Kenya Institute of Curriculum Development

A Skilled and Ethical Society

ENVIRONMENTAL RESTORATION

The Power of Natural Regeneration

Senior School Learner's Booklet

World Vision

First Published 2026

Photographs used source: World Vision Kenya

ISBN NO: 978-9914-52-537-3

Published by: Kenya Institute of Curriculum Development,
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Table of Contents

Foreword

The Kenya Institute of Curriculum Development (KICD), in accordance with the provisions of the KICD Act No. 4 of 2013 (Revised 2019), is mandated to develop curricula and curriculum support materials that are responsive to the dynamic needs of society. Among the Pertinent and Contemporary Issues (PCIs) addressed through the Competency-Based Curriculum (CBC), currently being implemented by the Government of Kenya, are environmental conservation and sustainable development.

In line with this mandate, the Institute has collaborated with World Vision Kenya to develop a booklet on Farmer Managed Natural Regeneration (FMNR)-a practical and cost-effective approach to land restoration. This booklet is intended for learners in Senior School and introduces fundamental concepts related to environmental restoration, sustainable land use, natural tree regeneration, and community participation in conservation efforts.

The FMNR approach contributes significantly to the attainment of key global development targets, including Sustainable Development Goal (SDG) 13: Climate Action, and SDG 15: Life on Land, by promoting practices that rehabilitate degraded ecosystems, enhance biodiversity, and build resilience to climate change. Equipping learners with knowledge and skills in FMNR not only fosters personal development but also cultivates a generation of environmentally conscious and proactive citizens.

This booklet complements existing Information, Education and Communication (IEC) materials and is designed to enhance learners' understanding, competencies, and positive attitudes toward environmental stewardship and restoration.

The Institute conveys sincere gratitude to World Vision Kenya for their steadfast support in advancing environmental education, as well as to all technical teams and stakeholders whose expertise and dedication contributed to the successful development of this vital resource.

World Vision Kenya acknowledges the role played by the Australian Government through ANCP and the generous support from World Vision Australia, the Korean Government through KOICA and the generous support from World Vision Korea, and the support by World Vision Hong Kong.

PROF. CHARLES O. ONG'ONDO, PhD., MBS
Director/Chief Executive Officer
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1.0 Concepts in Environmental Conservation

Environmental conservation is a broad theme. The following are some of its core concepts.

i) Environment is everything that surrounds us and affects the living organisms.

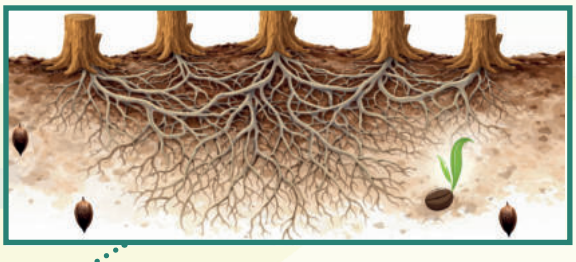
There are two types of environments:

a) Natural Environment:
Involves natural forests, lakes, swamps and rivers.

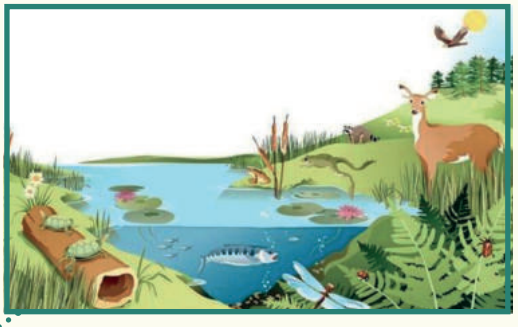
b) Human made environment:
It is as a result of human activities such as bridges, buildings and forest plantations.

ii) Natural resources: These are elements found in nature that help humans meet their basic needs. They can be either renewable (water and sunlight) or nonrenewable (minerals and fossil fuels).

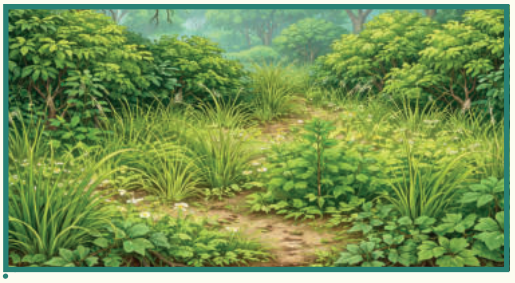
iii) Underground forest: These are the unseen living tree stumps, roots and seeds beneath degraded or cleared land. Many underground forests are capable of sprouting again.



