neem, fruit trees (Pawpaw, lemon) Fodder trees, and other vegetable crops i.e. chillies

Lessons learned

- Youth led organizations engaged in restoration work are increasing and contributing to 10% forest cover achievement & climate resilience
- To enhance sustainability of their restoration work -establishing tree and fruit tree nurseries managed by young men and women, social media presence and more picnic conversations
- Youth are very innovative but lack the platform to share ideas -i.e Maarifa Kona -Garissa, land accelerator program under AFR 100 -7000,10,000 USD
- The areas to restored are vast but have limitation in terms of capacity, funding and human resource to restore
- Have great success stories (planted 1000’s of trees) but recurrent drought and unreliable rainfall patterns challenging restoration projects
- There is need to engage the private sector investment as well enhancing financial access to the young women and women
- PRM used for community land management for monitor land governance and restoration success

The way forward: Opportunities

- Access to funding opportunities and provision of more youth in restoration centric funding .
- Training/mentorship on sustainable range restoration technologies
- Enhanced management of invasive species
- Increased community livelihood and socio-ecological benefits
- Contribution to local, regional and global restoration targets whilst connecting & exchanging with other youth from the rest of the world
- Partnerships with organizations/programmes such as CIFOR, ICRAF, Regreening Africa to upscale our projects in terms of reach
- Partnership with relevant organizations.
- Youth and women capacity building on dryland restoration technologies.
- Private sector engagement –
- Community household income boost -through income generating activities i.e Bee keeping, hay stacking

The way forward: actions required

- Creating more youth and women centric restoration programs like Maarifa Kona and land accelerator by AFR100 initiative
- County engagement of youth in their development discussions and allocate resources to implement
- Engagement in local climate solution platforms both locally and internationally
- Enhanced representation and participation in COP and restoration centric conferences
- Having multiple picnic conversations -young people open up about landscape restoration. Making conversation on nature conservation fun.
- Creating awareness on successful youth -led restoration work for mindset and perception change of the community people

The way forward: support required

- Funding for their restoration activities/initiatives/projects by NGOs and Counties - (Close collaboration with county government (Allocation of certain % in county budget)
- Partnership with institutions/programmes funding restoration activities/initiatives i.e regreening Africa so as to scale up restoration efforts for sustainability of projects
- Training and mentorship on best restoration approaches and management of invasive species
- Invitation and participation in dryland restoration workshops to learn and network - both domestic and international
- More youth with traditional knowledge to use for developing systems and tools to monitor restoration projects
- Capacity building on Invasive alien species management
- Promotion of continuous use of social media platform to advocate for more youth engagement

Key messages

- Young men and women are actively engaged in restoration of critical ecosystem and in doing so are demanding to be accommodated in platforms for more opportunities and networks (Competing interests -White collar Jobs Vs restoration)
- Climate change, scope of land to restore slowing down the restoration successes
- Their restoration initiatives includes planting thousands of trees in farms, rangelands, schools and establishing nurseries that are all contributing to the national commitment of 10% tree cover and SDG
- Young people have brilliant landscape restoration ideas but require technical, financial and networking support at county, national and international levels
- More funding to be made available for supporting youth in restoration work.
- Provision of technical training to the youth led organization to boost their capacity
- Private sector investment for youth in restoration work
- Power dynamics still exist which affect the governance structure especially on the land use, access and ownership for young women.

THE END

Restoring Kenya's Rangelands: the way forward webinar 17th November 2022

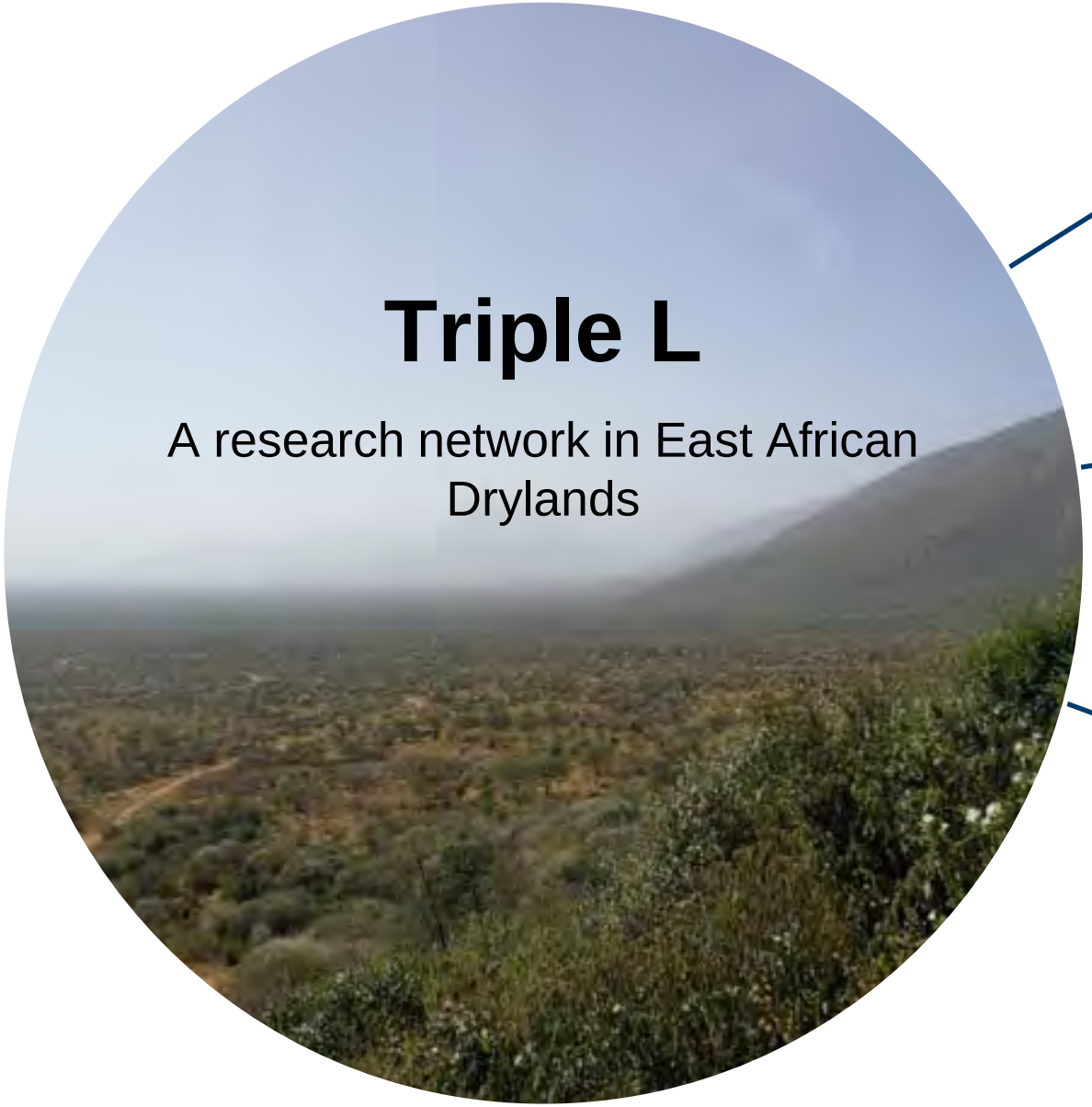
How to achieve large-scale change at the landscape level

