

**Enhancing Climate Resilience among
vulnerable communities in West Pokot
County: An assessment of vulnerabilities,
Community-Led Interventions, and
Opportunities for Scaling Adaptation
Strategies**



INITIATIVE ON
Climate Resilience

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Acronyms

ABC	Alliance of Bioversity International and CIAT
AEZs	Agro-Ecological Zones
AGNES	African Group of Negotiators Expert Support
CA	Conservation Agriculture
CCPP	Contagious Caprine Pleuropneumonia
CCU	Climate Change Unit
CEC	County Executive Committee
CGIAR	Consultative Group on International Agricultural Research
CIAT	International Center for Tropical Agriculture
CIS	Climate Information Services
CSA	Climate Smart Agriculture
CSO	Civil Society Organizations
DCC	Deputy County Commissioner
EAs	Enumeration Areas
FFLoCA	Financing Locally Led Climate Action Program
FGDs	Focus Group Discussions
GCF	Green Climate Fund
GDP	Gross Domestic Product
GIZ	German Agency for International Cooperation
IGAD	Intergovernmental Authority on Development
IPCC	Intergovernmental Panel on Climate Change
IRB	Institutional Review Board
KCB	Kenya Commercial Bank
KECSAP	Kenya Climate-Smart Agriculture Project
KEPACO	Kenya Pastoralists Community Organization
KIIs	Key Informant Interviews
KMD	Kenya Meteorological Department
KWFT	Kenya Women Finance Trust
KVDA	Kerio Valley Development Authority
MLN	Maize Lethal Necrosis
MoALF	Ministry of Agriculture, Livestock and Fisheries
NCCAP	National Climate Change Action Plan
NDMA	National Drought Management Authority
NoREP	North Rift Economic Bloc
NRT	Northern Rangelands Trust
NCPB	National Cereals and Produce Board

ODK	Open Data Kit
PCRA	Participatory Climate Risk Assessment
PICS	Purdue Improved Crop Storage
PPPs	Public-Private Partnerships
PSP	Participatory Scenario Planning
PWD	People Living with Disabilities
RCMRD	Regional Centre for Mapping of Resources for Development
SACCOs	Savings and Credit Cooperative Organizations
SCAOs	Sub-County Agricultural Officers
SCIDA III	Strengthening IGAD's Capacity to Increase Resilience in the Horn of Africa
SMEs	Small and Medium-sized Enterprises
SMS	Short Message Service
SSA	Sub-Saharan Africa
VCC	Value Chain Commodities

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Key Highlights

Agricultural Production Systems: West Pokot has three primary agricultural zones: pastoral, agro-pastoral, and mixed farming. While maize is a significant crop, other commonly grown crops include sorghum, millet, groundnuts, and green grams. Livestock production varies by zone, with goats and indigenous cattle predominant in pastoral and agro-pastoral areas, indigenous chickens found countywide, and dairy cattle thriving in mixed farming zones. Promoting drought-resistant crop varieties and conservation agriculture (CA) is essential to enhance agricultural productivity and household resilience.

Climate Hazards Impacting Agriculture: Drought, rainfall variability, and extreme weather events significantly disrupt crop and livestock production, exacerbating food insecurity. These climate hazards also heighten the prevalence of pests and diseases, further challenging agricultural productivity. Scaling up climate-smart agriculture (CSA) practices, such as intercropping, drought tolerant seeds, irrigation and agroforestry, can help mitigate these impacts while promoting sustainable farming systems.

Land and Water Management Challenges: Unclear land tenure systems and open grazing practices contribute to soil degradation, while drought intensifies water scarcity. Seasonal water pans offer opportunities for better water management, particularly through the expansion of solar-powered groundwater access systems. Community ownership and management of water projects, alongside strengthened rangeland bylaws, are vital for sustainable land and water use.

Climate and Conflict Nexus: Drought and water scarcity increase competition for resources along West Pokot's borders, often fuelling conflict. Organizations like International Alert are promoting peace through community-led resource management and cross-border collaboration. Expanding these initiatives and integrating climate adaptation strategies can reduce tensions and foster long-term stability.

Community-Led Climate Governance: Local committees and bylaws on rangeland management, especially in areas like Masol Hills, encourage peaceful resource sharing and strengthen community resilience to climate stress. Efforts by the Northern Rangelands Trust (NRT) provide a model for fostering community-driven governance. Empowering communities to take ownership of resource management projects ensures greater sustainability and adaptation to climate challenges.

Climate Information Services (CIS): The county employs participatory scenario planning, integrating local and scientific knowledge to deliver tailored agro advisories. However, limited outreach—particularly in remote areas—and high illiteracy rates hinder

access to these essential climate services. Providing agro advisories in local languages like Pokot and expanding outreach through mobile platforms or community networks can improve access to critical climate information.

Climate-Smart Agriculture (CSA): West Pokot promotes CSA practices, such as drought-resistant crops, conservation agriculture (CA), and intercropping. These practices improve household resilience and support sustainable development. To address barriers such as high costs and limited knowledge, capacity-building initiatives and subsidies can help expand the adoption of CSA.

Climate Finance: Awareness of climate finance remains low among stakeholders in West Pokot. Many lack clarity on its mechanisms and benefits, and services like crop and livestock insurance are underutilized. Introducing a pilot grant-based climate finance program can increase awareness and adoption while fostering resilience to climate-related shocks.

Post-Harvest and Market Services: Inadequate storage facilities and limited value addition expose farmers to post-harvest losses and aflatoxin contamination. Additionally, market price controls by the National Cereals and Produce Board (NCPB) restrict farmers' financial autonomy. Investments in improved storage infrastructure and value addition facilities are critical to reducing losses and enhancing farmers' income.