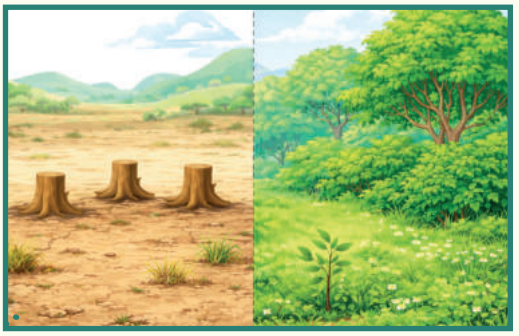
iv) Ecosystem: Ecosystem is an interelationship in which living things interact with each other and with their physical environment.
Ecosystems can be natural (like forests, oceans, deserts) or artificial (like gardens, aquariums, crop fields).



v) Natural regeneration: This is the process of recovering trees and shrubs without human intervention. It relies on natural processes like seed dispersal and shooting from tree stumps.



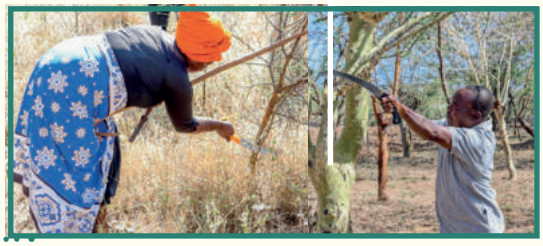
vi) Regreening: This refers to the process of restoring vegetation such as trees, shrubs, and grasses on degraded or barren land, with the aim of rehabilitating ecosystems and enhancing environmental sustainability.



vii) Tree species: These are groups of trees sharing the same characteristics such as shape, size, leaf type, bark texture and growth rate.

viii) Environmental Degradation: This is deterioration of the environment due to destructive human activities or natural disasters. It results in the depletion of resources in the ecosystem.

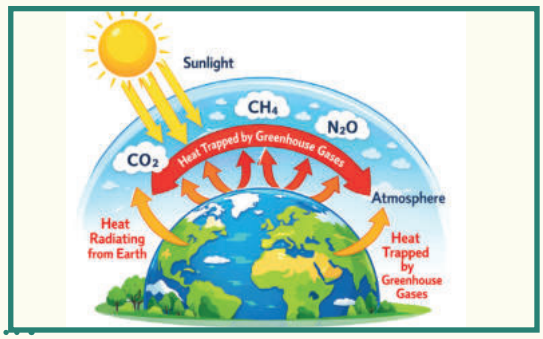
ix) Vegetation Management:
This refers to the control, maintenance and restoration of plant growth to meet land-use objectives.



x) Environmental Conservation.
This refers to the ethical and responsible management of natural resources to preserve ecosystems.

xi) Environmental Restoration.
This is the process of recovering ecosystems that have been degraded, damaged or destroyed.

