



# AICCRA FIELD TRIP GUIDE

**Kenya**

MAY 2024



**AICCRA**  
Accelerating Impacts of CGIAR  
Climate Research for Africa



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**Photo:**  
CCAFS/  
S. Kilungu



**Photo:** Farmer Field Day in Kathonzweni, Makueni.

# Introduction: No ordinary field trip

The Accelerating Impacts of CGIAR Climate Research for Africa (AICCRA) team in Kenya welcomes participants to explore AICCRA project sites in of Makueni County and a short stopover in Machakos County, as a way to showcase the innovations that have been developed by CGIAR Research Centres and scaled by AICCRA partnerships.



**Photo:**  
ICRISAT

This field trip is designed to display the interactions between several key climate smart agriculture (CSA) and climate information services (CIS) technologies and capacity strengthening activities promoted through AICCRA Kenya.

These interactions matter because climate change adaptation is much more than farmers' adoption of technologies. Rather, it involves developing capacities across a wide network of actors that contribute to managing climate risk across different temporal and spatial scales.

Participants will explore the integrated promotion of on-farm technologies, the development of seed systems, the use of digital platforms to gather and disseminate actionable information (climate and otherwise), methods of bolstering extension capacities, and integrating climate risk management into county policy processes.

## During this field visit we will:

- Demonstrate how AICCRA partners in Kenya are scaling farmers' access to—and use of—climate-smart technologies developed by CGIAR in the arid and semi-arid regions.
- Demonstrate gender and socially inclusive CSA technology transfers in Kenya's dryland regions.
- Demonstrate a sustainable mechanism for the adaptation and use of drought-tolerant seed varieties through community seed production.
- Demonstrate the utilization of CIS (pre-season and in-season climate advisories) to inform decision-making in farmers' agricultural operations.

# Destination: Makueni County



Photo:  
CCAFS/  
S. Kilungu

**Arid and semi-arid lands (ASALs) make up about 89% of Kenya's land area. Agriculture and pastoralism in these landscapes contribute significantly to livelihoods, food security, and the economy: for instance, it provides more than 80% of the country's red meat.**

Yet these landscapes are vulnerable. The urgency of the climate crisis has become increasingly evident, as the region experienced a deep, five-season-long drought from 2021-2023, which severely affected productivity, livelihoods and the environment. It caused widespread crop failure, deterioration of household food security and loss of livelihood sources for hundreds of thousands of smallholder farmers, while pushing an estimated five million Kenyans into famine and starvation.

Our field visit takes us to Makueni County, a semi-arid landscape about three hours southeast of Nairobi, in which the impacts of climate change are already significant. Makindu Ward, where we will spend most of our time, is located in the driest part of Makueni County. Its community largely comprises rural farmers primarily engaged in subsistence crop farming and livestock rearing. Agriculture is largely rain-fed, with two distinct rainy seasons, yet these rains are unevenly distributed, and the sustainability of agricultural practices is threatened by recurrent droughts, rising temperatures and soil moisture depletion.

