ZOOM ETIQUETTE

Always join the meeting using your full name. For security purposes, unknown participants or those who join using numbers, initials or nicknames will henceforward be removed.

Mute your microphone every time you are not contributing.

For better bandwidth utilization, you may put off your video when not contributing.

Raise your hand when you want to speak

Ask questions or comment in the chatbox

Theme: Agricultural Landscape Restoration

Agricultural Landscape Restoration

Presenter: Dr. Charles Odhiambo, PhD, World Vision Kenya

Agricultural Landscape Restoration- World Vision Kenya
Charles Odhiambo, 12th July 2021

1. Background

➢ Only about 20% of Kenya's land surface is arable

➢ Pressure on agricultural land to meet Kenya's food demand

➢ WVK seeks to address poverty, discrimination and injustice

➢ WVK works in 38 of the 47 counties, especially in marginalized & food insecure urban and rural communities

➢ WVK's environment and climate change adaptation programming seeks to build community resilience to shocks, improve livelihoods, food security and household incomes

➢ WVK's approach to agricultural landscape restoration focuses on climate-smart practices, capacity building, partnerships and networking, VC development and PPP

2. Key Agricultural Land restoration approaches

- FMNR
- Fruit tree-based AF
- Enrichment planting
- Nature-based VC dev. (fruit trees/fodder/Honey)
- Sustainable/ green energy options
- Financial inclusion (youth/women)
- Soil and water conservation
- Improved quality germplasm access
- Capacity building
- Grassroots movement building
- Advocacy & Policy influence

3. Key collaborators

- Smallholder farmers/Farmer grps.
- County & Nat. Gov.
- School Environment clubs
- Community & faith based grps.
- Parastatals (KFS, KWS, NYS)
- Research (KALRO, KEFRI)
- Academia (Univ./colleges)
- NGOs/CSOs-advocacy/policy
- Private Sector
- Donor community

4. Challenges & Opportunities

Challenges

➢ High poverty

➢ Climate Change

➢ Low county government funding for NRM

➢ Long time for results

➢ Poor youth involvement

➢ Land tenure systems

➢ Socio-cultural impediments

Opportunities

➢ Gov. commitment to AFR100/NDC & Bonn Challenge

➢ Increasing donor prioritization of CC-adaptation funding

Road run off harvesting for Climate Resilience Adaptation and Food Security

Presenter: Nancy Kadenyi , Natural Resources Management Specialist, MetaMeta Research Kenya, GR4W