Gender and Climate Vulnerability: Traditional gender roles limit women's access to resources and decision-making, heightening their vulnerability to climate risks. Gender-sensitive programs that empower women in agriculture, income generation, and resilience planning are essential. These interventions should address resource access inequities and enhance women's participation in decision-making processes.

Executive Summary

This study evaluates climate resilience among vulnerable communities in West Pokot County, Kenya. The study identifies key climate vulnerabilities, adaptation practices, and opportunities for targeted interventions to enhance resilience and food security. West Pokot faces significant climate challenges, including recurring droughts, unpredictable rainfall, floods, and landslides, which disrupt agricultural activities. These impacts exacerbate food insecurity and economic instability, particularly in pastoral and agro-pastoral zones. Gender-specific challenges also emerged as a significant concern, with women in rural areas facing notable barriers in accessing agricultural resources and participating in decision-making processes. Traditional gender roles and limited economic opportunities heighten women's vulnerability to climate impacts.

Despite employing adaptation strategies such as water pans, drought-tolerant varieties, and resilient livestock breeds, adoption remains low, due to limited resources, knowledge gaps, and accessibility issues. CIS often fail to reach marginalized communities due to inadequate dissemination, low literacy levels, and insufficient digital access. Awareness of climate finance mechanisms is minimal, further constraining farmers' ability to mitigate risks and recover from climate shocks.

Several potential intervention areas have been identified to address these challenges. These include promoting CSA practices such as drought-resistant crops, conservation agriculture, and integrated pest management, enhancing the dissemination of climate information in local languages through community networks, and increasing awareness of climate finance. Additionally, implementing gender-sensitive programs to empower women and developing community-led water and land management solutions are critical for addressing immediate adaptation needs while building long-term resilience.

The study emphasizes the importance of integrating local knowledge with scientific approaches to ensure relevance and effectiveness. Gender inclusivity must be prioritized in program design to address resource access inequities and empower women in decision-making. Strengthening community-based governance systems for sustainable resource management and fostering collaboration among stakeholders will be crucial for success. Coordinated efforts and sustained commitment are essential to build adaptive capacity at both the household and community levels, ensuring sustainable development in the County.

The findings and recommendations in this study provide a pathway for scaling resilience strategies, enhancing food security, and fostering sustainable development. These insights offer scalable solutions for other climate-vulnerable regions.

1. Introduction

Climate change represent one of humanity's most pressing contemporary challenges, fundamentally altering global ecosystems and economic systems. According to the Intergovernmental Panel on Climate Change (IPCC), global mean temperatures have increased by approximately 1.1°C since pre-industrial times, with anthropogenic greenhouse gas emissions serving as the primary driver (IPCC, 2021). This significant warming trend has catalysed an intensification of extreme weather events, manifesting in severe heat waves, extended droughts, and catastrophic storms, while concurrently accelerating sea-level rise and destabilizing precipitation patterns (IPCC, 2013; AghaKouchak, 2020). IPCC emphasizes that without immediate mitigation measures and enhanced adaptive capacity, global temperatures will exceed the critical 1.5°C threshold, precipitating irreversible ecological damage and exacerbating socioeconomic vulnerabilities among vulnerable populations (IPCC, 2021). These climatological shifts present substantial threats to global food systems, water security, public health outcomes, and livelihood sustainability, particularly in regions characterized by high dependence on natural resources and agricultural production (Berhane, 2018; Lombamo, 2021).

The consequences of these changes are severe in Sub-Saharan Africa (SSA), where agricultural communities are highly reliant on rainfall and face significant barriers to adaptation. Across the region, irregular precipitation patterns, prolonged drought conditions, and extreme temperature events have contributed to declining agricultural productivity and worsening food insecurity (Omotoso et al., 2023). Small-scale agricultural producers, who dominate SSA's farming population, are particularly vulnerable due to limited access to climate-resilient technologies, financial instruments, and extension services (Mutengwa et al., 2023). Climate change further compounds existing environmental stressors, such as soil degradation, water resource depletion, and pest infestations, intensifying rural poverty and exacerbating socioeconomic disparities (Huyer et al., 2020). Addressing these challenges requires the integration of climate-resilient agricultural practices, sustainable resource management strategies, and inclusive development policies to enhance the region's adaptive capacity.

Kenya mirrors these regional challenges, grappling with recurrent droughts, erratic rainfall, and frequent floods that disrupt agricultural systems and undermine community resilience (Wineman et al., 2016). The agricultural sector, a cornerstone of Kenya's economy, contributes approximately 33% of Gross Domestic Product (GDP) and supports 75% of the population, making it particularly susceptible to climate variability. Droughts have caused severe water shortages, reduced crop yields, and significant livestock losses, particularly in arid and semi-arid regions. Conversely, flooding events have inflicted extensive damage on infrastructure, displaced communities, and disrupted market access, particularly in flood-prone areas (D'Alessandro et al., 2015). In response, the Kenya National Climate Change Action Plan (NCCAP) 2023-2027 outlines adaptation priorities, including climate-smart agriculture (CSA) and enhanced disaster risk management protocols, aiming to mitigate climate impacts while promoting sustainable development (Government of Kenya, 2023).

These national challenges are evident in West Pokot County, where climate change poses profound risks to agriculture and livelihood (Obwocha et al., 2022). The county experiences a range of climate hazards, including recurring droughts, floods, heat stress, and a rise in pest and disease prevalence (Kiplagat et al., 2023; Misiani et al., 2022). These extreme weather events have become more frequent and unpredictable, threatening the livelihoods of households reliant on agriculture and pastoralism. For instance, droughts have caused severe crop failures and livestock losses, while floods have damaged infrastructure, displaced communities, and disrupted market access (Kiplagat et al., 2023; Obwocha et al., 2022). Climate projections suggest these hazards will intensify, further exacerbating vulnerabilities unless immediate and sustained interventions are implemented.