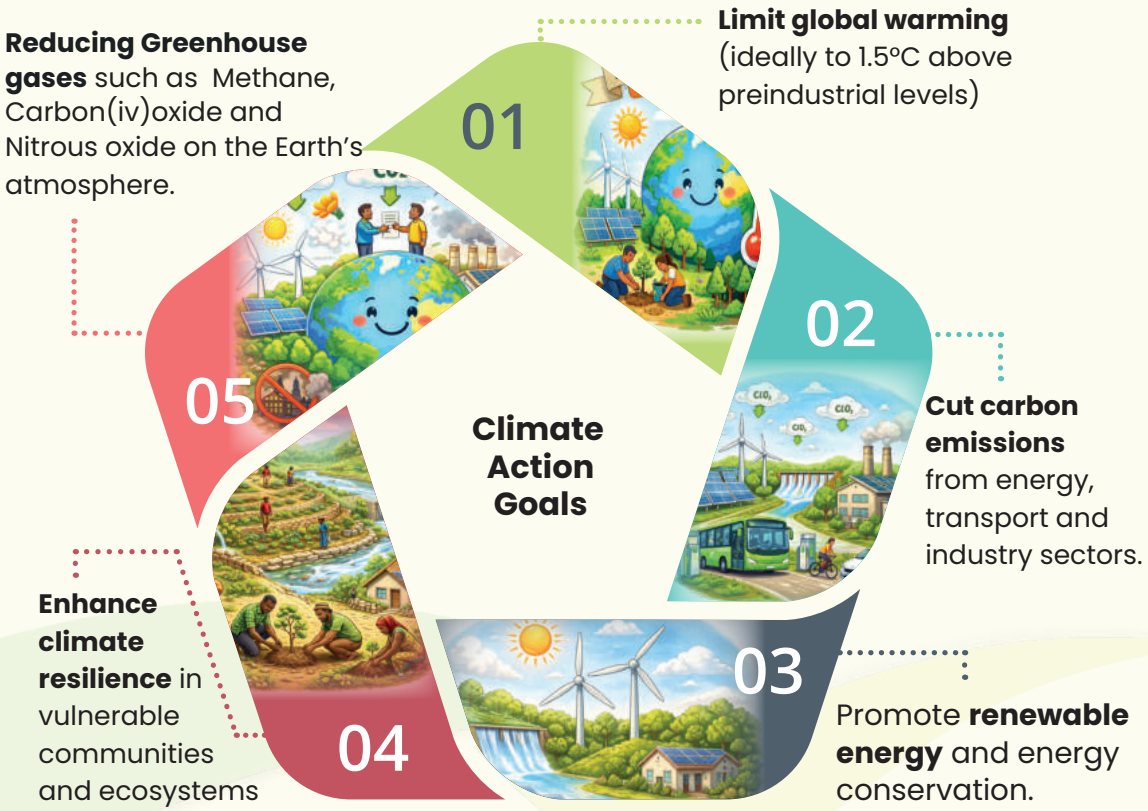
xii) Greenhouse gases: These are gases in the earth's atmosphere that trap heat and contribute to warming of the planet.



xiii)Climate change: This is the long-term shift in temperatures and weather patterns caused by human activities such as deforestation and burning fossil fuels.

ix) Climate Action: This involves efforts and initiatives aimed at reducing or preventing the negative impact of climate change.

x)Climate Action Goals is a planned target that countries, organizations, or communities set to limit global warming and protect the environment. The figure below illustrates climate action goal.



Climate Action Goals

Activity 1: Causes, Effects and Management of Environmental Degradation

1. a) Identify two visible signs of environmental degradation in your community (e.g., soil erosion, waste dumping, deforestation etc).
   b) What human activities are responsible for environmental degradation in 1a)?
   c) What are some effects that are already observable from 1a)?
   d) Suggest one management strategy that may be used to address the environmental degradation.

2.0 Environmental Degradation

2.1 Causes of environmental Degradation

The main causes of environmental degradation may be categorised into the following:

1. Agricultural Causes

These arise from unsustainable crop production and livestock rearing practices. Examples:

a. Overgrazing by livestock
b. Continuous cropping without soil management
c. Cultivation on steep slopes
d. Poor tillage methods
e. Excessive use of fertilizers and pesticides
f. Poor irrigation methods and water quality.

2. Deforestation and Vegetation Removal

These involve loss of trees and natural vegetation that protect the soil. *Examples:*

a. Clearing forests for agriculture
b. Charcoal production
c. Excessive fuelwood collection
d. Overharvesting of grass and forest products
e. Bush burning.

3. Extractive Activities

These are activities that remove soil and minerals from the land. *Examples:*

a. Mining
b. Quarrying
c. Sand harvesting
d. Stone extraction.

4. Urbanization and Infrastructure Development

These involve land conversion for human settlements and infrastructure. Examples:

a. Expansion of settlements
b. Road construction
c. Industrial development
d. Construction of dams and buildings.

5. Pollution and Waste Disposal

These involve contamination of land resources.

Examples:

a. Dumping of solid waste
b. Industrial waste disposal
c. Agricultural chemical contamination
d. Oil spills and hazardous waste dumping

2.2 Effects of Environmental Degradation

There are negative consequences that occur when the environment and national resources are depleted.

Social effects: includes poor health, displacement of communities, food insecurity, loss of livelihoods and increased poverty.

Economic effects: includes reduced land productivity, low household incomes and loss of jobs.

Environmental effects: includes loss of trees, vegetation, soil cover and biodiversity.

Effects of Environmental Degradation

2.3 Management of Environmental Degradation

This means taking actions to protect and restore the environment. It includes reducing pollution, using natural resources wisely, growing old trees and educating people on how to care for the environment. The following are some ways of managing environmental degradation.

