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SCALE

Strengthening Capacity in Agriculture
Livelihoods and Environment

How resiliently designed food systems achieve both NRM and nutrition wins

Taking a resilience design approach in smallholder farming systems

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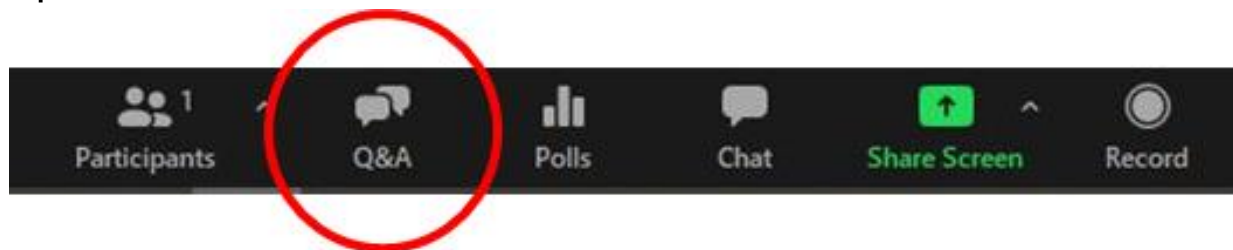
Before we begin...

Select your language!

Click on the globe “interpretation” at the bottom of you Zoom window and select English or French.



Post your questions in the Q&A box at the bottom of your screen (do not include your questions in the chat box).





Today's Presenters



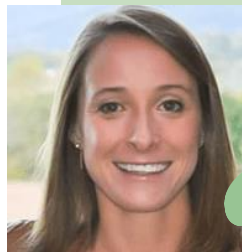
JEN MAYER
SENIOR AGRICULTURE ADVISOR



STANLEY MUTUMA
CLIMATE-SMART AGRICULTURE ADVISOR



ERNEST DUBE
EVALUATION & LEARNING DIRECTOR



KRISTIN LAMBERT
DIRECTOR, SCALE AWARD



ADEGBOLA ADESOGAN
DIRECTOR, FOOD SYSTEMS INSTITUTE &
LIVESTOCK SYSTEMS INNOVATION LAB



MULUBRHAN GEBREMIKAEL
ASSOCIATE PROFESSOR OF LIVESTOCK
PRODUCTION & PASTORALIST DEVELOPMENT









SCALE | Strengthening Capacity in Agriculture, Livelihoods and Environment

- USAID Bureau for Humanitarian Assistance (BHA)-funded, led by Mercy Corps in partnership with Save the Children
- Agriculture, NRM, off/non-farm livelihoods
- Capacity strengthening, knowledge sharing and learning for BHA-funded food security programs
- Connecting with others to bring out best practices, resources and learnings



Agenda

-  Overview of the Resilience Design (RD) Approach
-  The Nawiri Program – Stanley Mutuma
-  The Food Security Project – Ernest Dube
-  Overview of the Resilience Design (RD) Technical Check List
-  Virtual Transect Walk
-  Resilient Livestock Systems - Feed the Future Innovation Lab

Land Degradation & Climate Change

Recurrent Cycles of
Floods and Droughts



Poor Land Use Practices



Accelerating Erosion
and Loss of Soil Health





Resilience Design Approach in 4 Steps



Observe and Assess



Analyze



Design



Monitor and Adjust



Outcomes Linked to Resilience Design



Ecological (natural resources & ecosystem services) soil health, soil erosion, incidence of pests and disease, water health and conservation, biodiversity/agrobiodiversity)



Energy (energy efficiency) resource placement, use of local resource, multiple functionality resources, multi-supported critical functions



Economic (income) farm production, input costs, diversity/intensity of production



Social (sustainability, farmer resilience) farmer innovation and confidence, ability to deal with shocks and stresses



Nutrition HH food security, access to diverse diet,



QUESTIONS?



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Evaluating Resilience Design in Smallholder Farming

A Technical Checklist for Practitioners

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HOW DO WE LOOK AT RESILIENCE DESIGN IN ACTION?



SIX CORE TECHNICAL ELEMENTS FOR RD SITES



RESOURCES - maximizes the use of locally available natural and man-made materials and waste streams



DESIGN- optimizes resources and external influences for improved efficiency, production, resilience and regeneration



WATER - has multiple strategies to slow, spread, sink and manage rainwater and other water resources.