The predicted climate scenarios paint an increasingly concerning picture for agriculture, water resources, and community resilience in West Pokot. Rising temperatures, erratic rainfall patterns, and prolonged droughts are expected to worsen food insecurity, reduce agricultural productivity, and undermine water availability (Wambua, 2019). Without targeted interventions, these conditions could deepen poverty and drive migration in search of pasture, potentially escalating conflicts among neighbouring communities. The implications for the county's socio-economic development are severe, underscoring the urgency of adopting adaptive strategies, robust planning, and investments in climate-resilient practices and infrastructure.

The County Government of West Pokot has implemented initiatives to address these climate challenges, including participatory scenario planning (PSP), promotion of CSA practices, and engagement in public-private partnerships (PPPs) (County Government of West Pokot, 2023b). However, these efforts face limitations, such as inadequate outreach to remote areas, resource constraints, and limited implementation capacity. These highlight the need for complementary interventions that leverage technological advancements, foster inclusive governance, and enhance access to climate finance and capacity-building initiatives. Addressing these gaps is critical to strengthening the county's climate resilience and achieving sustainable development.

This study was conducted under the Green Climate Fund (GCF) project proposal, *Enhancing Climate Resilience and Food Security to Empower Vulnerable Communities in Kenya*. Its primary goal was to collect evidence on the challenges, opportunities, and conditions in West Pokot to inform and shape proposed interventions under the GCF project. The study aimed to ensure that these interventions are aligned with the needs and priorities of local communities while addressing the systemic vulnerabilities exacerbated by climate change.

The study pursued several objectives, including collecting comprehensive data through household surveys, focus group discussions (FGDs), and key informant interviews (KIIs). It also sought to validate findings from desk reviews, including priority value chains, major climatic hazards, CSA technologies practiced by smallholder farmers, and gender assessments within the county. Additionally, it aimed to identify community-driven climate initiatives and assess the feasibility of proposed interventions. This multi-faceted approach is intended to develop effective, evidence-based strategies for enhancing

resilience, food security, and sustainable development among vulnerable communities in West Pokot, including indigenous groups, people living with disabilities (PWDs), women, and youth.

The findings of this study provide critical insights into the specific challenges and opportunities faced by communities in West Pokot. They will guide the design of targeted interventions to address these issues and ensure the efficient allocation of resources. Furthermore, the results will inform policy recommendations and support the successful implementation of the GCF project. The relevance of this study extends beyond West Pokot, offering lessons and scalable strategies for climate adaptation in other vulnerable regions.

The remainder of this study is structured as follows: Section 2 outlines the methodology, including the study area and data collection approaches. Section 3 presents the findings, covering prioritized value chains, climate vulnerabilities, adaptation practices, water resource management, and market access. Section 4 concludes with actionable recommendations, a summary of key findings, and their implications for enhancing resilience and food security in West Pokot.

2. Methodology

This section outlines the methodology employed to assess climate vulnerabilities, adaptation strategies, and agricultural practices in West Pokot County. A mixed-methods approach was adopted, integrating household surveys, FGDs, and KIIs to gather comprehensive data from diverse stakeholders while ensuring statistical representation of households. The methodology is structured into four key components: (1) an overview of the study area; (2) a data collection strategy; (3) a sampling framework designed to target smallholder farmers in selected sub-counties; and (4) data management and quality assurance procedures aimed at maintaining the validity and reliability of the data collected.

2.1 Study Location

West Pokot County is located in Kenya's Rift Valley region and covers approximately 9,169 square kilometres. It shares its western border with Uganda and is bordered by Turkana County to the north, Baringo County to the southeast, Elgeyo Marakwet County to the south, and Trans Nzoia County to the south and southeast. Its diverse geography features mountains, valleys, and plateaus, resulting in varied agro-ecological zones (AEZs), as shown in Figure 1 below. Prominent features include the semi-arid lowlands and the highlands, notably the Cherangani Hills, which rise to an altitude of 3,370 meters above sea level (County Government of West Pokot, 2019).

The county experiences a semi-arid to arid climate with bimodal rainfall patterns: the long rains typically occur from March to June, while the short rains fall between September and November. Annual rainfall ranges from 400 mm in the lowlands to approximately 1,500 mm in the highlands (Obwocha et al., 2022). However, rainfall patterns have become increasingly unpredictable due to climate change, posing challenges for agriculture, water resource management, and livelihoods.

Administratively, West Pokot is divided into six sub-counties: Pokot Central, Pokot South, Kipkomo, West Pokot, Kacheliba, and Pokot North. According to the 2019 census, the county has a population of 621,241, with 69% living below the poverty line (County Government of West Pokot, 2023b). Most residents depend on agriculture and livestock rearing, which employ over 80% of the population (Ministry of Agriculture, Livestock and Fisheries [MoALF], 2016).

The spatial distribution of AEZs in West Pokot reflects its diverse topographical and climatic conditions (Figure 1). These zones range from semi-arid lowlands, suited for livestock rearing and drought-tolerant crops, to fertile highlands where mixed farming dominates. The highlands are primarily utilized for intensive crop production and dairy farming, while the lowlands support pastoralism and small-scale cultivation of drought-resistant crops. The data for AEZ mapping was sourced from the Regional Centre for Mapping of Resources for Development (RCMRD)¹ website (RCMRD, 2023).