Stephen Mureithi
Researcher and Country Coordinator, @DrylandsTransf1
University of Nairobi

Outline

- Background
- Aim
- Specific objectives
- Project area
- Approach – Livestock Cafés
- Achievements
- Lessons learnt
- Way forward
  - Opportunities
  - Actions required
- Key messages

Background



Dryland Restore

- Ewa Wredle (SLU)
- Gert Nyberg (SLU)
- Ulrik Ilstedt
- A ida Bargues Tobella (SLU)
- Stephen Muirethi (UoN)
- Leigh Winoweicki (ICRAF)
- **Funded by FORMAS**

Paradox: land tenure & climate change

- Göran Bostedt (SLU & UU)
- Stephen Mureithi (UoN)
- Gert Nyberg (SLU)
- Ewa Wredle (SLU)
- **Funded by VR**

drylands transform

- SLU
- UU
- UoN
- Makerere Univ.
- Goterborg Univ.
- Linnaeus Univ.
- IGAD
- ICRAF
- **Funded by Formas**

The aim

Drylands Transform will contribute to:

(i) Knowledge for the implementation and achievement of the SDGs in th East African drylands, and

(ii) Optimize synergies and minimize trade-offs between the SDGs by co developing transformative pathway through policy and practice

Specific objectives of Drylands Transform

1. Assess land health at the landscape scale and explore the links with human well-being.
2. Test options to restore rangelands under grazing by engaging local communities, and develop platforms to share knowledge and scale livestock interventions that promote resilience and productivity (‘livestock cafés).
3. Understand the impact of climate variability on livelihood strategies and resilience.
4. Identify innovative land governance mechanisms and practices that effectively address pastoralist production system’s dependence on both flexible and secure rights to land.
5. Synthesize and scale-up key research findings to develop future scenarios in policy and practice.

Project area

LDSF sites
Major towns
Border Uganda - Kenya

Approach: Livestock Cafés model

Co-generation of knowledge and co-learning in the Livestock Cafés bringing together:

- Livestock keepers
- Extension staff – MoALF
- County/District policy makers
- NGO's and private actors
- Researchers

Livestock café: Achieved so far...

Practical trainings on:

1) Water harvesting for fodder production

drylands transform

2. Gully rehabilitation using vetiver grass(*Chrysopogon zizanioides*)

Vetiver splits planted in soil bags along the contour lines

drylands transform

3) and Rock check dams

4. Enriching pastures with forage legumes

Grasses:
- *Cenchrus ciliaris,*
- *Chloris roxburghiana*
- *Eragrostis superba*

Legumes:
- *Crotalaria juncea,*
- *Clitoria ternatea,*
- *Macroptilium atropurpureum*

(Siratro)
- *Neonotonia wightii*

With or without manure

drylands transform

Rupa, Moroto

Matany, Napak

drylands transform

5. Regenerative Kitchen gardening for improved human nutrition

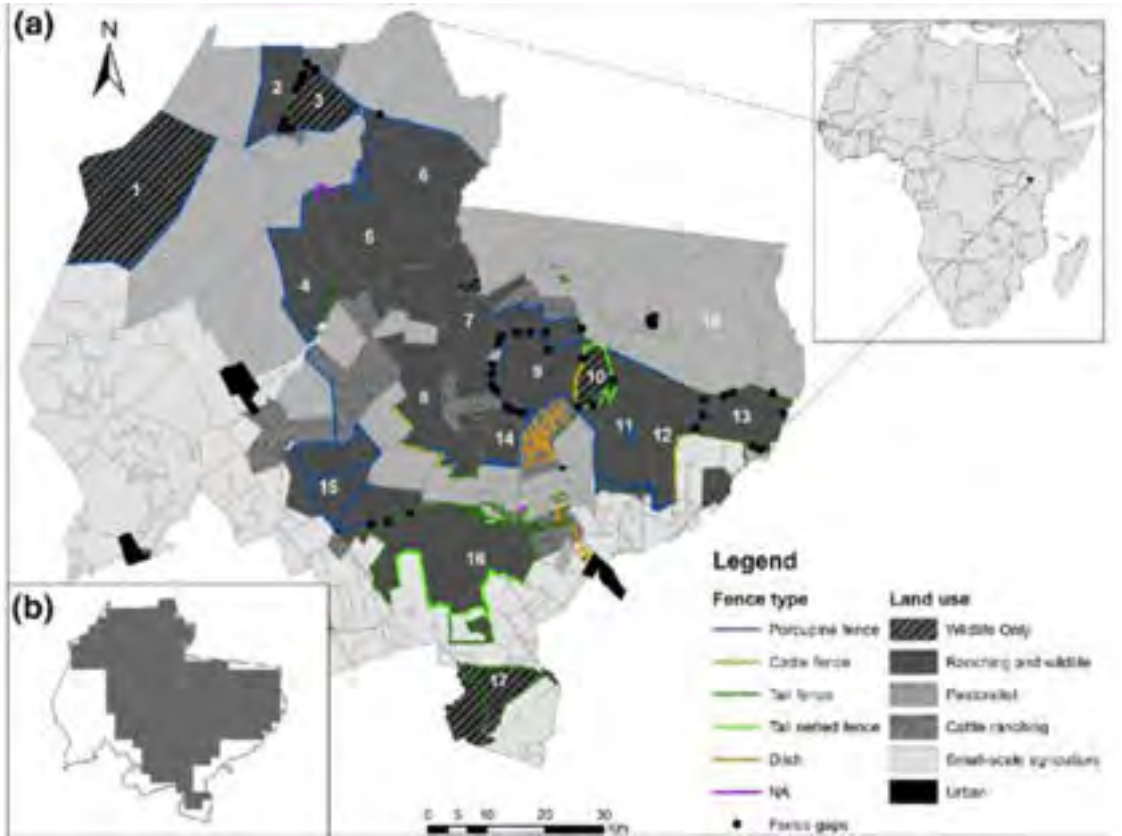
Technologies:

- Water harvesting for crops production and soil fertility management in regerenative gardening
- Use of banana circle, contour gardens, sunken and raised beds

6. Produce harvesting and seed saving

Lessons learned (on how to achieve large scale rangelands restoration)