SIX CORE TECHNICAL ELEMENTS CONT'D



SOIL HEALTH - creates a healthy soil food web that supports sustained production and regenerative growth



BIODIVERSITY- has plants, trees & animals that work together to support the overall health & production of the growing environment



PROTECTION- includes strategies to protect soil and plants from any negative effects of people, animals and external influences



RD Technical Check List

Scoring Key

Score	Description
√-	Practice is of low quality or not present.
√	Practice is in place and of adequate quality, meeting the RD Minimum Standard. Every field site applying the RD approach is expected to achieve at least a √ for each practice listed below.
√+	All practices in the √ field have been met or exceeded, plus additional Resilience Strengthening practices are in place. This is ideal Resilience Design.
*	All practices in the √ and √+ fields have been met or exceeded. Practices demonstrate innovation and problem solving in ways that enhance production and smooth water, food and nutrition gaps throughout the year. All practices on demonstration sites should meet the * level.

The background is a solid green color with several large, semi-transparent white leaf shapes scattered across it. The leaves vary in size and orientation, creating a natural, organic feel. A white rectangular box is centered on the page, containing the text.

Let's take a

WALK



FEED THE FUTURE

The U.S. Government's Global Hunger & Food Security Initiative

Resilient livestock systems



Photo www.civileats.com

Gbola Adesogan and Mulubrhan Balehegn

Feed the Future Innovation Lab for Livestock Systems | Animal Science |
Food Systems Institute, IFAS, University of Florida



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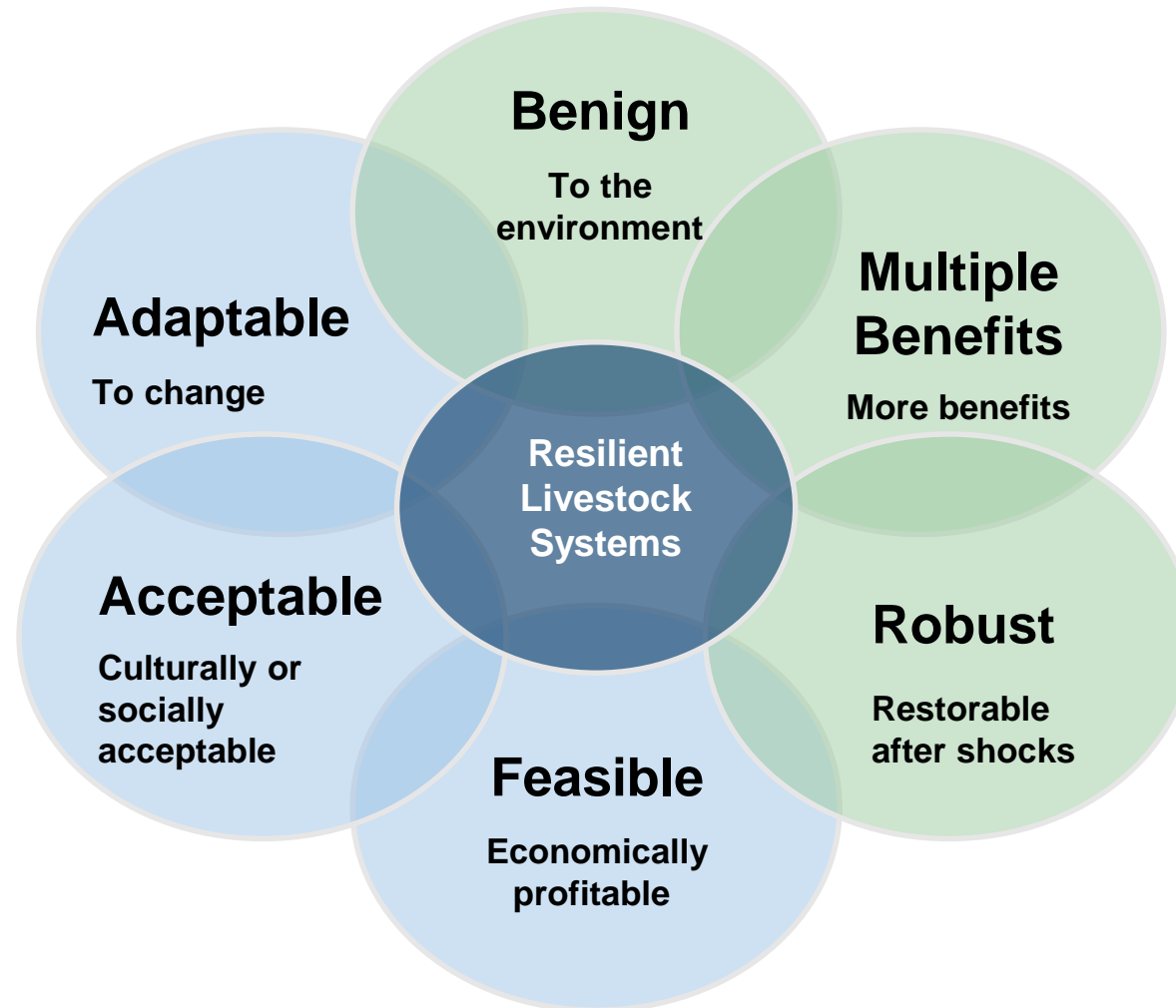
Livestock and the nutrition-environment nexus