¹ https://opendata.rcmrd.org/datasets/df93251e9fd744d88d7732e15de35252_0/explore?location=0.334262%2C37.916644%2C6.17

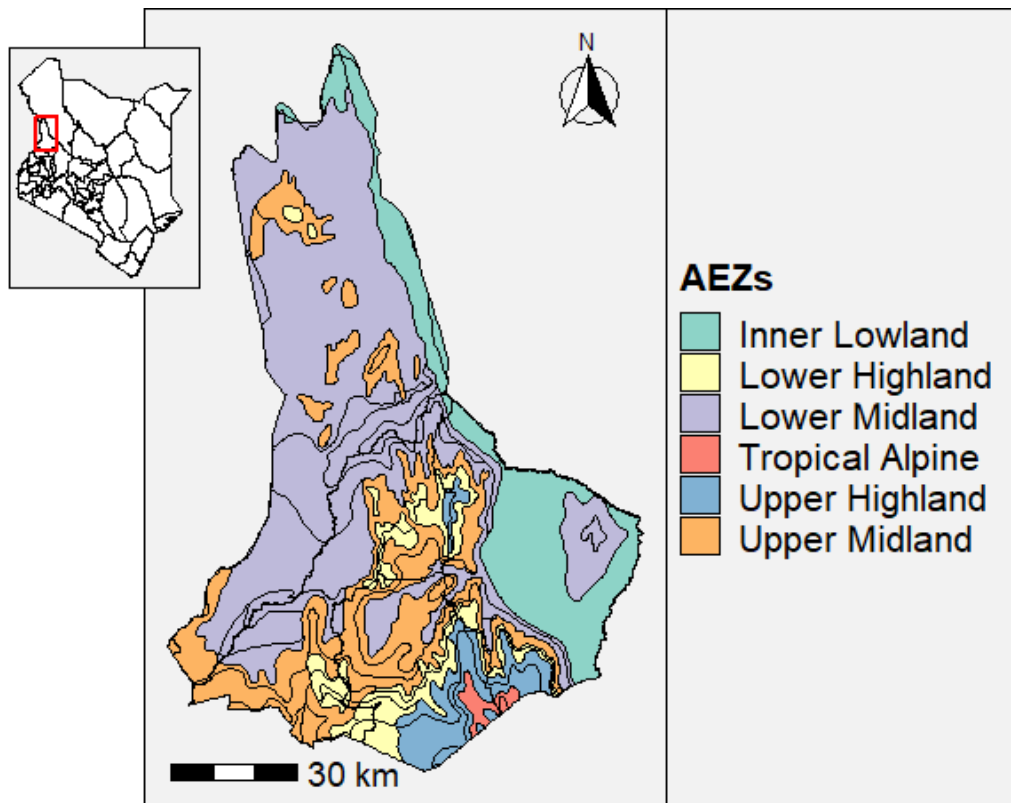


Figure 1. Spatial distribution of agro-ecological zones in West Pokot County.

Despite its agricultural and natural resource potential, West Pokot faces significant challenges, including resource scarcity exacerbated by climate change. This has resulted in periodic conflicts among pastoralist communities, particularly over water and grazing land (Huho, 2012). However, the county also holds considerable opportunities for economic development. Its rich natural resources, including limestone and precious stones, present prospects for industrial growth (County Government of West Pokot, 2023b), while tourism is emerging as a key sector (Cherop et al., 2019), with attractions such as the Cherangani Hills, Turkwel Gorge, and cultural heritage sites drawing increasing interest.

2.2 Data collection methods

This study employed a mixed-methods approach, utilizing three primary data collection techniques: KIIs, FGDs, and household surveys. Triangulating these methods ensured comprehensive data collection and validation across diverse stakeholder groups.

KIIs were conducted with institutional stakeholders to gather expert insights and institutional perspectives on climate resilience, agricultural practices, and value chain challenges and opportunities in West Pokot County. Participants included representatives from financial institutions, such as the agriculture credit officer from Equity Bank; government agencies, including the Director of the Climate Change Unit (CCU), County Director of Agriculture, County Director of Livestock, Kenya Meteorological Department (KMD), and National Drought Management Authority (NDMA); and private sector actors, such as PAVES Agrovet. Development partners, including the German Agency for International Cooperation (GIZ) and Northern Rangelands Trust (NRT), and civil society organizations (CSO), such as

Youth Bunge and Kenya Pastoralists Community Organization (KEPACO), also participated. Additional interviews were held with local government representatives, including Sub-County Agricultural Officers (SCAOs), to capture localized insights and experiences.

FGDs were conducted with distinct demographic segments: men and women over 35 years, youth, and mixed-age groups spanning different genders. To capture traditional knowledge, a dedicated FGD was held with the indigenous Sengwer community in Siyoi Ward. This strategic segmentation yielded rich, multifaceted insights into community perspectives and lived experiences.

The study surveyed household heads aged 18 and above who practiced small-scale agriculture in West Pokot County. The sampling frame encompassed all smallholder farmers across the region's diverse agro-ecological zones, capturing both crop and livestock farming systems. This enabled us to assess agricultural practices, climate vulnerabilities, and adaptation strategies while ensuring representation of varied perspectives from men, women, and youth actively engaged in farming in the county.

2.3 Sampling strategy and sample size

The household survey targeted smallholder farmers in West Pokot County and did not rely on a formal sampling frame. A total of 420 farmers were interviewed. Two sub-counties, Pokot Central and Kacheliba, were selected for the survey based on guidance from the county government. These areas were chosen due to their prominence in the production of key value chains and their vulnerability to climate-related risks, such as water scarcity. Figure 2 provides a visual overview of the spatial distribution of the sampled households across the selected wards in these sub-counties. Within each sub-county, two wards were selected, followed by one location per ward and two sub-locations per location, resulting in eight enumeration areas (EAs) from which respondents were drawn. In each EA, at least 50 smallholder households were targeted for interviews.