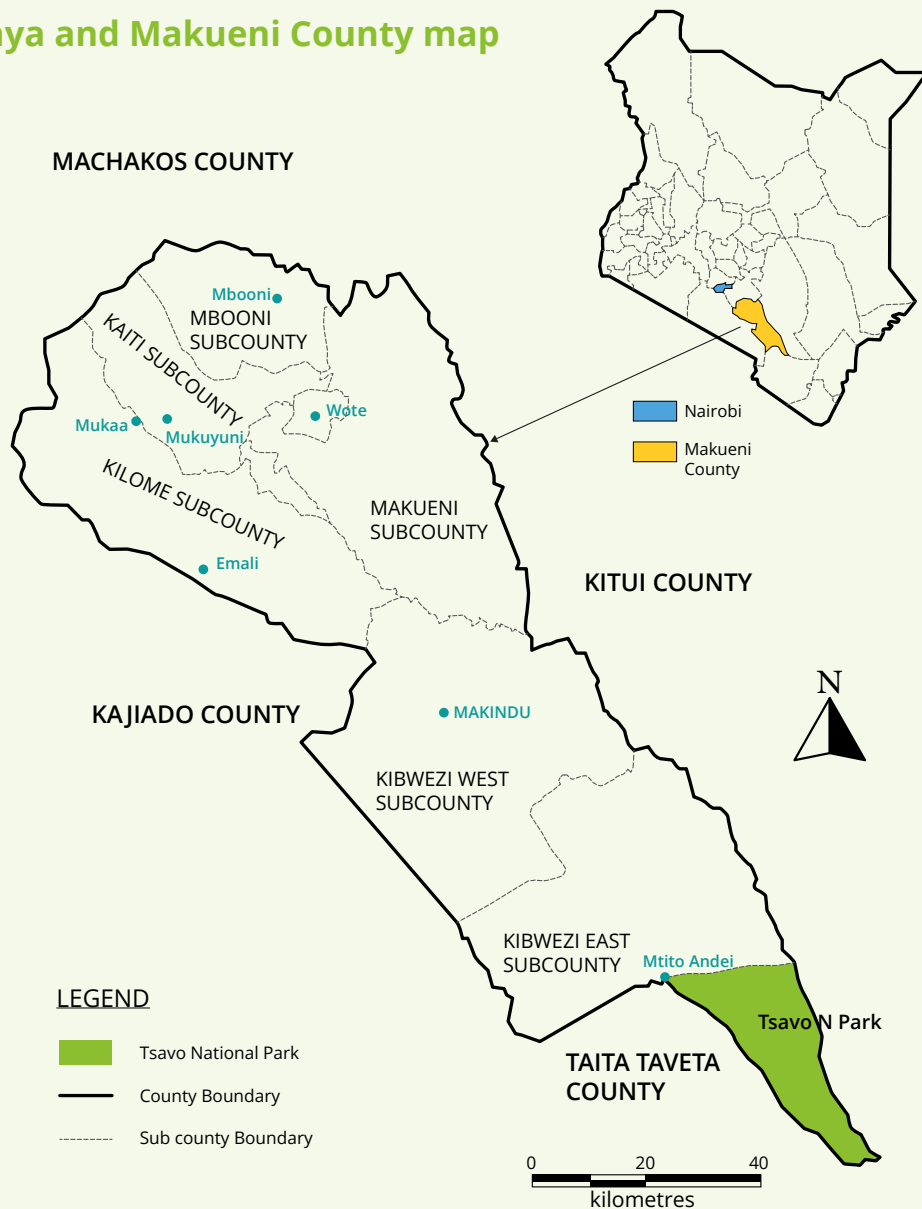
This poses significant challenges in ensuring food security and livelihood resilience. Erratic rainfall patterns heighten the risks of crop failures and water scarcity for both agricultural and domestic use. Moreover, with low levels of education, many farmers lack the necessary knowledge to adapt to climate change and variability or implement sustainable agricultural practices.

Despite these challenges, Makueni County stands at the forefront of innovative approaches to climate adaptation and mitigation. Through AICCRA Kenya's strategic partnerships, and its collaborations with the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) and the Alliance of Bioversity International and CIAT (ABC), the ward is harnessing the power of science and local knowledge to build resilience and sustain livelihoods in the face of a changing climate.

AICCRA Kenya has facilitated ward members' access to high-yielding, drought-tolerant, and early maturing seed varieties of pearl millet, sorghum, pigeon pea and green gram. Women farmers are targeted beneficiaries and make up nearly 60% of recipients during the March-April-May 2024 'long rains' growing season, while 30% of recipients are youth. By distributing small seed packs of drought-tolerant seeds during planting seasons, the program is helping farmers in Makindu Ward to benefit from climate-smart innovation and enhancing their ability to cope with climatic challenges.

Other opportunities for community empowerment and economic growth in Makindu Ward include initiatives such as establishing market linkages through farmer cooperatives, providing pasture seed, capacity building and sensitizing farmers on sustainable land management practices. By fostering collaboration among stakeholders, promoting innovation in agriculture, and implementing targeted interventions, Makindu Ward is well placed to overcome its obstacles and realize its potential for sustainable development – as we will see on our visit.