Waste management: This involves proper waste management. It can be realized through 5-Rs, namely Rethink, Refuse, Reduce, Reuse and Recycle.

5 Rs of Waste Management

Enhanced industrial efficiencies: This includes regular maintenance of machines and equipment, reduction of greenhouse gases generation, and recycling of industrial water waste.

Awareness Creation and Advocacy: This involves capacity building, conducting campaigns on environmental management and research.

Disaster Risk Reduction: This entails systematic efforts to identify, assess and reduce the risks of disasters caused by the environment such as floods, landslides and severe drought. Such disasters can be prevented by use of terraces, tree growing, FMNR among others.

Activity 2: Farmer Managed Natural Regeneration (FMNR)

1. Identify a spot at home or school community where you can practice natural regeneration (e.g., an unused patch, a field edge, a farm).
2. Apply FMNR practices (selection, pruning, protection) in managing the site. Journal the process.
3. What two benefits might the site yield after one year?

3.0 Farmer Managed Natural Regeneration (FMNR)

Farmer Managed Natural Regeneration (FMNR) is a land restoration technique that helps degraded land recover by protecting and managing natural tree regrowth from existing tree stumps, branches, seeds and roots rather than planting new trees and vegetation.

3.1 Principles of FMNR

For successful FMNR, the following key principles apply;

1. Use of Existing Tree Stumps and Root Systems

FMNR encourages the natural regrowth of trees and plants from existing underground root systems, stumps and/or seeds.

A person selects the best shoots (usually 1–5 per stump) to keep and prunes the rest from the living stump. Pruning helps channel the plant's energy into fewer shoots, leading to faster and stronger regrowth.

Underground Root System

2. Land Ownership and Decision-Making

A person manages the regeneration process and decides which species and number of trees to retain based on their needs.

3. Sustainable Harvesting and use

Harvesting is done in a way that maintains the regrowth potential of the trees. They are managed for multiple uses, such as firewood, fodder, poles and shade. This promotes economic and ecological benefits.

4. Community Engagement and Social Change

FMNR relies heavily on community involvement and behavioral change for success. It often requires changing attitudes toward tree management and land stewardship.

5. Low Cost and Scalability

FMNR requires minimal external inputs unlike planting new trees. It is also inexpensive and replicable across large areas, making it easier to adopt.

3.2 Suitable Areas for FMNR

FMNR can be practiced in any area where there are living stumps, roots or seeds in the soil, particularly in dryland, degraded or deforested regions. The trees are particularly protected from animals and human interference.

Areas suitable for FMNR practice include;

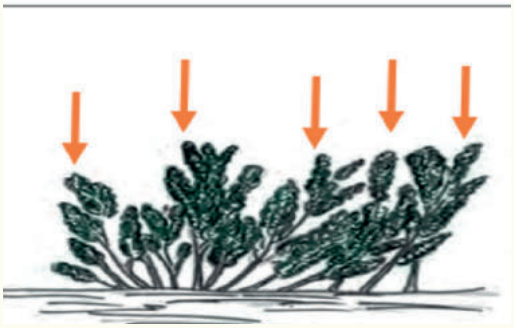
a. Place with potential for vegetative regeneration after deforestation. Such places include,
b. Landscapes that are deforested and degraded,
c. Environments that have lost critical levels of biodiversity,
d. Areas prone to strong winds, prolonged droughts, severe floods and higher temperatures.

3.3 Process of FMNR

There are 5 steps for FMNR practice :

Step 1: Selection of species and regenarating material:

Identify tree species that have regenerated on the land, based on your preferences and objectives. Retain species that hold value from the identified regeneration materials such as stumps, roots and wild lings of the selected species.



Tree species selection depends on natural occurrence, coppicing ability, local beliefs and values to the farmer

Step 2: Pruning and thinning the regrowth

Remove unwanted or weak stems (coppices) and side branches, leaving only those with potential for robust growth. Use appropriate tools and equipment in the pruning and support works.

Pruning saw

Pruning Panga

Y shaped stick

Removing excess stems

Removing excess branches

Step 3: Protection

The resprouting trees need to be protected from animal and human interference. Protection can be done through fencing.

Fenced FMNR site

Step 4: Growth and management of established regrowth

New branches and stems will continue to emerge, so every two to six months prune away new growth. This will produce straighter stems and help the selected stems grow quickly.

Pruning using a pruning saw

Step 5: Sustainable harvesting and utilization

Harvest sustainably the regrown trees or shrubs and utilize for planned purposes such as timber and fodder for animals among other things.