In Pokot Central, the four wards selected include Lomut, Masol, Sekerr, and Wei Wei. After consulting the sub-county administration, Wei Wei and Lomut wards were purposively selected. Wei Wei ward includes three locations: Wei Wei, Muino, and Kopro. Wei Wei location was chosen to represent the ward, and within it, two sub-locations, Korellach and Sanga't, were selected as enumeration areas. Relatedly, Lomut ward has three locations: Lomut, Cheptulel, and Sekerrot. For the survey, Lomut and Cheptulel locations were purposively selected. In Lomut location, Ptiasis sub-location was sampled, while in Cheptulel location, Nyorpotwo sub-location was selected.

Kacheliba sub-county comprises six wards: Suam, Alale, Kodich, Kiwawa, Kasei, and Kapchok. Suam and Kodich wards were purposively selected. Kodich ward consists of three locations: Kodich, Lokichar, and Cheranga. Kodich location was chosen for the survey, and two of its sub-locations, Kodich and Chematajor, were selected as enumeration areas. In Suam ward, Suam location was sampled, and within it, Suam and Ngengechwa sub-locations were selected as enumeration areas.

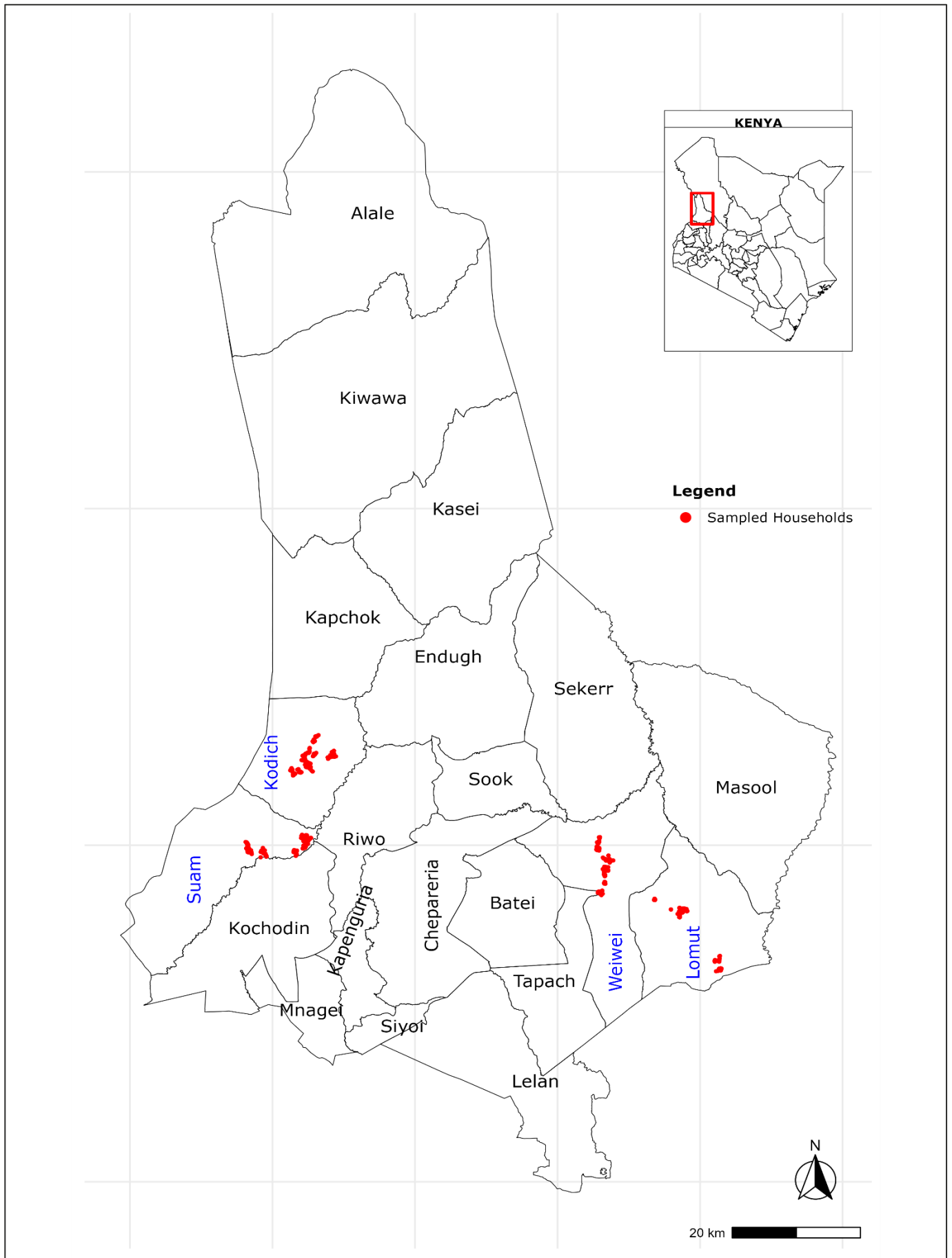


Figure 2: Administrative Wards and Distribution of Sampled Households in West Pokot County

Each day, the first household was selected randomly, and enumerators then skipped two households before interviewing the third. This process continued until five interviews were completed per day per enumerator. Only decision-makers aged 18 or older (male or female) who provided consent participated in the survey. A women empowerment module was administered exclusively to female decision-makers.

Figure 2 illustrates the spatial distribution of the randomly sampled households across the four selected wards in West Pokot County: Suam, Kodich, Lomut, and Wei Wei (highlighted in blue). Although random sampling was used, the clustering of households (represented by red dots) reflects the typical settlement patterns within the village communities. The spatial arrangement shows varying household densities concentrated within the eight enumeration areas, consistent with local settlement structures.