Dryland enclosures



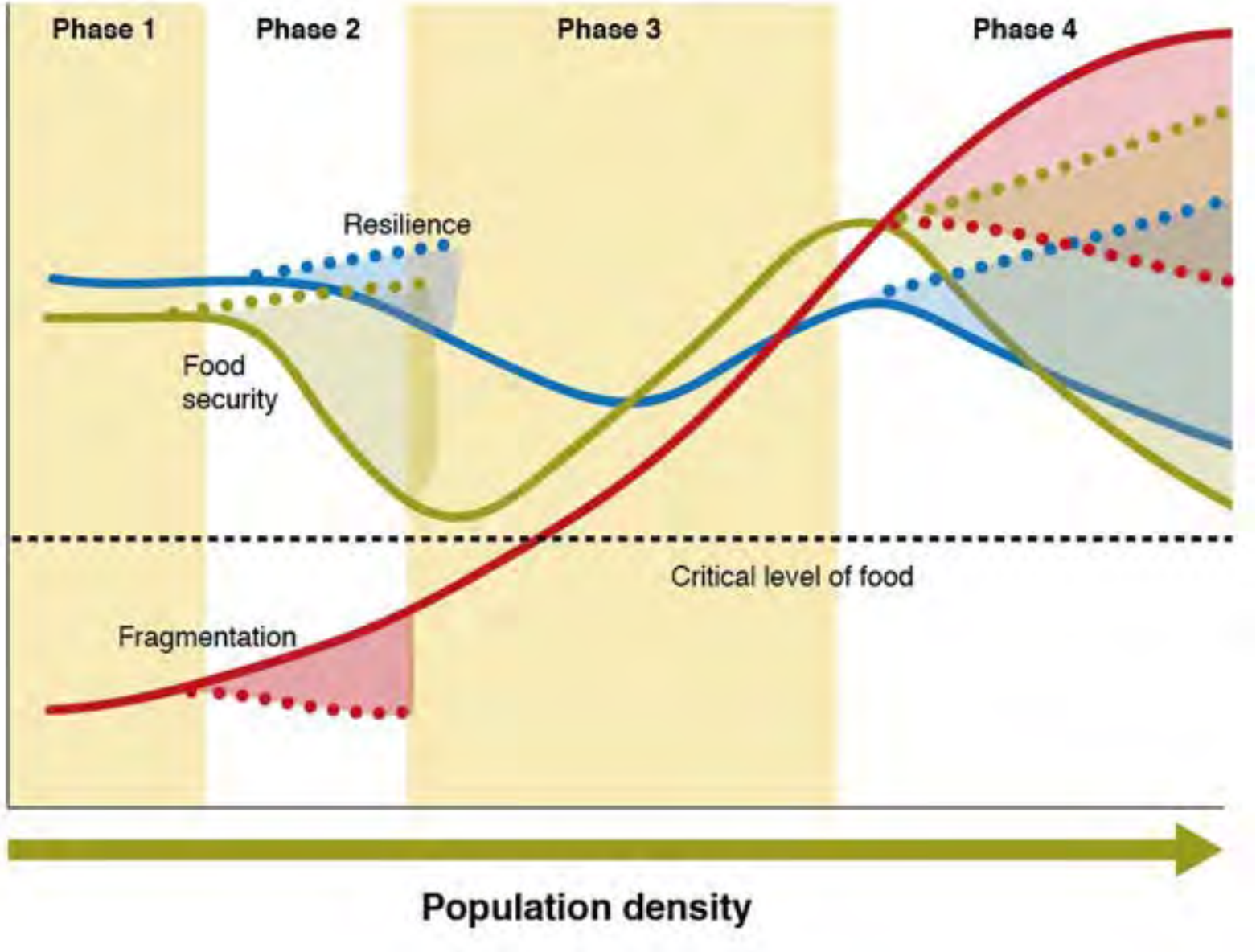


Figure 2. Conceptual diagram of the relationship between climate, food security, landscape fragmentation, resilience, and population density (adapted from Burian et al., 2019). The X-axis is of course finite, but not likely to change in the near future. Globally, population increase is expected to level off somewhere around 2100, at a global population of around 11 billion. In Sub-Saharan Africa, the population is expected to double, to over 4 billion (UN, 2017).