Removing bark from fodder and feeding animals

Feeding Cattle with grass harvested from regenerated sites

Sustainable utilization of firewood from regenerated trees.

3.4 Recommended Practices for FMNR

The following are essential practises in protecting the young shoots to enhance growth and prevent damage in FMNR site.

a. Avoid bush burning as a method of land cleaning to protect regenaration material.

b. Avoid indiscriminate clearance of vegetation during land preparation activities.

c. Exclude livestock for six months to one year after establishing FMNR site.

d. Use sharp pruning tools to make clean cuts and reduce damage to trees.

e. Cut in an upward direction to prevent bruising and bark stripping.

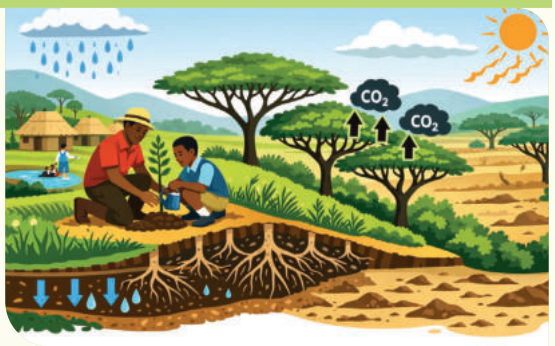
f. Prune at the correct height: up to half the trunk when trees are young, and up to two-thirds when trees are taller than two meters.

3.5 Benefits of FMNR

Farmer Managed Natural Regeneration (FMNR) is a simple and cost-effective land restoration approach that helps farmers regenerate trees naturally on their farms. By improving soil health, restoring vegetation, and strengthening rural livelihoods, FMNR delivers significant environmental, economic, and social benefits for communities.

1. Strengthens climate resilience and mitigation:

Restored trees improve soil moisture, reduce erosion, and capture carbon, helping communities adapt and mitigate climate change.



2. Increases household income:

Trees provide products such as fuelwood, fodder, fruits, and timber, creating additional income opportunities for farming households.

3. Promotes gender-equitable relations:

FMNR can support more inclusive participation in natural resource management, strengthening women's roles in decision-making and livelihood activities.

4. Reduces drivers of irregular migration:

Improved farm productivity and livelihood opportunities reduce the pressure for people, especially youth, to migrate in search of work.

5. Supports peacebuilding and social cohesion:

Communities collaborate in managing shared natural resources, fostering dialogue, cooperation, and collective solutions to local challenges.

6. Improves food security:

Healthier soils, better microclimates, and increased farm productivity contribute to more stable and diverse food production.

4.0 Roles of Key Actors in FMNR Implementation in Kenya

Successful implementation of Farmer Managed Natural Regeneration (FMNR) in Kenya requires collaboration among different actors at individual, community, national, and international levels. Each actor contributes in specific ways to support adoption, scaling, and sustainability of FMNR practices.

1. Individuals

a. Protect and manage naturally regenerating trees on farms through proper pruning and care.
b. Integrate FMNR practices into farming systems to improve soil fertility and productivity.
c. Share knowledge and encourage others to adopt FMNR.

2. Communities

a. Develop and enforce community agreements on grazing control, tree protection, and fire prevention.
b. Organize collective actions such as awareness campaigns and restoration activities.
c. Monitor and safeguard regenerating trees and communal lands.

3. Institutions (Research, Learning, Enforcement, Regulations)

a. Conduct research on FMNR practices, tree species, and land restoration techniques.
b. Provide training and extension services to farmers and community groups.
c. Monitor implementation and ensure compliance with environmental regulations.

4. Government (Policy Formulation and Enforcement)

a. Develop supportive policies and strategies that promote FMNR and sustainable land management.
b. Provide extension services and technical support to farmers and communities.
c. Enforce environmental laws and integrate FMNR into national restoration programs.

5. Public Benefit Organizations (PBOs)

a. Promote FMNR through community mobilization, training, and demonstration sites.
b. Provide technical guidance, funding, and tools to support adoption.
c. Facilitate partnerships between communities, government, and other stakeholders.

6. Faith-Based Actors

a. Mobilize communities and promote environmental stewardship aligned with moral and ethical values.
b. Support awareness creation and encourage participation in FMNR initiatives.
c. Provide platforms for education and community engagement on land restoration.