2.4 Data Management and Quality

To enhance the quality and reliability of data, household questionnaires were administered using Open Data Kit (ODK) and hosted on the ONA platform. This approach allowed for data validation through built-in quality checks, including relevance settings, constraints, and appropriate question types. Data collection tools were piloted beforehand to test their logical flow and reliability. CIAT staff monitored the entire data collection process in the field, ensuring that enumerators uploaded forms daily for real-time review and validation. FGDs were recorded and supplemented with detailed notetaking to ensure that no key points were overlooked. Similarly, virtual KIIs were recorded with the respondents' consent to ensure accuracy and comprehensiveness.

The data collection team comprised eight enumerators carefully selected in collaboration with the West Pokot County Climate Change Unit. These local enumerators were chosen strategically for their knowledge of the region, including local routes, community locations, and the seasonal accessibility of different areas, which facilitated smoother and more efficient data collection. Fluency in the Pokot language was particularly important, given the relatively low literacy levels in the region. Many community members, especially the elderly and those in remote areas, felt more comfortable communicating in their native language. This linguistic proficiency allowed enumerators to translate complex climate and agricultural concepts into simpler, more accessible terms, thereby improving the accuracy of the data and minimizing the risk of misinterpretation. They were able to achieve this because of the rigorous training we provided for them before they started the data collection exercise. This two-day training included going through the data collection tool and role playing to ensure that they understood how it worked.

In addition to their language skills, the enumerators' deep understanding of local cultural norms, traditional practices, and social structures significantly contributed to the quality of the data collected. Their awareness of gender roles and community hierarchies enabled them to approach sensitive topics, such as household assets, livestock ownership, and climate-related challenges, with cultural sensitivity. This approach fostered trust and openness among respondents, ensuring that they felt comfortable sharing accurate information.

3. Findings

This section presents the results of our climate resilience study in West Pokot County. We gathered information through KIIs and FGDs targeting diverse audiences, including men, youths, women, and indigenous communities, specifically the Sengwer people of Siyoi Ward. These discussions helped us understand how climate change affects the region, the farming methods people use, and how communities adapt to changing weather patterns.

We organize our findings into six themes: challenges in farming and livestock production, weather information services, ways people adapt to climate change, water management, roles of men and women, climate finance, and how climate issues are managed. For each area, we examine current problems, existing solutions, and new opportunities to help West Pokot better handle climate challenges.

3.1 Climate vulnerabilities across the prioritized value chains

Discussions during key KIIs and FGDs identified maize and goats as the primary value chains in West Pokot County, due to their significance for both dietary and economic purposes. Maize serves as a staple food and is highly valued within the community, while goats play a crucial role in meeting household economic needs. For example, households often sell goats to address urgent financial demands such as school fees or medical expenses. However, despite its importance as a food crop, most respondents highlighted maize as an increasingly unviable option due to its vulnerability to climate-related risks. Other promising value chains in the county include beekeeping, sorghum, millet, green grams, groundnuts, mangoes, and indigenous chicken.

West Pokot County's agricultural systems have been severely impacted by extreme weather events and shifting climatic patterns. Drought and irregular rainfall have led to reduced agricultural production, leaving vulnerable households increasingly susceptible to food insecurity. Additional climatic hazards, such as floods, landslides, and heat stress, further exacerbate these challenges.

Pests and diseases also threaten agricultural production in the county, often proliferating during extreme weather conditions, particularly dry spells. The maize value chain is affected by pests and diseases such as stalk borers, weevils, and fall armyworms. Similarly, the goat value chain is susceptible to several diseases, including Contagious Caprine Pleuropneumonia (CCPP), which is prevalent during the wet season and significantly increases goat mortality rates. Farmers also reported issues like "Luokoi" and a circling disease known locally as "Kapur," which are difficult to treat and often arise due to inadequate pasture. During dry spells, diarrheal diseases are also common among goats, further threatening livestock health and productivity.

The Sengwer community faces unique climate-related challenges, including flooding from excessive rainfall, unpredictable rainfall patterns, and prolonged droughts. Excessive rainfall affects crops through soil erosion, crop flooding, delayed harvesting, and increased disease incidence. It also impacts livestock, leading to flooding and an increase in diseases. Prolonged droughts result in withering crops, decreased livestock feed, malnourished animals, and, in some cases, livestock deaths.

Land tenure and management present additional challenges to agricultural production. The lack of clear title deeds and land boundaries has encouraged open grazing practices, leading to widespread soil erosion and land degradation.

Water scarcity remains a critical issue, exacerbated by recurrent droughts, which cause moisture stress in crops and reduce access to pasture and water for livestock. However, the county benefits from abundant rivers, seasonal streams, and groundwater resources. Water harvesting technologies, such as water pans, are in place and serve as effective water management tools, particularly given the predominantly communal land ownership in the region. Harnessing groundwater, particularly through solar-powered technologies, presents a viable opportunity for improving water access for communities.

Climate change impacts the county's value chains differently, with some of the key challenges disaggregated by value chain as follows:

Maize and Sorghum: Variability in the onset and cessation of rainy seasons negatively affects maize and sorghum production. Additionally, pests and diseases such as Maize Lethal Necrosis (MLN), fall armyworms, and maize rust severely compromise productivity. Excessive rainfall and flooding further impede proper maize drying, increasing the risk of aflatoxin contamination.

Green Grams: Both dry spells and heavy rainfall adversely affect green gram production and marketing. While most farmers grow green grams for subsistence, heavy rains often render road networks impassable, limiting access to inputs and markets. Wet conditions also exacerbate bruchid infestations, compromising crop quality.