## Kenya and Makueni County map



Map credit: George Shouha

Photo:  
CCAFS/  
S.Kilungu

## About the sites

## ESTHER MUTUKU'S FARM

### Description:

At our first stop in Makueni County, we will focus on community seed production, a technically demanding practice that is foundational for establishing a more vibrant seed system.

Esther Mutuku grows maize, sorghum, cowpeas, and green grams on her 5-acre farm in Maangi-Uvungu village, Makindu Ward, Makueni County. Trained by AICCRA in community seed production, Good Agricultural Practices (GAPs), pest and disease control, and harvest techniques, she now successfully grows drought-tolerant green grams on 2 acres. Esther harvested 7 bags (630 kg) of green grams in the last growing season. In April 2024, she sold her seeds to ICRISAT, earning enough to cover her children's school fees.



Photo:  
ICRISAT

Esther Mutuku's field of thriving green gram crops.

Community seed banks like Esther's are important hubs for gathering, preserving, and distributing seeds to farmers, providing access to improved varieties not typically available through agro-dealers. AICCRA is currently training selected seed farmers in community seed production and storage techniques.

Under the Additional Finance phase of AICCRA, enhancing the seed system for drought-tolerant crops like sorghum, pearl millet, pigeonpea, and green gram is a priority. This initiative not only helps smallholder farmers access these seeds but also promotes the commercialization and wider availability of drought-tolerant crops.

### What we will see:

- Seed production for community seedbank
- Drought-tolerant seed varieties including pigeon pea, pearl millet, sorghum and green gram (aka mung bean)

### Number of people benefitting:

37,000 farming households across AICCRA's three target counties - Makueni, Kitui and Taita Taveta.

### Partners:

Makueni County, Taita Taveta County, Kitui County, Association of Women in Agriculture Kenya (AWAK)

## PHOEBE MWANGANGI'S FARM

### Description:

On our second stop, we will visit one of 30 farmer-led demonstration fields implemented under AICCRA.

Phoebe Mwangangi, a mixed crop-livestock farmer and early adopter of climate-smart agriculture, grows beans, pigeon peas, and maize on 4 acres and grazes her sheep and dairy cow on an additional six acres of shrubland. In 2021, she was among 25 women who participated in AICCRA's climate-smart training program. This program introduced them to drought-tolerant and early-maturing seeds such as sorghum, pearl millet, and green gram, and covered essential CSA practices including rainwater harvesting, intercropping with legumes, crop diversification, conservation tilling, and pest and disease control.



Photo:  
ICRISAT

Phoebe Mwangangi at a farmer field day on her demonstration field.

Phoebe's farm is one of 10 farmer-led demonstration fields established in Makueni County under AICCRA, with an additional 20 demo fields set up across Kitui and Taita Taveta counties. Each farm is supported with seeds and necessary inputs like fertilizers and pesticides, tailored to farmer preferences for improved crop varieties. These demonstration fields are central to scaling out adoption of drought-tolerant crops and CSA practices, particularly during farmer-to-farmer field days, which provide a strategic platform to strengthen the knowledge network of agricultural stakeholders in support of CSA application.

### What we will see:

- Conservation agriculture practices such as minimum tillage, intercropping of legumes and cereals, weed management (shallow weeding), mulching (cover crops/crop residues)
- Crop management practices such as GAPs (Good Agricultural Practices), harvesting techniques

### Number of people benefiting:

Across the three counties, 17,300 farmers have visited demo sites for farmer-to-farmer learnings, and attended field days hosted by demo host farmers.

### Partners:

Makueni County, Taita Taveta County, Kitui County, Association of Women in Agriculture Kenya (AWAK)



## NEXT TO PHOEBE'S FARM

### **Description:**

**In our third stop, we will engage with county government stakeholders to understand their objectives and responsibilities in helping farming communities adapt to climate change.**

With our focus on farmers' use of technologies, we must not lose sight of the role of extension officers in the last-mile delivery of CSA technologies and CIS. Agricultural and meteorological extension officers play important parts in disseminating CIS and CSA to farmers, as well as supporting their practical applications.