7. International Organizations

a. Provide financial and technical support for FMNR programs and scaling efforts.
b. Facilitate knowledge sharing, research collaboration, and best practices across regions.
c. Support national and community initiatives addressing climate change, land restoration, and sustainable livelihoods.

Appendices

Appendix 1: Case Studies

Case Study 1

Low-cost tree regeneration approach brings great gains for family in Elgeyo Marakwet, Kenya

Scan for FMNR link

Lazarus pruning a tree in his farm in Kipreng village, Elgeyo Marakwet County, Kenya. ©World Vision Photo/Hellen Owuor.

By Hellen Owuor, Communications Specialist (CRIFSUP), World Vision Kenya

The trees in Lazarus' compound shield you from the intensity of the blazing mid-day sun that shines relentlessly on one's forehead. A soothing breeze under the shade that his family and neighbours relish is thanks to them practicing the Farmer Managed Natural Regeneration (FMNR) approach, which is implemented by World Vision.

"This land had no trees. It was unbearable to stand outside because

of the scorching sun. Thanks to World Vision training us on FMNR, we have now nurtured regenerated trees that provide shade for my family and livestock, even during the dry season. At times, my neighbours request to host ceremonies in this compound because of the shade," Lazarus states.

Lazarus' daughter, nine-year-old Anneth (left) and his four-year-old granddaughter Velmur are shielded from the scorching sun as they play under a tree shade. ©World Vision Photo/Hellen Owuor.

Lazarus hails from Elgeyo Marakwet, one of the 29 Arid and Semi-Arid Land (ASAL) counties in Kenya that frequently experience prolonged drought as a result of the damning effects of climate change. Due to such environmental conditions, farmers are subjected to unhealthy and low crop yield that does not meet the consumption demands of their families and livestock, thereby affecting their livelihoods. More areas are gradually becoming characterised by the drying up of water sources, dwindling farm produce, disappearance of some

important indigenous species due to their over-exploitation, as well as unpredictable weather patterns.

In an effort to mitigate these impacts, farmers like Lazarus have adopted the easy and low-cost FMNR approach that has built their resilience to climate change and food insecurity caused by global warming. In 2018, after receiving training on the FMNR approach and other complementary components through the World Vision's Central Rift Farmer Managed Natural Regeneration Scale-Up Project (CRIFSUP), Lazarus enclosed one acre of his farmland to allow indigenous trees to regenerate and protect them from damage by livestock.

Beneficial plant species have regenerated in this enclosed area of Lazarus' farm since they are protected from destruction by livestock. ©World Vision Photo/Hellen Owuor.

For a man who was accustomed to unsustainable farming practices such as the slash-and-burn method to prepare his land for the

planting season, Lazarus now talks of increased soil fertility and higher yields after practicing the FMNR approach.

"My cows are healthier and produce more milk since they no longer have to travel far to get pasture. The pasture yields in my farm have increased and I get enough to feed my livestock all year round. I get at least ten litres of milk a day. I usually sell five litres and the rest is consumed at home," he says.

Lazarus' four-year-old granddaughter Velmur enjoys drinking nutritious milk that is important for the development of strong, healthy bones and teeth. ©World Vision Photo/Hellen Owuor.

In 2022, when the county experienced drought, Lazarus recalls that some of his neighbours resorted to selling their livestock at a throwaway price before they became emaciated due to lack of pasture. However, he had enough to feed his livestock as they awaited the rains.

Lazarus boasts of a myriad of benefits from the regenerated trees in his FMNR farmland. He says that the trees provide fodder for livestock, firewood, herbal medicine for treating coughs and wild berries that the family eats to supplement some of their nutritional needs.

The regenerated trees produce nutritious wild berries that the family eats to supplement some of their dietary needs. ©World Vision Photo/ Hellen Owuor.

To complement the benefits that he is reaping as a result of the FMNR approach, Lazarus has also grown tree tomatoes, avocados, bananas and other drought resistant crops such as sorghum, sweet potatoes and cassava that are healthy foods, which provide necessary nutrients for his family.

At times, he uses leaves from the banana and avocado trees to feed his livestock.

Lazarus has planted bananas, fruit trees and other drought resistant crops that offer his family diversified options for nutritious food, even during the dry season. ©World Vision Photo/Hellen Owuor.