Project Aims

Healthier environment around roads
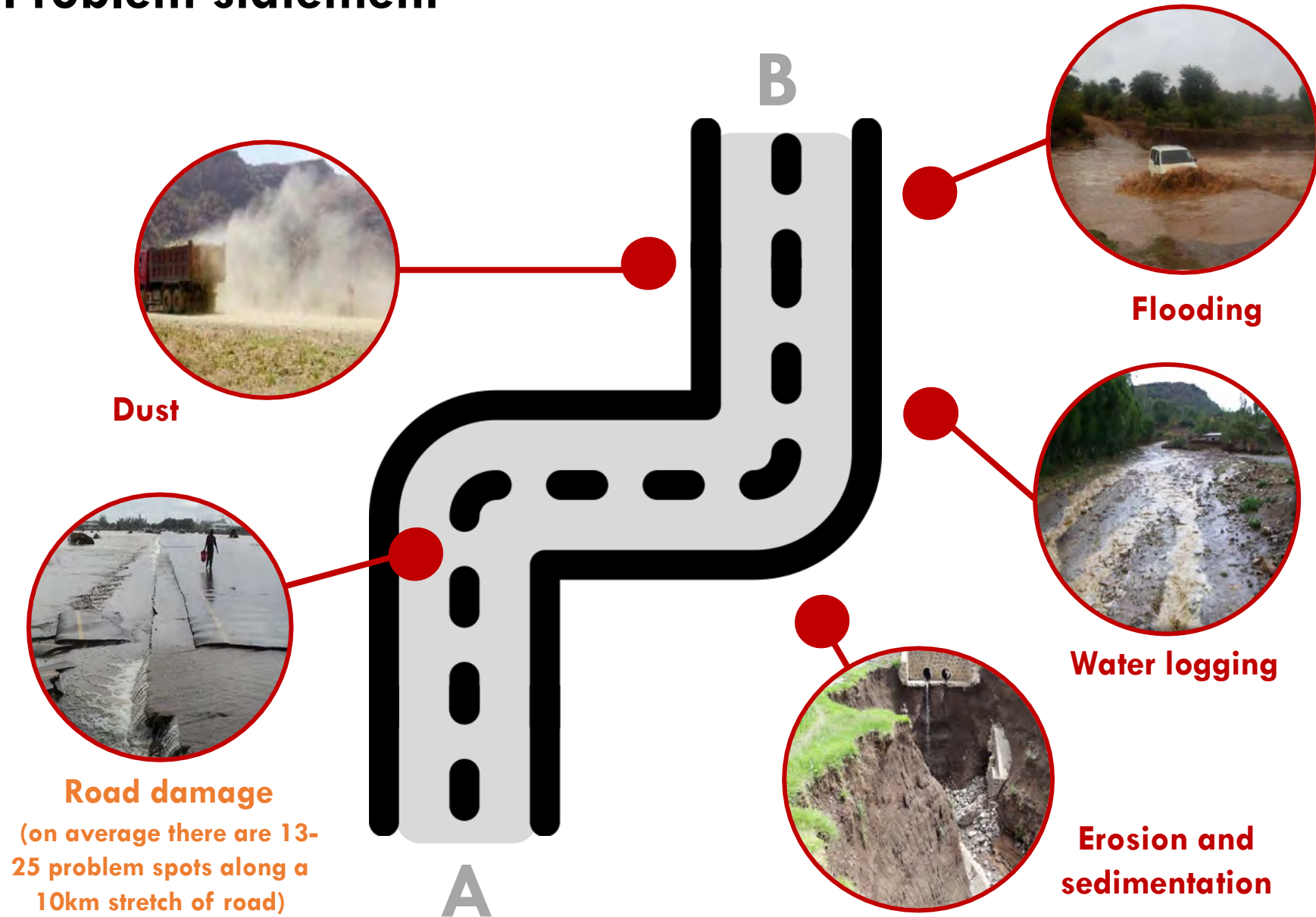*(reduced erosion, sedimentation, flooding and waterlogging)*

Better roads
(reduced water related damage on road infrastructure)