Managing risk by making agricultural and climate information accessible is important in timely seasonal and sub-seasonal decision making, enhancing the effectiveness of county governments' long-term planning for climate risk management.

### **What we will see:**

Collaborative efforts to develop and deliver targeted pre-season and in-season advisories to farmers

### **Partners:**

Makueni County, Taita Taveta County, Kitui County, Kenya Meteorological Department (KMD)



**Photo:**  
CCAFS/  
C. Schubert

## MAKUENI COUNTY GOVERNMENT & STAKEHOLDERS

### Description:

At this final stop in Makueni County, we will meet with members of the Makueni County government and other local stakeholders who participated in AICCRA's Climate Smart Agriculture Investment Planning workshops, which are designed to institutionalize climate change adaptation into long-term county planning processes.

In 2022, AICCRA developed the Kenya Climate Smart Agriculture Investment Plan (CSAIP), which provides strategic guidance and identifies key technologies that can boost productivity and increase household incomes in a changing climate. This plan outlines potential investment opportunities to enhance sustainability and resilience.

AICCRA has been facilitating technical and institutional capacity-building workshops in Makueni, Siaya, and Taita Taveta counties. These workshops have improved stakeholders' abilities in participatory investment planning and developing viable climate investment proposals.

AICCRA plans to collaborate further with local counties to design localized investment plans and develop investment packages that promote climate-smart agricultural practices and address the specific climate challenges faced by local communities.

### What we will see:

Climate-smart agriculture investment planning with local county government

### Partners:

County Government of Makueni, Ministry of Agriculture and Livestock Development – Climate Change Unit, The National Treasury and the Kenya Climate Smart Agriculture Multistakeholder Platform



### Photo:

Alliance of  
Biodiversity & CIAT

Stakeholders from the Climate Smart Agriculture Investment Planning workshop in Makueni County.

## ILRI KAPITI RESEARCH STATION & WILDLIFE CONSERVANCY MACHAKOS COUNTY

### Description:

On our return drive to Nairobi, we will make a refreshment stop at the International Livestock Research's (ILRI) 13,000 hectare Kapiti Research Station and Wildlife Conservancy. Here we will learn about AICCRA's participatory rangeland management work and hear a presentation on the KAZNET digital information platform for livestock systems.

KAZNET is a digital crowdsourcing platform developed by ILRI where pastoralist communities collect and submit data, such as livestock market information and pasture conditions, through a smartphone app. This data assists in verifying conditions for livestock insurance payouts and provides insights into climate trends and market dynamics. Under AICCRA, KAZNET is expanding within northern Kenya, helping communities make informed decisions on how to manage their livestock by disseminating data on markets and drought effects on livelihoods and nutrition.

The platform currently involves 24 contributors across three counties, reaching 2,250 households with information, with projections to expand to 6,000 households and five counties by December 2024. The program includes engagement strategies like SMS reminders to pastoralists and studies to evaluate the platform's impact on decision-making and behavioural change.

### What we will see:

- An example of a dryland system in Kenya
- KAZNET digital information platform for dryland livestock systems

### Partners:

National Drought Management Authority (NDMA), Kenya Livestock Marketing Council (KLMC), State Department of Livestock (SDL)



Photo:  
ILRI/Paul  
Karaimu

A camel herd in Kapiti.