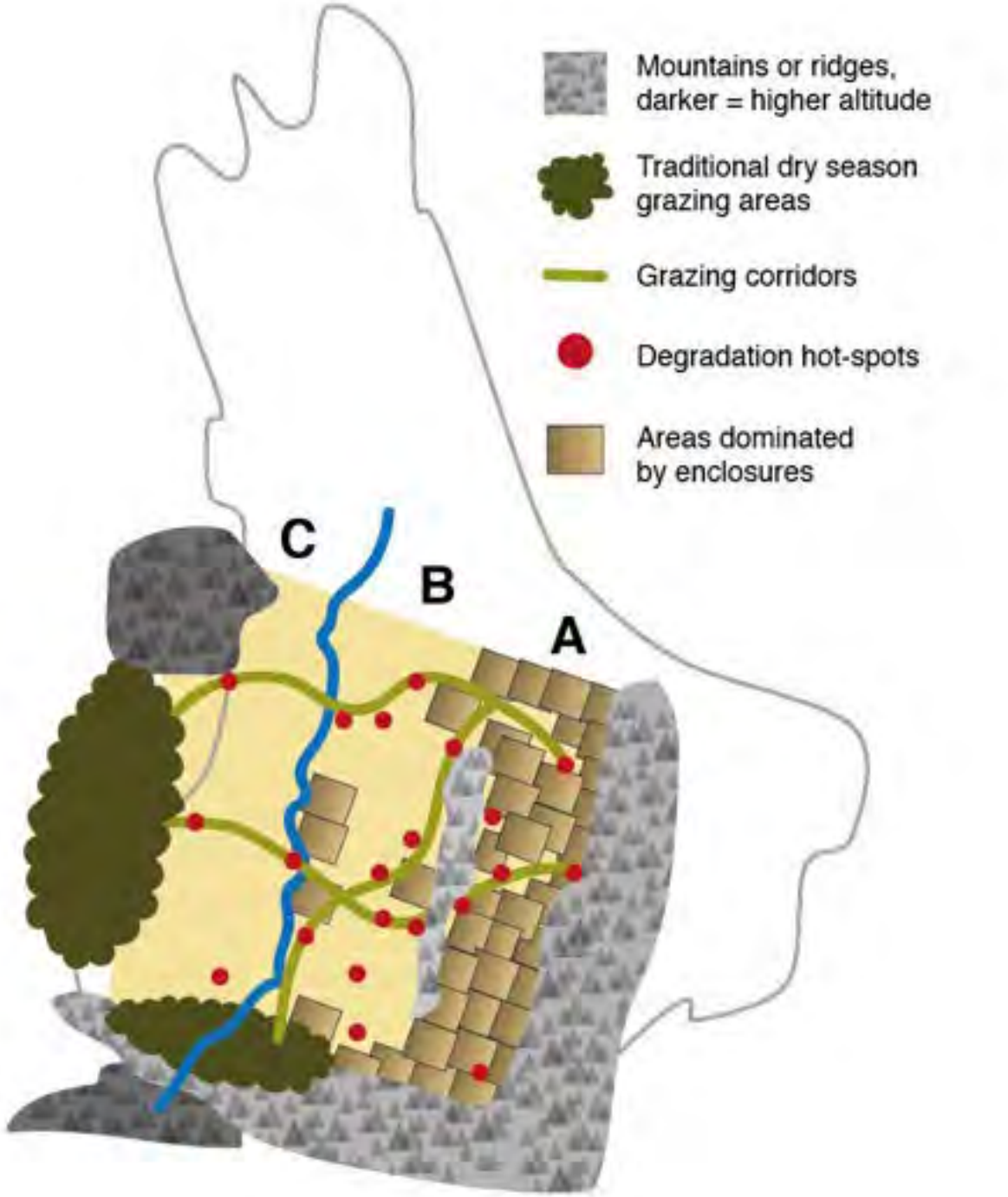


Figure 3. Conceptual figure of suggested systematic co-existence between pastoral and agro-pastoral strategies, and between different land use and land tenure systems, where: areas with small squares are dominated by enclosures; red dots are degradation hot-spots, i.e., areas where restoration efforts would start; light green lines are grazing corridors; dark green areas are traditional dry season grazing areas; and grey areas are mountains or ridges (the darker the shade, the higher the altitude). For geographical and scale reference, the contours of West Pokot County, Kenya, is inserted in the background.

(Source: Knutsson et al 2021. World Development Perspectives 23)

Lessons learned (on how to achieve large scale rangelands restoration)

1. Restoration ecology works – water harvesting, reseeding and multi-purpose trees planting.
2. Research projects, NGO's - limited budgets and time-frames
3. Layering and sequencing fodders value-chain development projects – NEEDED beyond the communities' learning curve!
4. Broader management transdisciplinary and multi-stakeholder approaches - NEEDED!
5. Coordination at County/District levels - working in silos is ineffective and inefficient. NDMA can take up such role
6. Invest more in normal (good) times as opposed to only during emergencies

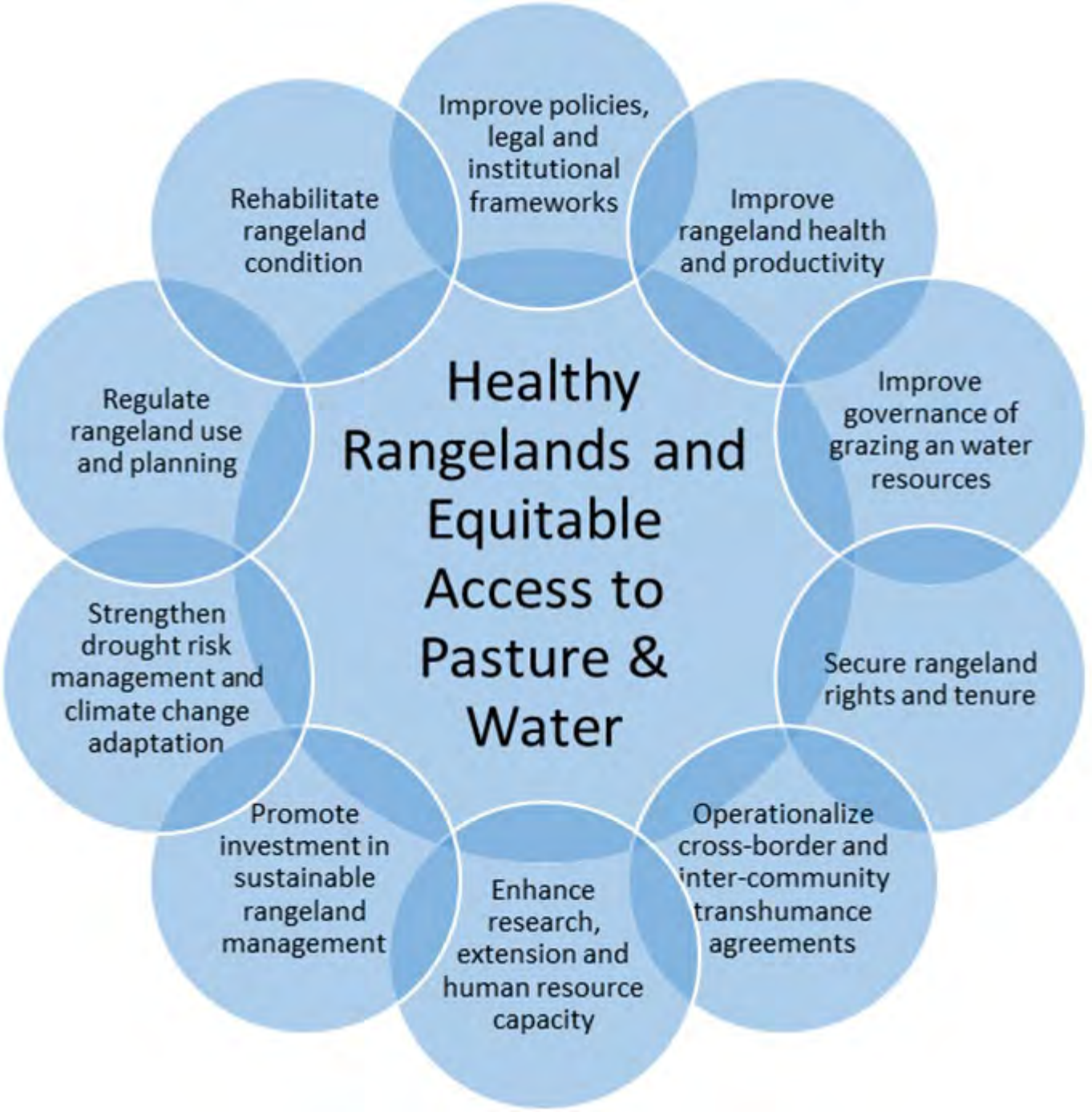
The way forward: Opportunities

1. Kenya faces major forage deficits estimated at 70% of the total annual fodder requirements of about 5.5 billion bales.
2. Big opportunity for commercial fodder and fodder seed production by individuals, community groups and private enterprises.
3. Transition towards private and more commercial pastoralism and agro-pastoralism.

The way forward: actions required

1. Reposition the fodder value chain by strengthening investments and agribusiness enterprises in fodder and fodder seeds production in ASAL counties.
2. Facilitate the mapping of fodder production areas in the ASAL counties for integration within the county spatial plans/maps.
3. Review and develop supporting policy regulations and institutional framework for fodder production, conservation and marketing at ASAL county levels.
4. Strengthen collaboration among all fodder value chain actors including national and county governments, development partners, private sector, farmers, academic and research institutions to synergize efforts towards curbing the national fodder deficit.
5. Provide funding to scale up fodder commercialization for increased fodder production and pasture land restoration to ensure that the country and region has sufficient supplies of quality, safe and affordable fodder.