Improved livelihood opportunities for communities living around the roads
(productive use of the water harvested from roads, employment opportunities, etc.)
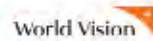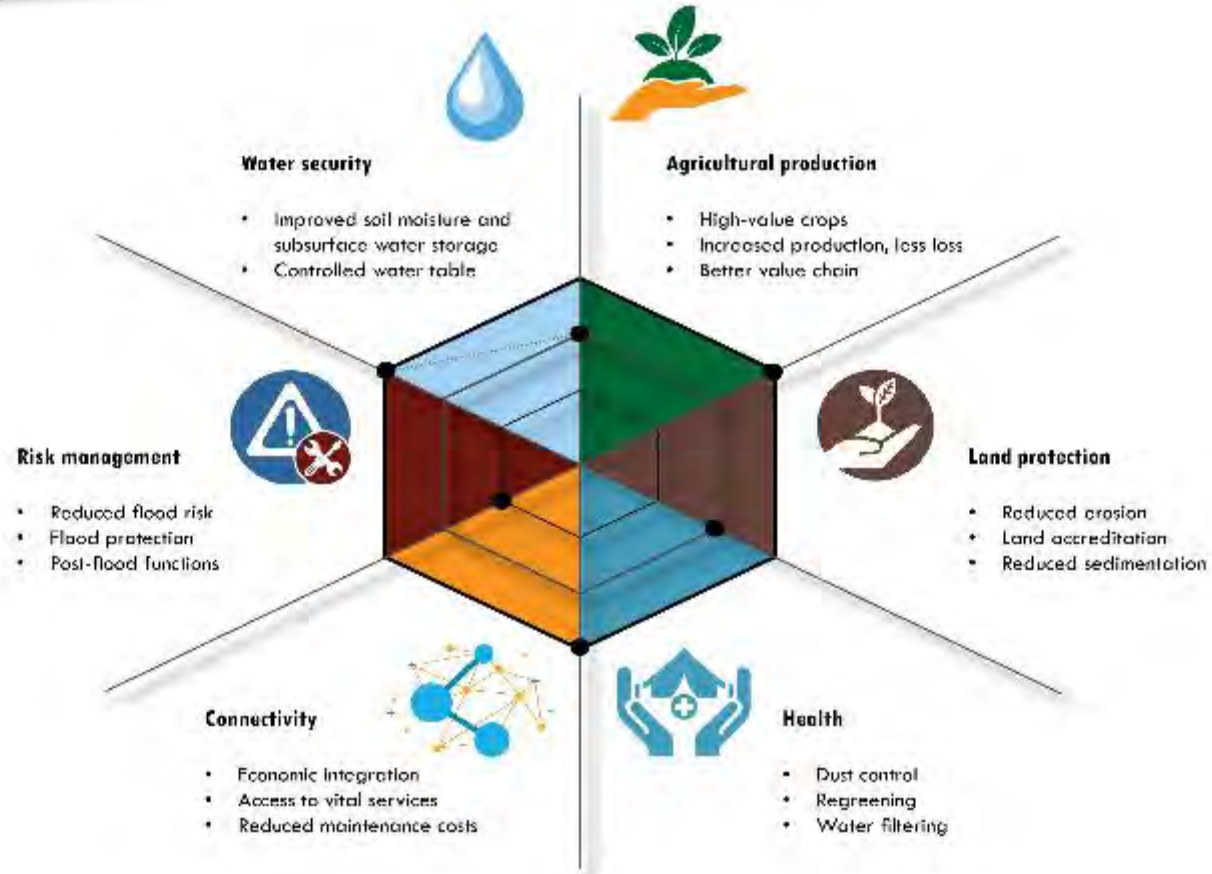
Problem statement

Dust

B

Flooding

Water logging

Road damage
(on average there are 13-25 problem spots along a 10km stretch of road)

A

Erosion and sedimentation

This can be *Turned around* **roads can become GREEN ROADS**

Green Roads are instruments for climate resilience, better water management and regreening. Management of water with road infrastructure presents a triple win with very little additional investment: (1) **reduced road maintenance costs**, (2) **reduced degradation of the landscape around roads** and (3) **create economic benefits for communities living around roads**

What will it benefit?

Water security
- Improved soil moisture and subsurface water storage
- Controlled water table

Agricultural production
- High-value crops
- Increased production, less loss
- Better value chain

Risk management
- Reduced flood risk
- Flood protection
- Post-flood functions

Land protection
- Reduced erosion
- Land accreditation
- Reduced sedimentation

Connectivity
- Economic integration
- Access to vital services
- Reduced maintenance costs

Health
- Dust control
- Regreening
- Water filtering

With RWH , We will be a far step as far as climate change adaptation and food security is concerned

Thank you

REGENERATIVE AGRICULTURE

"Regenerative Agriculture" describes farming and grazing practices that, among other benefits, reverse climate change by rebuilding soil organic matter and restoring degraded soil biodiversity – resulting in both carbon drawdown and improving the water and nutrient cycle..

Why Gliricidia Sepium Nitrogen Fertilizer Trees?

Gliricidia Sepium

- Sustainability – once established, sustains the soil fertility for many years.

- Cost-effective – once established, there's no recurrent seasonal investments.

- Multiple Uses – benefits the farmers on crop yields, as animal fodder, and source of fuelwood. Also serves as cash crop within established schemes.