Goats and Cattle (Meat): Increased heat stress and unreliable water availability heighten competition for pasture and water, while also contributing to a rise in livestock diseases. These factors collectively reduce meat production. Additionally, flooding leads to more frequent disease outbreaks, which increases the need for veterinary services. However, poor road networks hinder farmers' access to veterinary care and negatively impact livestock marketing opportunities.

3.2 Climate Conflict and Governance

There is a significant relationship between climate change and conflict in West Pokot County, particularly in the Kerio Valley, which straddles the borders of Elgeyo Marakwet, Baringo, and West Pokot Counties. Additionally, the county borders Turkana in the Pokot Central region, including areas such as Masol. Climatic stresses, such as drought and water scarcity, are major factors aggravating fragility and conflict in these regions. Traditional pastoralism, still practiced by many communities, often leads to competition over limited resources like pasture and water, resulting in disputes and violence.

International Alert is a key institution operating in the county, focusing on climate conflict and governance. Its efforts aim to leverage climate action as a pathway to peace by addressing challenges related to natural resource management. Community-level natural resource management committees play a crucial role in facilitating equitable access to resources, including in neighbouring areas, through

non-confrontational means. This approach provides a feasible alternative to conflict-driven resource acquisition and promotes cooperation in accessing critical resources like grass and water.

International Alert has also worked to strengthen climate governance structures, including cross-border resource management committees between the Marakwet and the Pokot communities. This inter-community engagement fosters peace and enhances cohesion by promoting equitable resource sharing, reducing livestock theft, and facilitating quicker recovery after conflicts. These efforts serve as an alternative dispute resolution mechanism, reinforcing the role of elders in addressing resource-related conflicts.

Community-led processes around rangeland management have also been emphasized. Some communities have established bylaws to regulate resource use, which serve as effective adaptation strategies requiring further support to increase the adaptive capacity of local populations. For example, in Alale, range management committees oversee rangelands, with elders enforcing established rules.

Masol Hills, historically reserved as a dry season grazing area, once functioned as a critical resource reservoir. However, unsustainable practices have degraded this area over time. In the event of drought, resource scarcity exacerbates time-bound conflicts. To address these challenges, International Alert has collaborated with local conservancies to promote community-led approaches, resulting in peace-building outcomes and enhanced resilience to climate shocks.

3.3 Climate Information Services (CIS)

Early warning systems are crucial climate information services that help prepare communities for climate-related risks. In West Pokot, weather forecasts and agro advisories are generated and disseminated by KMD and NDMA. The county employs PSP approach, which brings together key stakeholders each season. These meetings include professional experts and indigenous knowledge holders who collaboratively interpret both scientific and local knowledge into locally relevant and actionable information.

Agro advisories developed during these meetings provide guidance on various topics, such as selecting appropriate seed varieties for the season, managing expected pests and diseases, and marketing strategies. This expert information is consolidated into a dissemination plan. The primary channels for sharing this information are local radio stations and monthly bulletins, which are translated into the local language and distributed during community barazas. Additional dissemination methods include extension officers, workshops, and digital platforms such as emails and Short Message Service (SMS).

To enhance digital agro-advisory services, PAVES VETAGRO Agrovets has developed a mobile application offering consultancy services, soil testing, and an e-commerce platform where farmers can purchase agricultural inputs. However, access to climate information remains a challenge, particularly in remote areas. The high farmer-to-extension officer ratio (approximately 1:2400) limits outreach, while low literacy levels and a lack of smartphones among farmers hinder the uptake of digital information. Furthermore, the dissemination of information is often constrained by funding, leaving many farmers

without critical updates. The pastoral lifestyle of some residents, who frequently migrate, also limits the effectiveness of area-specific climate information.

Insights from the Sengwer community highlight a preference for receiving climate information through community meetings with local leaders, climate change training sessions, printed booklets or manuals, and integration of climate information with emergency response efforts.

For CIS to be effective, weather advisories must be localized and disseminated at the ward and village levels. Strengthening partnerships with local administrators can expand the reach of advisories through barazas, while increasing the resource capacity of extension officers is essential for broader and more equitable access to climate information across the county.

3.4 Adaptation practices, strategies and technologies

3.4.1 Climate smart agriculture technologies (CSA)

CSA is a critical approach for addressing the dual challenges of food security and climate change. This holistic framework has been adopted by West Pokot County to promote sustainable development while enhancing resilience to climate-related risks.

The county promotes various CSA practices and technologies tailored to its agro-ecological conditions and socio-economic contexts. These include cultivating drought-resistant crops such as sorghum, millet, green grams, and cassava, as well as early maturing maize varieties. In the lowlands, farmers grow the "Katumani" 5-series maize, while the 614 variety, which is more drought-tolerant, is favoured in the higher elevations.

Conservation agriculture (CA) practices, such as crop rotation, minimum tillage, and the use of cover crops, are also being implemented. In Lomut, farmers have adopted sweet potatoes as cover crops, while in Pokot North, the fallow system is widely practiced. To improve soil fertility, intercropping maize with beans and applying farmyard manure have become common practices.

Farmers are also addressing pest and disease challenges by adopting pest- and disease-tolerant crop varieties and livestock breeds. Integrated pest management techniques, such as pest and disease scouting and monitoring, have further bolstered these efforts.

These CSA practices enhance agricultural productivity while conserving natural resources. Their benefits include increased household incomes, improved dietary diversity, and strengthened resilience to climate-related risks. By reducing vulnerability and exposure to climate shocks, these practices enhance farmers' adaptive capacities. Furthermore, they contribute to climate change mitigation by reducing greenhouse gas emissions and promoting carbon sequestration in plants and soils.