Regional rangeland management strategic objectives (ICPALD - IGAD)



Thank you!

Website: https://www.slu.se/en/collaboration/international/slu-global/triple-l/

Twitter: @DrylandsTransf1

drylands transform

RESTORATION OF ARID AND SEMI-ARID LANDS OF KENYA THROUGH BIO-ENTERPRISE DEVELOPMENT AND OTHER INCENTIVES

KEY ACHIEVEMENTS AND LESSONS LEARNT

Meshack Muga
National Project Coordinator

Introduction

- Potential for restoration in Kenya is 38.8 M ha
- Potential for project counties 9.9 M ha
- Kenya has committed to restore 5.1 M ha by 2030
- Project targets to restore 8,700 ha directly and 55,352 ha indirectly

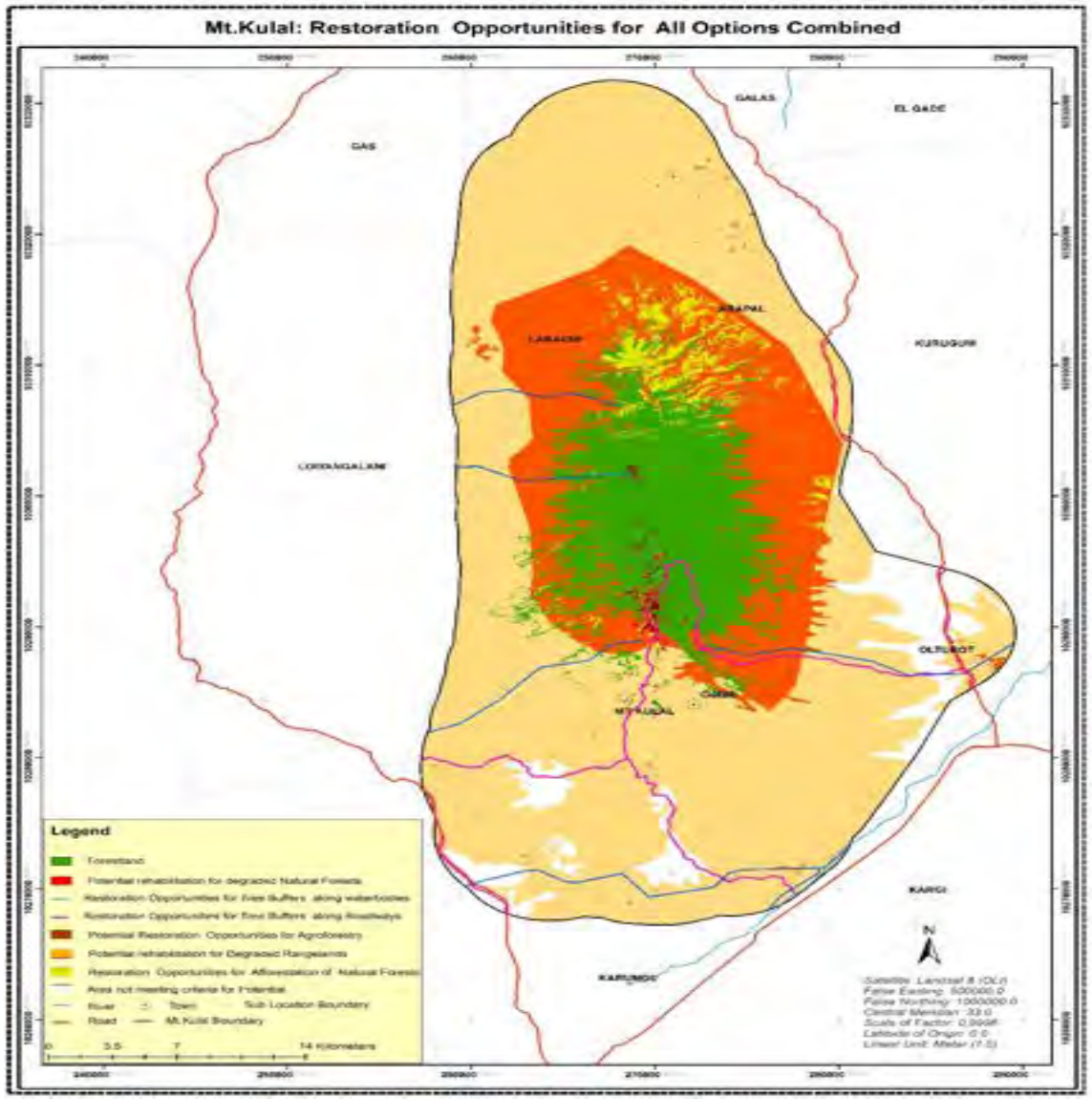
Project Objective