Gliricidia Meets Multiple Needs – From Farmer to National Level

For smallholder farmer

| Natural pesticide | Natural fertilizer | Animal Fodder | Fuelwood | Cash Crop |

For enterprise

| Processing Industry heating | Sustainable Energy Production |

For the Nation and the Globe

| Tree Cover | Carbon Absorption |

ZERO TWO HEROES
Here for you

Inter cropping Model with Gliricidia sepium as a Nitrogen Fixing Fertilizer Shrub

BUSIA COUNTY- MATAYOS SUBCOUNTY

INTERCROPPING GLIRICIDIA WITH OTHER FOOD CROPS GARISSA COUNTY

MULCHING USING GLIRICIDIA LEAVES (GREEN MANURE)- GARISSA COUNTY

Monocropping Model With Gliricidia sepium for Biomass for fuel

GLIRICIDIA BULK PROPAGATION SITE AND NURSERY BED

Embu County- Training farmers on Regenerative Agriculture

KUNO GARISSA COUNTY

August 2019

September 2019

October 2019

November 2019

December 2019

January 2020

KUNO GARISSA COUNTY

DRY LEAVES FROM GLIRICIDIA USED TO IMPROVE SOIL ORGANIC MATTER

WATERMELON HARVESTED FROM GLIRICIDIA FIELDS

GRAZED BY GOATS

Agricultural Landscape Restoration

Vi-Agroforesty: Experiences from Kenya Agricultural Carbon Project

Agricultural Landscapes Restoration:

Experiences from Kenya Agricultural Carbon Project:

Vi Agroforestry fights poverty and climate change – together.

MISSION

Fighting poverty and climate change – together. Through agroforestry and strengthening of farmers' organisations, to empower smallholder farmer families to reduce poverty, hunger, and deforestation, and contribute to increased biodiversity.

Vi Agroforestry

Frida & Eliezel, Kenya. Photo: Robin Asselmayer

Sustainable agricultural land management practices, including agroforestry is the core of our work.

Since 1983, we have contributed to the planting of over 141 million trees. And over the last ten years, we have helped more than 2.4 million improve their livelihoods through agroforestry.

Vi Agroforestry

Kenya Agriculture Carbon Project - purpose

- Restore agricultural production to increase farm productivity and diversify food sources

- Increase farmer's resilience to climate change

- Contribute to reduce green house gas emission (CO2)

Vi Agroforestry

Project Area:

Western Kenya

Crediting Period:

2009-2029

Reached:

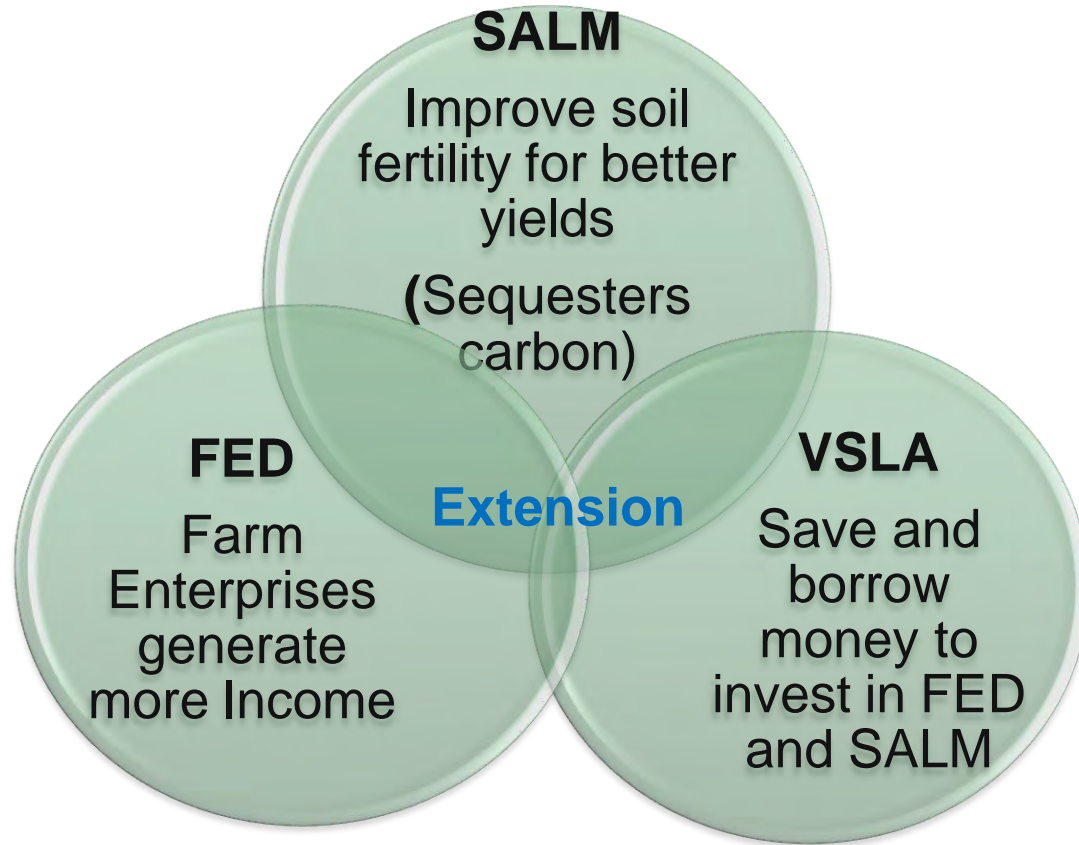**Farmers:** 29,497

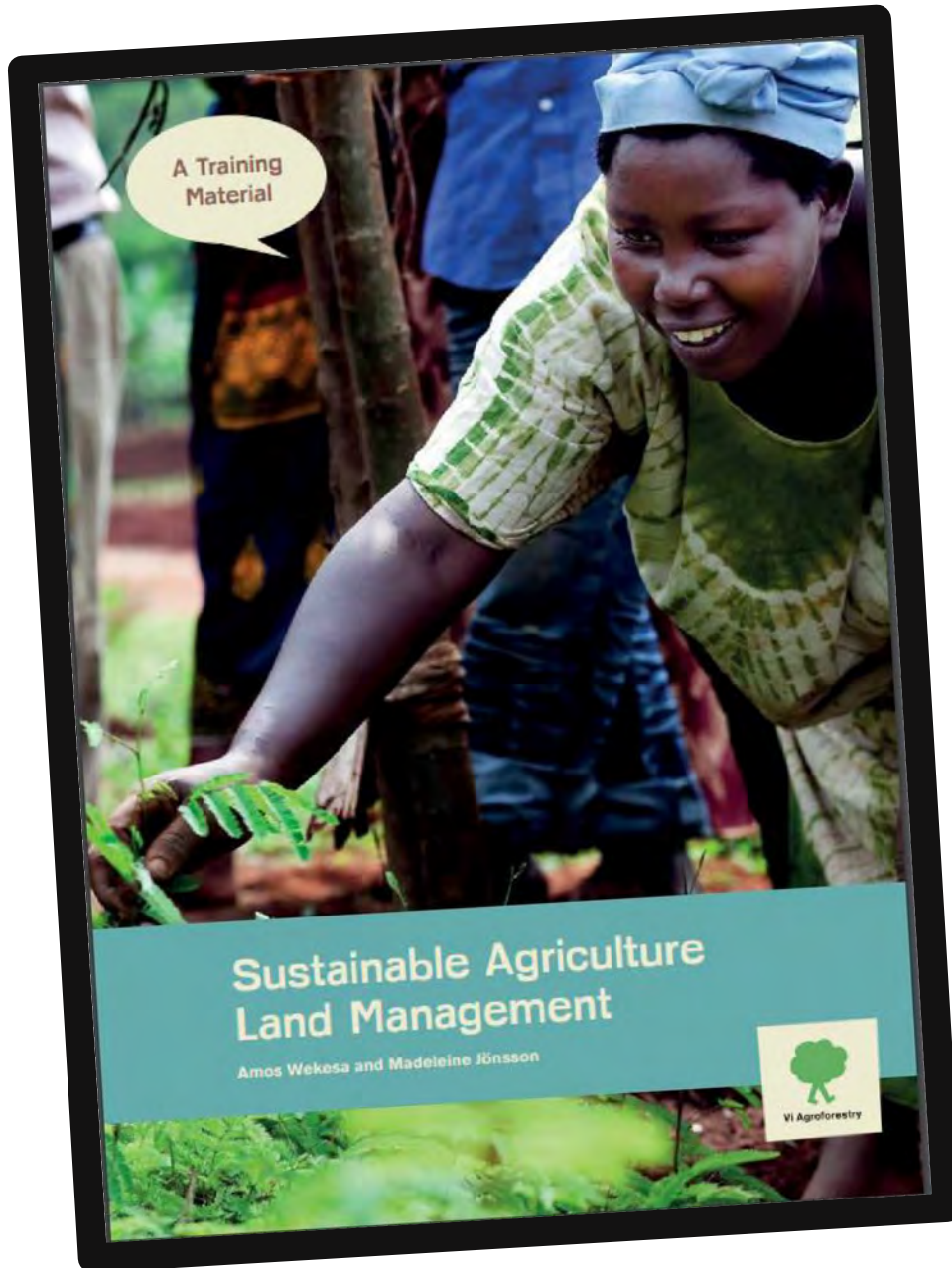**Farmer groups:** 1,730

Hectares under SALM: 21,966

Methodology

SALM Adoption

Components of the Kenya Agricultural Carbon Project

Why SALM?

A Multifunctional system, Is a method for smallh[olding]
farmers, to **adapt to** the impacts of **climate chan[ge]**
achieve increased environmental resilience in di[fferent]
climate or **agroecological zones**.

Preserve and enhance productive capacity of land[.]

To reverse degradation.

Why SALM? Before and after

Vi Agroforestry

Maurice Kwadha , o.5 acres farm, tree nursery enterprise

9 categories of SALM

- Nutrient management
- Soil and water conservation
- Agronomic practices
- Agroforestry
- Tillage and residue management
- Land restoration and rehabilitation
- Integrated livestock management
- Renewable energy
- Integrated pest management (IPM)

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Successful restoration solutions

Key results

Key results	Study (2009 – 2016)
Farmers benefitted	29,497
Farmer groups	1,730
Adoption area (Ha)	21,966
Yields (maize %, beans, sorghum)	93.1 %; 53 %; 122 %
Farmers with Food sufficiency above 8 months	62 %
Others benefits that increased	Firewood, poles, income, housing and water supply

Vi Agroforestry

Lessons learnt

- Strengthening Community ownership through involvement for sustainability of restoration efforts.

- Livelihood empowerment is prerequisite for restoration.

- Enhanced networking and collaboration

- Monitoring and evaluation should involve feedback.

Vi Agroforestry

Reversing Land degradation by Scaling-up Evergreen Agriculture (Regreening Africa)
Economic valuation

General approach and overall progress :
scientific findings in Kenya

Mark Schauer
former ELD Coordinator

Introduction into the Economics of Land Degradation (ELD) Initiative

- The Economics of Land Degradation (ELD) Initiative
  - is a global initiative, incepted in 2011