"The FMNR approach on its own has economic, social and environmental benefits. However, in our programming, we encourage communities to implement complementary components in order to boost the gains achieved from FMNR. Some of these components include the use of energy-saving technologies and planting fruit tree seedlings as Lazarus has done," says Geoffrey Rerimoi, the CRIFSUP Agroforestry Officer for World Vision in Elgeyo Marakwet County, Kenya.

"We trained our farmers on the use of energy-saving cookstoves that reduce the pressure put on trees since they consume minimal firewood. Compared to the traditional cookstoves, the current one produces less smoke thus reducing the risks of respiratory illnesses," Geoffrey adds.

Firewood is among the main sources of fuel used for cooking in many rural homes in Kenya. The FMNR approach enables families to get sustainable firewood from their farms, instead of buying them. ©World Vision Photo/Hellen Owuor.

Lazarus' family would previously spend 150 Kenyan Shillings (USD 1.21) on a bunch of firewood that lasted for only two days. They are now able to save that money as well as sell firewood to gain more income for household use. Additionally, they have more time to spend as a family because firewood is readily available and it takes a short time to prepare food with the energy-saving cookstove.

"I am grateful to World Vision for imparting me with the knowledge on FMNR. I hope that it can be extended to more farmers out there. To me, FMNR means a lot. But most importantly, it means having enough firewood, milk and shade," Lazarus says.

Lazarus and his family can comfortably sit under the shade and enjoy the cool scenic ambience in their compound, thanks to the many trees surrounding them. ©World Vision Photo/Hellen Owuor.

Through the FMNR practice and by leveraging on the benefits of indigenous trees, farmers like Lazarus can meet their household needs, despite the economic challenges caused by climate change.

The Central Rift Farmer Managed Natural Regeneration Scale-Up Project (CRIFSUP) is funded by the Australian Department of Foreign Affairs and Trade (DFAT), through the Australian NGO Cooperation Program (ANCP).

Case Study 2

Trees help family to restore degraded land and thrive during prolonged droughts

Joyce and her granddaughter Blessing under a mango tree at the family farm in Emsea village, Elgeyo Marakwet County. ©World Vision Photo/ Hellen Owuor

By Hellen Owuor, Communications Officer, World Vision Kenya

Joyce Wanyama, a farmer in her early 50s lives with her husband, Edward Wafula and four-year old granddaughter, Blessing in Emsea village, which is situated in Kenya's Elgeyo Marakwet County. The family's love for farming and fruits made them relocate from Kitale to the area in 2014.

"We moved here after discovering that there were fruit trees that could do well in this area compared to Kitale where we used to live before," she says.

Blessing in the company of her grandparents, Joyce and Edward. She loves spending time with them in the evenings when she comes back home from school.©World Vision Photo/ Hellen Owuor.

Joyce explains that since their interest was in farming, they cleared all the vegetation including beneficial shrubs on their two-acre plot of land that was majorly filled with an invasive weed, ***Lantana camara,*** which is commonly known as the Spanish flag. What was left behind was bare, degraded land with deep gullies.

"At the time, we didn't know that we were causing more damage. Also, I later came to realise that we were residing in an area affected by lightning and strong winds that frequently swept away our roofs."

Elgeyo Marakwet County is among the Arid and Semi-Arid (ASAL) areas in Kenya where the livelihoods of communities are threatened due to land degradation and the impacts of climate change that cause drought, flash floods and landslides in the area.

Joyce's farm during the dry season in March 2022. ©World Vision Photo/ Hellen Owuor.

World Vision, through the Central Rift Farmer Managed Natural Regeneration Scale-Up Project (CRIFSUP) has been building the resilience of communities to these climate-induced disasters through initiatives that boost their food security and improve their livelihoods.

The focus has been on a low-cost reforestation technique known as the Farmer Managed Natural Regeneration (FMNR) that is helping communities to restore degraded lands and solve some of the key environmental challenges they are facing.

Joyce is among the 629 lead farmers that were trained on the FMNR approach by World Vision. She then cascaded the knowledge to her husband. Thereafter, they joined hands and began implementing the FMNR approach on their farm land. Six years down the line, there is undeniable joy on Joyce's face as she talks about the approach.

"FMNR has truly changed our lives. Our mindset towards taking care of the environment has changed because we know and have experienced the benefits of trees in this homestead. Our roofs are no

longer carried away by strong winds. The trees act as wind breakers," she says.

Joyce, who occasionally prunes the trees in their farmland, says that they provide sufficient firewood for cooking all year round.