- Stunting kills **45%** of children; 151 million under the age of five affected
- Impairs **cognitive development**, increases incidence of **chronic disease**
- Reduces national GDP by 7 to 16%
- **Animal-source foods** are the best source of high-quality, nutrient-rich foods for children aged between 6 and 23 months (WHO, 2017)
- And yet, livestock accounts for **14.5%** of global greenhouse gas emissions





Resilient livestock systems





FEED THE FUTURE

The U.S. Government's Global Hunger & Food Security Initiative

Increasing feed production and resilience



ETHIOPIA



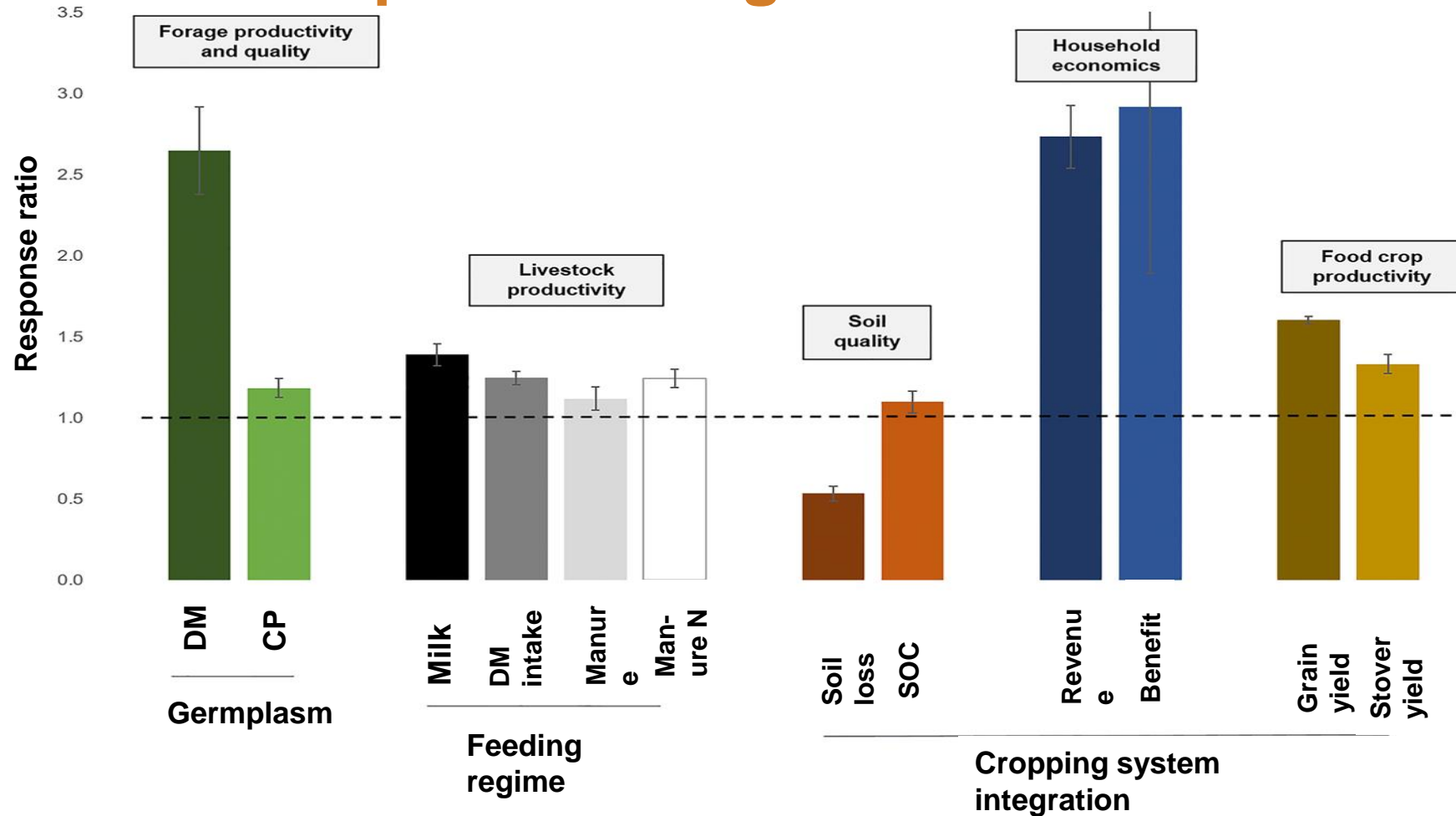
New drought-resistant sorghum genotypes for year-round feeding