# Trip itinerary

Time	Activity	Facilitator
<b>Sunday May 12th</b>		
2:00 - 5.30 pm	Road travel from Nairobi to Kiboko for an overnight stay at Hunters Lodge	AICCRA Kenya team
<b>Monday May 13th</b>		
8.00 – 8.30 am	Travel from Hunters Lodge to drought-tolerant seed production site in farmer's field	AICCRA Kenya team
8:30 – 9:15 am	Transect walk at farmer's field and interactive discussion on drought-tolerant seed production	ICRISAT team
9:15 – 9:45 am	Travel from community seed production site to CSA demo on farmer's field.	AICCRA Kenya team
9:45 – 10:30 am	Transect walk and interactive discussions on CSA demonstration in farmer's field	ICRISAT team
10:30 am – 12.30 pm	Interactive discussions on CIS/CSA access and use in Makueni County	AICCRA Kenya team
12:30 pm – 1:30 pm	Lunch break	AICCRA Kenya team
1.30 pm – 4.00 pm	Travel from Makindu to ILRI's Kapiti Research Station and Conservancy in Machakos County	AICCRA Kenya team
4:00 pm – 5:00 pm	Refreshments and interactive discussions on KAZNET livestock digital information platform	ILRI team
5:00 – 6:00 pm	Travel from Kapiti to Nairobi	AICCRA Kenya team

# Environmental and social safeguards safety tips

- 1. Respect natural habitats:** Avoid disturbing natural habitats like wetlands, forests, and water bodies. Do not collect plants, disturb wildlife, or disrupt ecosystems.
- 2. Stay on designated paths:** Stick to designated routes to avoid trampling on crops or disturbing natural habitats.
- 3. Avoid disruption:** Be mindful of the ongoing activities in the research centre or farmer's fields and avoid disrupting routine workflow.
- 4. Minimize waste:** If possible carry reusable water bottles and containers to reduce plastic waste.
- 5. Avoid littering:** Properly dispose of any waste you generate during the visit in designated waste bins on the field and in the buses. Ensure that you do not leave any trash or waste behind. Carry all waste with you and dispose of it properly.
- 6. Health and safety:** Act in a way that ensures the health and safety of both visitors and local communities. Avoid any action that could endanger people's safety. If something doesn't feel right, trust your instincts, prioritize your safety, and report it to the designated E&S team. Keep personal belongings and equipment secure.
- 7. Sun protection:** Use sunscreen, wear appropriate clothing, and stay hydrated to protect yourself from the sun's effects.
- 8. Respect local customs and traditions:** Be aware of and respect local customs, traditions, and cultural norms of the farmers and communities we are visiting. Avoid any action or statement that could lead to disrespect or discrimination.
- 9. Engage local knowledge with respect:** Respect the farming knowledge and practices of local farmers. Acknowledge the value of their farming knowledge and practices before offering any advice. When interacting with farmers, approach them with respect and courtesy.
- 10. Respect privacy:** Obtain consent before taking photographs or recording any community member, their homes, or their personal information.
- 11. Prioritize local voices:** Give priority to local perspectives and listen to the experiences and concerns of farmers.
- 12. Promote inclusivity:** Ensure that interactions are inclusive, allowing different people to share their experiences and ask questions.
- 13. Offer support:** If possible, offer to share any knowledge or experiences that could benefit farmers, and local communities.
- 14. Report any concerns to the AICCRA E&S team:** Promptly report all concerns to the designated E&S team to enable them to initiate swift actions to address the issue.

# What to bring:

- A wide-brimmed hat, sunscreen and a spare change of clothes
- Pack for an overnight trip (Sunday 12 May—Monday 13 May)
- Comfortable closed shoes (it might rain, so bring an extra pair if possible)
- A reusable water bottle
- Insect repellent
- Necessary medications

Bottled water will be provided.

## Field visit contacts

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**Photo:** (right) A community volunteer in Wajir County in Kenya crouches to photograph the terrain with a tablet, part of a team assessing dryland conditions to develop a restoration plan through AICCRA's participatory rangeland management approach.



**Photo:**  
ILRI/Kristen  
Tam



Photo: IRI

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#### About AICCRA

Accelerating Impacts of CGIAR Climate Research for Africa (AICCRA) is a project that helps deliver a climate-smart African future driven by science and innovation in agriculture. It is led by the Alliance of Bioversity International and CIAT and supported by a grant from the International Development Association (IDA) of the World Bank.

Explore our work at [aiccra.cgiar.org](http://aiccra.cgiar.org)

#### Find us

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