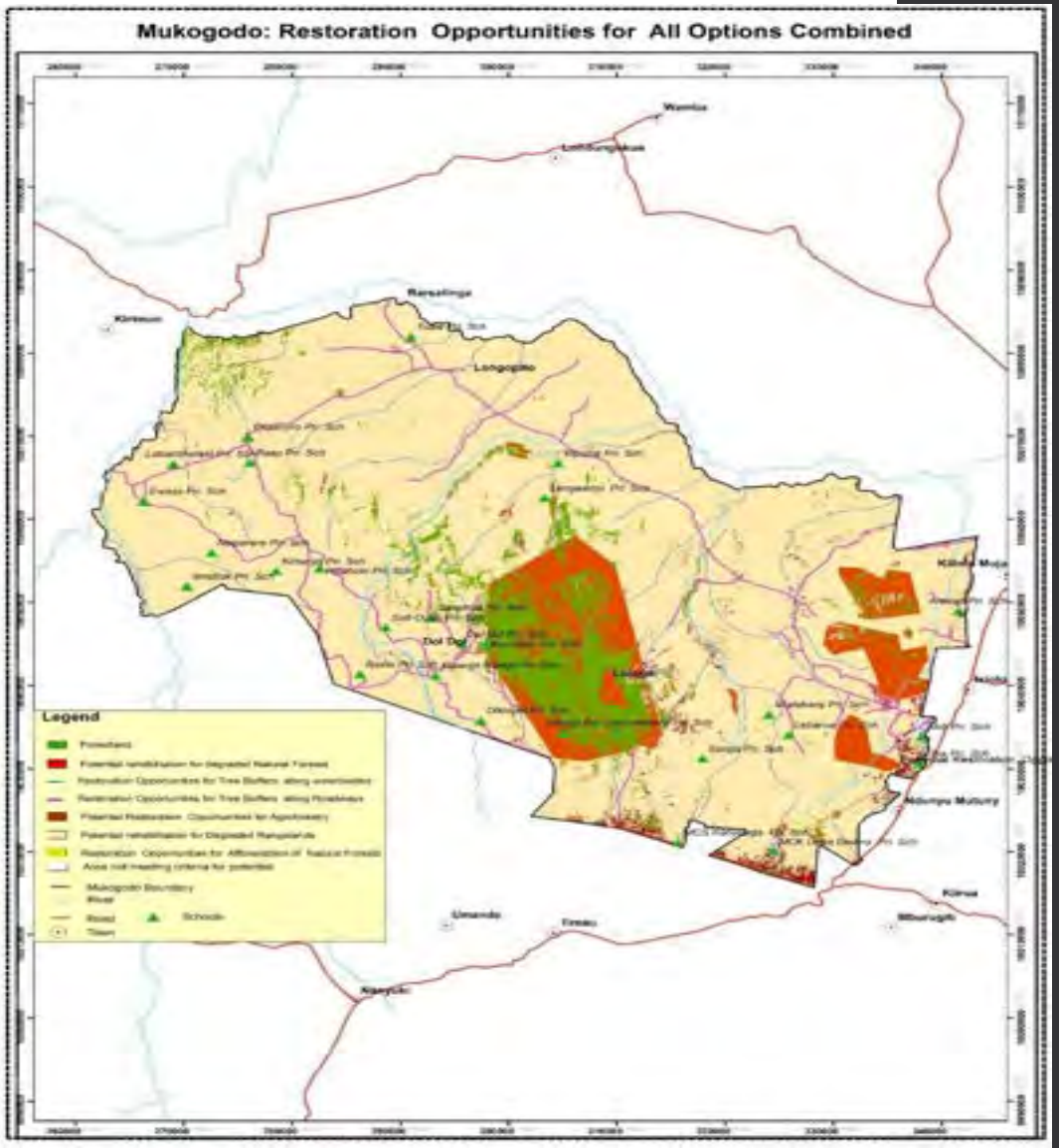
- To restore deforested and degraded lands through the Forest Landscape Restoration (FLR) approach and enhance the socioeconomic development of local communities through the development of bio-enterprises of NTFPS in arid and semi-arid lands.

Project Components

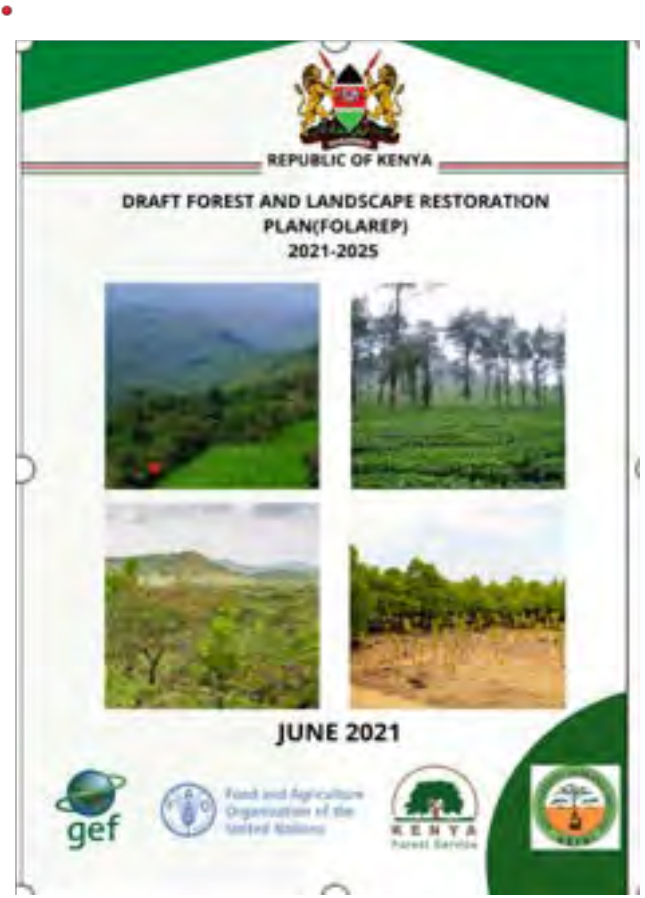
- Component 1: Policy Development and Integration
- Component 2: Implementation of Restoration Programs and Complementary Initiatives
- Component 3: Institutions, Finance, and Upscaling
- Component 4: Knowledge, Partnerships, Monitoring and Assessment

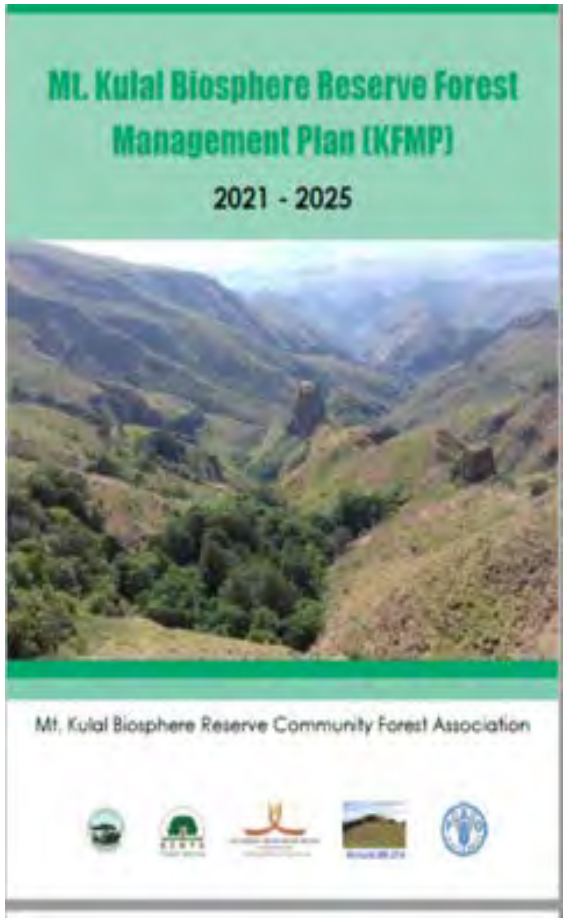
Restoration Opportunities Identified - ROAM