Improved cow productivity with drought tolerant home-grown pigeon pea



Benefits of improved forages in sub-Saharan Africa



Meta-analysis of 72 studies

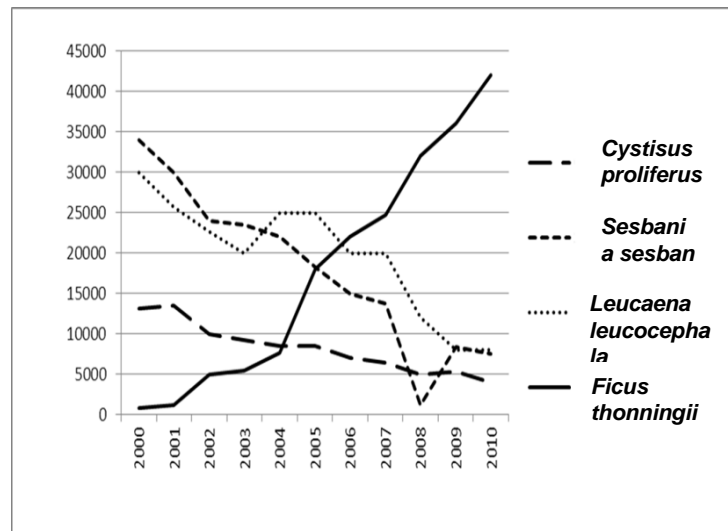
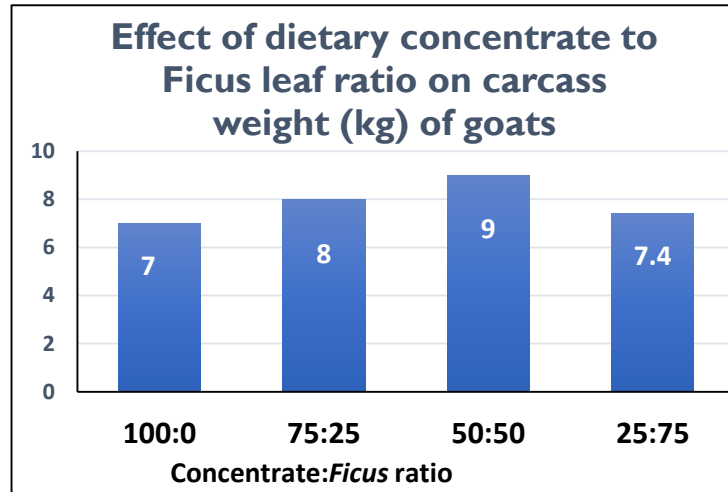
Paul, et. al (2020)

Restoring degraded land - Ethiopia



- Constructed dams, rehabilitated a gully, sowed plants and forage.
- Forage yields nearly doubled from 2016 to 2017.
- Value of harvested forage (\$40,000)
- Healthier more productive livestock.
- Farmers' incomes increased by 20%