  - was created by a science/policy network of partners thinking and working with a joint vision:

> to transform global understanding of the **economic value of productive land** based on both **market and non-market values**, and to improve stakeholder awareness for socio-economic arguments to **improve sustainable land management**, prevent the loss of natural capital, preserve ecosystem services, combat climate change, and address food, energy and water security.

Regreening Africa

financed by the European Commission and co-financed by the German Federal Ministry for Development and Economic Cooperation (BMZ)

Overall objective:

Improve livelihoods, food security, resilience to climate change, and restore ecosystem services, particularly through evergreen agriculture

Specific objectives:

Objective 1 :
Strengthen the national ability to assess the costs of land degradation and the economic benefits of investment in SLM in 8 African countries

Objective 2:
Equip up to 8 of these countries with **surveillance and analytic tools** on land degradation dynamics including social and economic dimensions that **support strategic decision making and monitoring** in the scaling-up of evergreen agriculture

Objective 3:
Support up to 8 of these countries in the accelerated **scaling-up of evergreen agriculture** by smallholder farmers, along with the development of agroforestry value chains

ELD component 1

- **Capacity Development**

International experts from the ELD network provide **training for researchers and decision makers** to enable them to create and utilize information on the economic costs of land degradation and benefits of Sustainable Land Management.

- **National Case Study**

ELD experts **create an ELD case study** in close cooperation with national key partners and stakeholders from research and politics. The focus and scope of the study are determined after extensive stakeholder consultations. Results of the study shall feed into ongoing political debates and the national Land Degradation Neutrality (LDN) process.