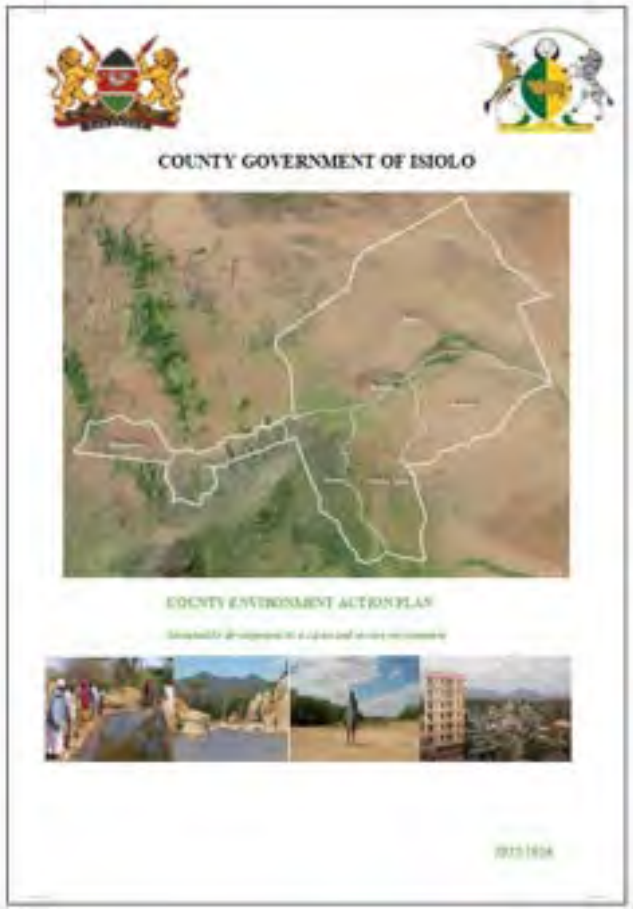




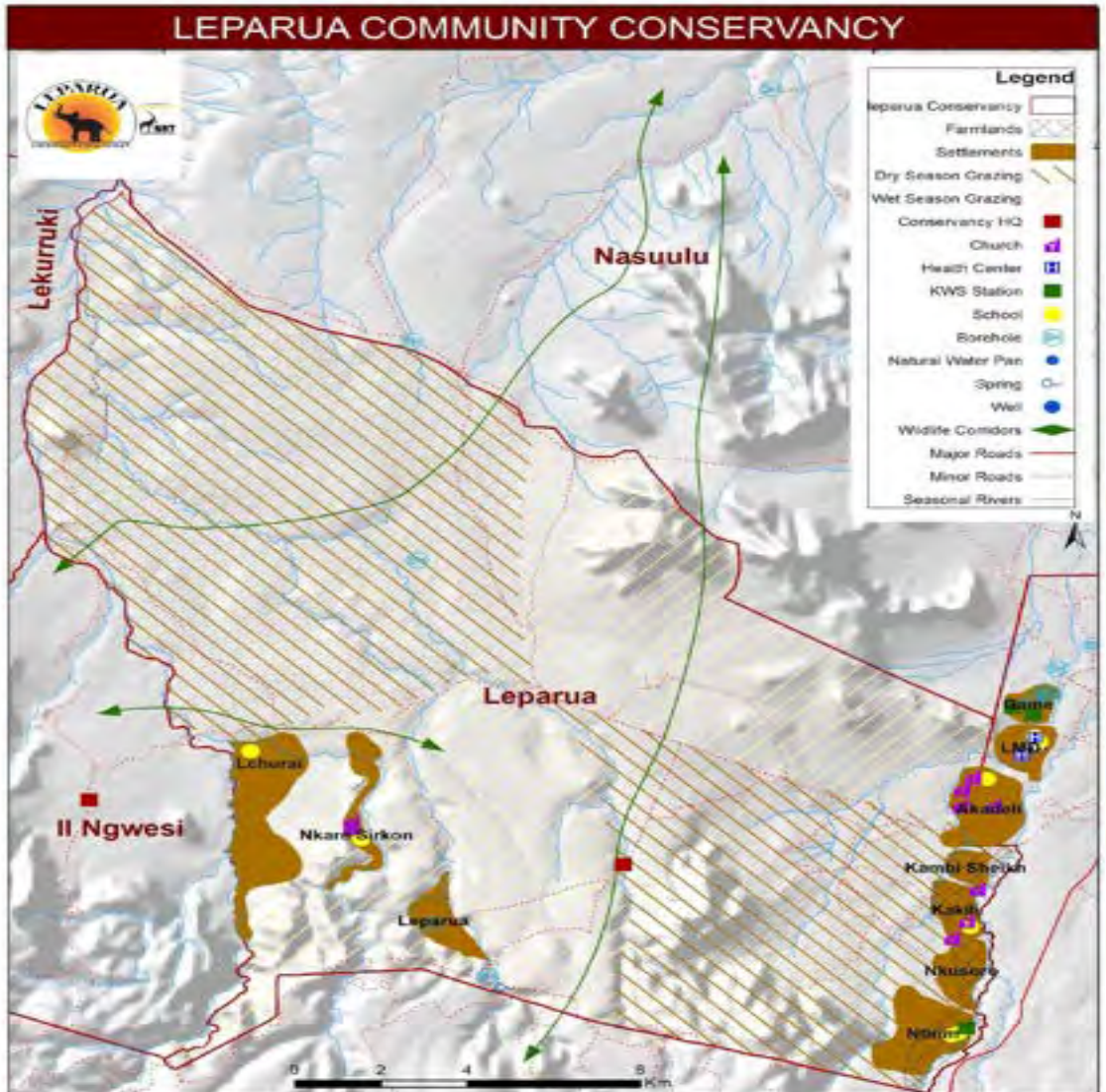
Policy Development and Integration on FLR initiated at the National and County levels