Joyce pruning a tree. She uses the pruned branches as firewood. At times, she uses the thorny ones as a protective fence that prevents pruned trees from destruction by livestock. ©World Vision Photo/ Hellen Owuor.

Previously she would walk for at least 14 kilometers to and fro, in search of firewood. This was time consuming and she always got home tired not having enough time to spend with her family.

Apart from firewood, she now enjoys more benefits that come with the indigenous Acacia trees such as increased soil fertility that has increased her crop yields.

Joyce in her sorghum plantation. She has planted a variety of nutritious crops, vegetables and fruits for subsistence use and also for sale so as to increase her household income. Practicing FMNR has restored tree cover in the farm and contributed to increased soil fertility thereby boosting crop yields. ©World Vision Photo/ Hellen Owuor.

Joyce grows a variety of drought tolerant crops such as beans, groundnuts, sorghum, green grams, traditional vegetables among others. These healthy nutritious crops are both for the family's consumption and for sale, which boosts their household income.

Additionally, their farmland produces high yields of fodder and pasture that is enough for their livestock and for sale.

Joyce dried, ground and stored surplus pasture for their livestock. This cushioned them during the drought. ©World Vision Photo/ Hellen Owuor.

This year, Baringo was among the many counties in Kenya that experienced prolonged drought. When many were suffering, with increased livestock deaths and food shortage, Joyce's family was well prepared. She had stored surplus hay for her livestock in preparation for the dry season.

"For over four months, we were affected by drought. It was so severe that even if you had money, you couldn't get vegetables at the market. Some families were forced to make tamarind juice and eat with ugali [maize meal]. However, the case was different in my home, thanks to FMNR," Joyce says.

The family had drought resistant crops such as the black night shade, Chaya and pigeon peas that they ate during the tough times.

Joyce picking pigeon peas. This is among the many drought resistant crops on their farm. Since the Elgeyo Marakwet County frequently experiences drought, such crops cushion the family during dry seasons. ©World Vision Photo/ Hellen Owuor.

As an avid FMNR champion, Joyce boasts of her family's good health thanks to eating a balanced diet. They have mature pawpaw and mango trees and have now started growing passion and orange fruits.

Blessing their granddaughter, enjoys eating mangoes. It is her favourite resting and playing spot when she comes back home from school.

Blessing at her favourite resting and playing spot, which is beneath the many fruit trees at her grandparents' farm. ©World Vision Photo/ Hellen Owuor.

"At first, I doubted whether the tiny shrubs would turn into anything beneficial even with the pruning and management as we had been taught. But now see, we have enough to feed us, our livestock and to sell for income. Had it not been for the training I received from on the FMNR approach, none of this would be in existence. Thank you, World Vision," says Joyce.

Joyce harvests the Cenchrus Ciliaris, commonly known as the African foxtail grass that they will dry, grind and store to feed their livestock in future, during the dry season. ©World Vision Photo/ Hellen Owuor.

By the end of 2021, the CRIFSUP project had reached a population of at least 33,000 men, women and children who benefitted from FMNR after the first implementation phase of the project. Now in its second phase, the project aims to improve the lives of 55,000 people by 2026 across Baringo, Elgeyo Marakwet, Nakuru and West Pokot Counties through the FMNR approach as well as other restoration techniques.

Appendix 2: FMNR Photos

Appendix 3: FMNR Links

Scan the barcode or click on the links to watch more on different FMNR videos.

https://www.youtube.com/watch?v=XGgGKOSXd3c

https://www.youtube.com/watch?v=vnj7B1QjoVI

https://www.youtube.com/watch?v=Q2cJ0NSOKpA

https://www.youtube.com/watch?v=RPEfN0LgEok

Appendix 4: List Of Contributors

S/ No.	Name	Role	Organisation
1.	Prof. Charles O. Ong'ondo	Chief Coordinator	KICD
2.	Gilbert Kamanga	Chief Coordinator	World Vision
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6.	Joshua Kilundo	Activity Coordinator	KICD
7.	Dr. Carol Munini	Activity Coordinator	World Vision
8.	Anthony Mativo	Content Developer	World Vision
9.	Humphrey Wafula	Content Developer	World Vision
10.	Michael Singoro	Content Developer	World Vision
11.	Nichodemus Khan	Content Developer	World Vision
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24.	Peris Wachuka	Illustrator/ Graphic Designer	KICD
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ENVIRONMENTAL RESTORATION:

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