- **Communication and outreach to decision makers**

Results from the ELD component of the project shall be coordinated closely with and communicated to **political decision makers**

- Aberdares Water Towers /watershed
  - reduced water availbility and quality
  - reduced forest cover in the watershed areas

- Different options for ensuring sufficient and water supply of good quality for a rapidly growing city

  → **Cost effective nature based solutions?**
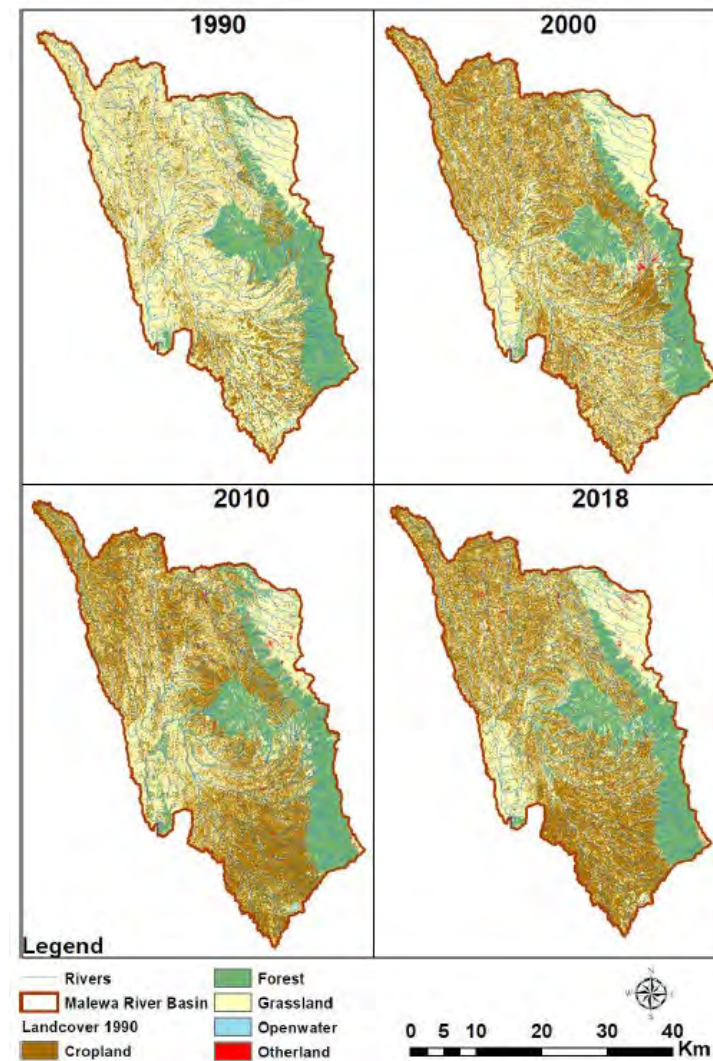
Maps showing the land cover changes between 1990 and 2018,
ELD / Moses et al., 2020

A GLOBAL INITIATIVE FOR SUSTAINABLE LAND MANAGEMENT

www.regreeningafrica.com

Kenya – Key results

Smallholder farm in the area where mixed farming is practiced
© ELD / Gichua K. Moses

16/02/2021

- Increased awareness for the importance of sustainable land and forest Management for the Nairobi Water Tables > round table between dptmt of Finance and Forestry and city of Nairobi

- The forestry management strategy of Nyandarua revisited in the context of the management of the Athi river.

- Investment into SLM measures doubled by the Nyandarua County administration

  - Implementation process is slow, due to organizational diversities, but dialogue established
  > Discussion on PES schemes

A GLOBAL INITIATIVE FOR SUSTAINABLE LAND MANAGEMENT **ELD**

A GLOBAL INITIATIVE FOR SUSTAINABLE LAND MANAGEMENT **ELD**

Recommendations (selection)

Land users

Investing in existing low-cost practices for long term benefits.

Land assessment. Planting of any form of crops would benefit from the adoption of soil quality assessments by land users.

Strengthening local governance.

Encouraging sharing of best SLM practices.