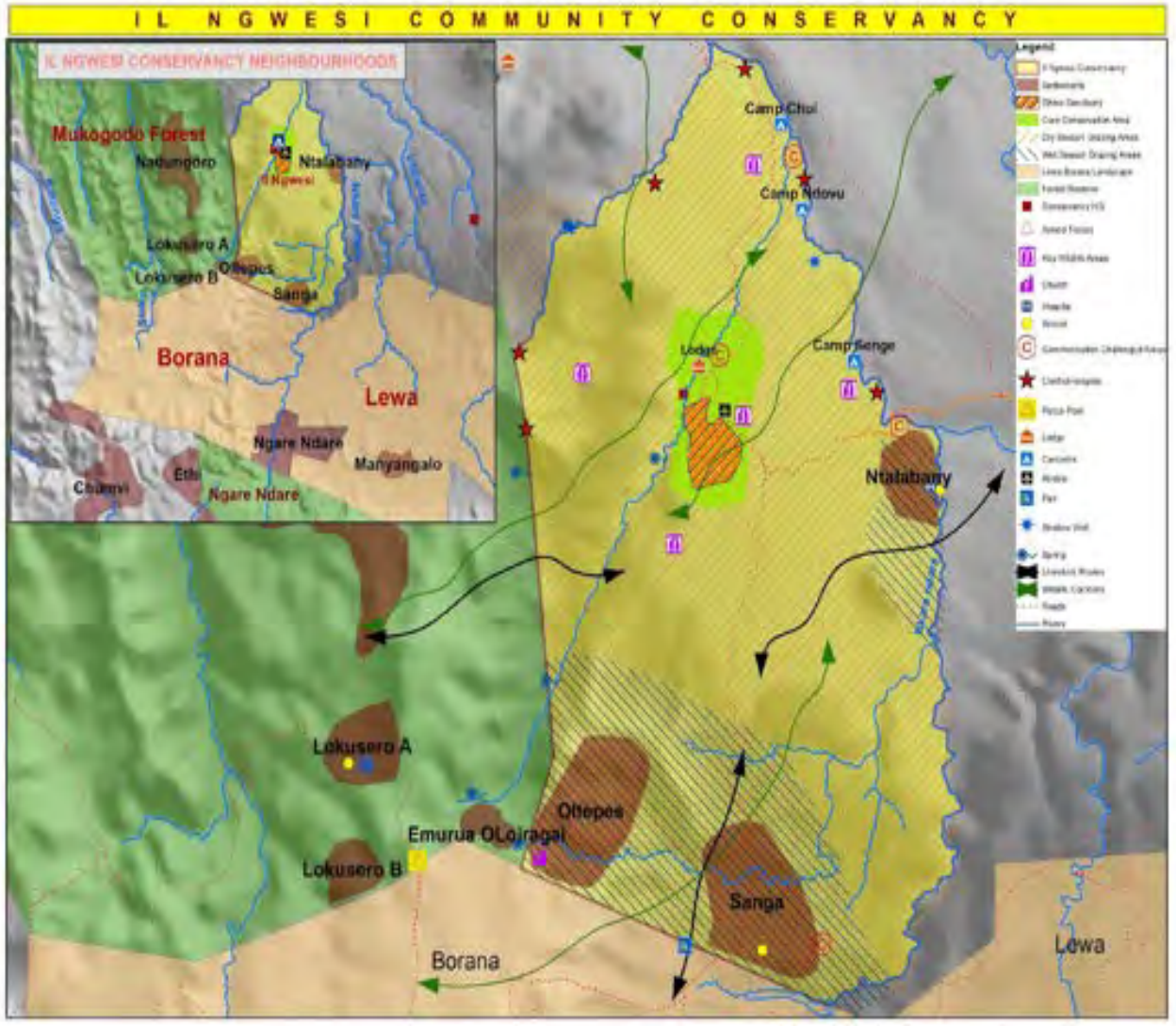






Resource Maps Produced





8 Tree Nurseries established -120 Trained(50M,70F)

Tree Planting in Schools in Mukogodo

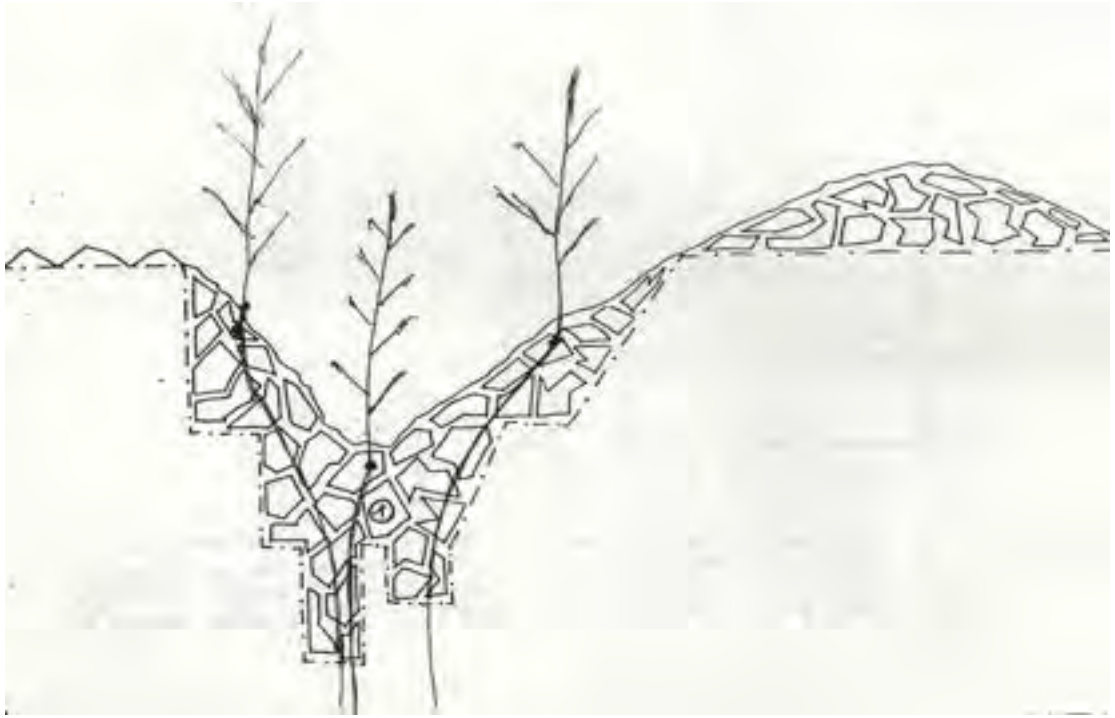
Micro-catchments Prepared by Communities


Before


After

WATER HARVESTING BY THE VALLERANI SYSTEM

Micro-basin section of Vallerani System



Rehabilitation of 6 Water Infrastructures- Olgiria & Loolera spring

Bio-enterprise development

- Key potential NTFPs identified
- Gaps in best practices for production, domestication, processing and marketing documented
- Key stakeholders identified and their roles mapped
- A video produced

Knowledge Management and Sharing

Beneficiaries Reached

TOTAL NUMBER REACHED	MALE	FEMALE
21,259	**11,247**	**10,012**

Felling of trees in Mukogodo

Co-financing

- World Vision (Regreening Africa and IMARA)
- KEFRI
- CIFOR-ICRAF-UK-PACT
- WWF
- TRI-UNEP/Nature Kenya
- NACOFA (National Alliance of Community Forest Associations)

Key Lessons Learnt

- Consideration of Mechanised sytems
- Sensitization of local communities on protection of worked sites
- Training courses and applied research on FLR and NTFPS
- Prioritization Land tenure/community land ownership in ASALS to be prioritised
- Procurement of goods and services require early planning

Key Lessons Learnt/Key messages

- Synergies and complementarities for greater impact
- Development of Bio-enterprises as low lying fruits for FLR
- Public-Private sector partnership critical
- Building on local knowledge and technologies important
- Knowledge Management and Sharing is key in promoting FLR

Key Opportunities

- Entrenchment of FLR activities in County Integrated Development Plans (2022-2027)
- UN Decade for Ecosytem Restoration (2021-2030)
- Collaboration with other FAO-Kenya programs and other partners including Government agencies
- MTR provides opportunities to refocus the project for greater impact

Synergy!!!!Synergy!!! To Complement each other for Prosperity & Change we Need

Q&A

SESSION 2. BREAKOUT GROUPS DISCUSSIONS

Regreening Africa

VOTE OF THANKS AND CLOSING REMARKS