Ficus thonningii in Ethiopia

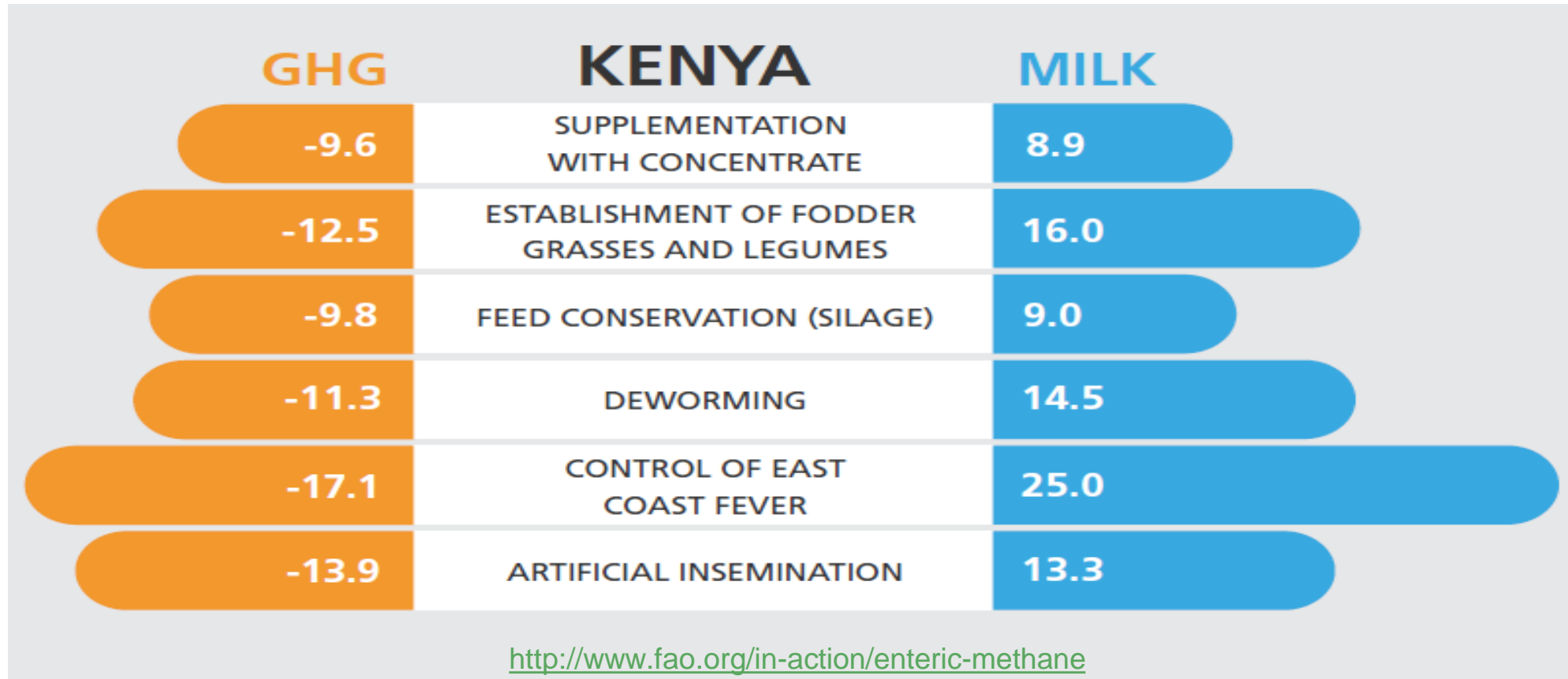


- Easy to establish (< 5 yr)
- High CP ($\leq 21\%$), DM digestibility ($\leq 85\%$), yield
- Up to 5x the yield of other fodder trees
- Adopted by more than 20,000 households
- Drought tolerant
- Reduces water use for fodder by 83%
- Increased biodiversity (wild birds and weeds)





Integrated solutions for productivity and environment wins



Recommendations

- Raising awareness, knowledge and skills on resilient practices
- Creating enabling environment and policy support, directives to encourage resilience practices.
- Communication, partnership and collaboration among stakeholders



QUESTIONS?



Four Key Takeaways

Water and soil are key

Improving and achieving nutrition and food security outcomes requires a focus on improving soil fertility and water management

Well-fed soils lead to well-fed people

Protected, biodiverse farms produce food, fuel and fodder for smallholder families year-round

Learning and adaptation

Resilience comes from continual monitoring, learning and adapting, in partnership with farmers and communities

Cross-sectoral collaborations

Gender, WASH, governance, risk reduction and markets all have important roles to play in improving agriculture and nutrition outcomes



LEARN MORE!

Further Reading

- Resilience Design in Smallholder Farming Systems Approach
 - *Tip Sheets*
 - *Measurement Toolkit*
 - *Checklist*



SCALE



www.fsnnetwork.org/scale

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scale@mercy Corps.org

THANK YOU!

Merci !