Access to financing. For sustainable management options that require it, financing options should be sought in parallel by land users to remove short-term financial barriers to adoption.
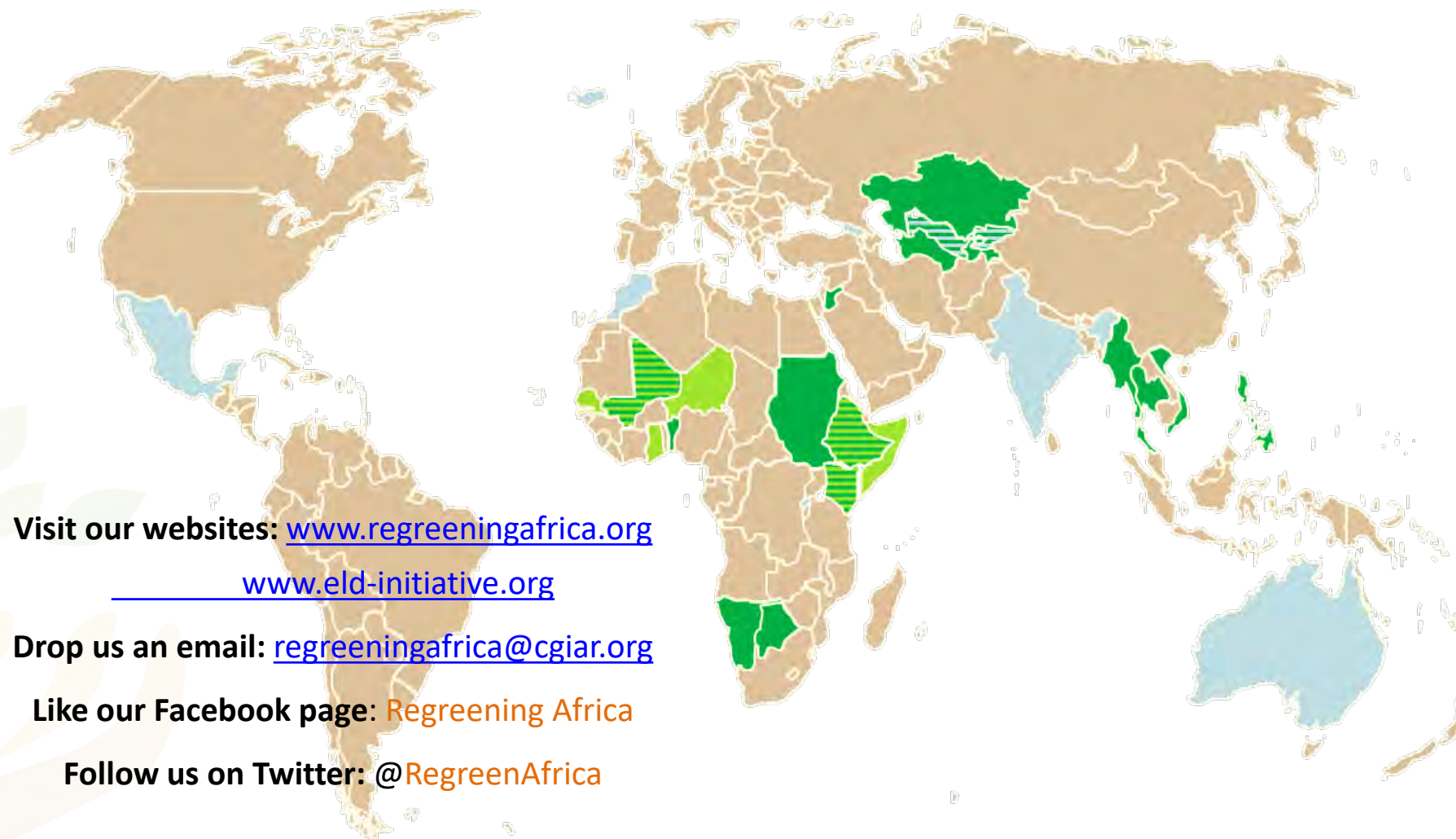
Policy makers

Inter-ministerial coordination.

Improving land and tree tenure and farmers' collateral.

Review of subsidies for agricultural development.

Capacity building on SLM.

Thank you!
www.eld-initiative.org

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