CSA practices are primarily promoted through farmer training programs led by extension officers, who use farmer groups and demonstration plots as teaching tools. However, challenges such as insufficient funding and workforce limitations hinder widespread adoption. Many farmers lack awareness of these practices, including their specific benefits and applications.

Adoption is further constrained by underlying factors, such as the high cost of certified seeds and pasture seeds. Some CSA technologies, such as soil and water conservation practices (e.g., solarized irrigation and rainwater harvesting), are prohibitively expensive for smallholder farmers.

Despite these challenges, there are notable successes in the county. For instance, the Lomut Livestock Market features strategically placed hay stores along migratory routes, and demonstration farms in Lomut and Masol have established hay structures. The Nasukuta Livestock Improvement Centre has also proven effective in multiplying Galla goats, which are sold to farmers at affordable prices to improve livestock breeds. Scaling up pasture production could further amplify these successes. Additional measures, such as controlling invasive species, implementing soil and water conservation techniques, and rehabilitating degraded areas for pasture production, are crucial for sustaining these interventions.

These CSA practices have demonstrated their effectiveness and inclusivity, particularly in addressing gender sensitivities. However, a significant challenge lies in the community's focus on "hardware" (e.g., physical infrastructure) rather than "software" (e.g., training and capacity building). This emphasis undermines the sustainability and continuity of CSA technologies, especially when projects are time-bound and conclude after a specific period.

For the Sengwer community, current CSA practices include soil conservation through terracing, timely planting, use of improved seeds, manure application to enhance soil fertility, and livestock management using improved cattle breeds. Although the Sengwer have been introduced to CSA technologies through the Kenya Climate-Smart Agriculture Project (KECSAP), adoption has been limited due to the project's top-down approach. The Sengwer emphasized the need for participatory methods tailored to their specific needs. They also highlighted barriers to CSA adoption, including insufficient training in terrace construction, limited access to land and financial resources, and restricted decision-making opportunities for women and youth.

3.4.2 Water resource use and management

West Pokot is preceded by water scarcity, erratic and reduced rainfall and the frequent occurrence of long dry spells. Water security is a serious and growing concern for this county. To cope with these complexities and the water related challenges, the county will need to improve the way they manage their water resources.

There are ongoing concerted efforts by various actors in the county in promoting water resource management technologies. There are investments in innovative technologies for enhancing productivity, conserving and protecting resources such as community boreholes, micro-water harvesting structures at the household level, irrigation, especially sprinkler and drip irrigation, are widely adopted in the county (e.g. Kipkomo).

There are earth fill dams and pans across the county that contribute significantly to water storage, providing a controlled water supply for agricultural and domestic purposes. This helps in mitigating water scarcity issues and supporting sustainable water management practices. The low land areas of Pokot

should be more prioritized as they are characterized by water scarcity and related challenges. Another feasible pathway is community ownership of these projects to encourage ownership. The only challenge is the high costs affiliated to such investments. Additionally, land is majorly freehold and communally owned, especially in the lowlands therefore there is the limitation of investment by the farmers.

Relatedly, the adoption of perennial crops is not so high. This is an important intervention that can be tapped in as an adaptive mechanism to water resource management. Mass tree planting promotion can be promoted in the county as well to rehabilitate degraded lands while also conserving the soil and water resources.

3.4.3 Rangeland Conservation and Management

NRT Programme focuses on building the capacity of community conservancies in grazing management through grazing committees and conservancy leadership. Specifically, it supports conservancy plans to develop rangeland plans at the conservancy level, identifying priority areas for rangelands management, and adopting a landscape-level approach. West Pokot currently lacks an established county rangeland management plan, but efforts are underway to develop one. Additionally, there are efforts to help with community outreach activities to raise awareness and garner support for rangelands management. Notably, there is widespread community support in conservancies with active rangeland management programs, including increasing involvement of women.

Farmers in the county are also involved in pasture and fodder production of adaptable varieties and natural pastures such as Napier grass, Boma Rhodes. The county and national government are spearheading these interventions in the county. The latter is implementing 100 acres of pasture establishment in Pokot North and the promotion of livestock sale yard markets to help in the offtake. Livestock sale yard is widely spread. Relatedly, the county is implementing control of endemic diseases by managing the rangelands to avoid the invasive species taking over pastureland.

Additionally, there is the promotion of enclosing and herd bunching. Bunching behaviour in livestock is to respond to climate related stresses and shared interest in resources such as feeding or watering areas. This practice is mostly promoted in the low-lying areas of the county such as Masol that are characterized by hot and dry conditions and to promote sharing of pasture.

GIZ, in partnership with West Pokot County and other stakeholders, is engaged in efforts to build climate resilience, particularly through the Strengthening IGAD's Capacity to Increase Resilience in the Horn of Africa (SCIDA III) project, which operates under the Intergovernmental Authority on Development (IGAD) to enhance drought resilience across the Horn of Africa. SCIDA III focuses on capacity building for local stakeholders in sustainable agricultural practices and livestock management, resource management to promote efficient water use and sustainable land practices, and community engagement to ensure inclusive decision-making in climate adaptation and resource management.

3.4.4 Post Harvest Loss Management and Market Access

Post-harvest management practices in West Pokot present significant challenges for smallholder farmers, particularly in maize production. According to insights from KII and FGDs farmers face multiple constraints in storage, preservation, and marketing of their produce.

Storage infrastructure and practices vary among farmers, with most utilizing traditional home storage methods. While some farmers have adopted improved storage technologies such as PICS (Purdue Improved Crop Storage) bags and treated wooden platforms, the majority still rely on conventional plastic bags and basic storage facilities. The use of grass-thatched storage units, particularly in farm locations, increases vulnerability to moisture, mold development, and theft. The adoption of improved storage technologies remains limited, primarily due to their high costs and limited availability.

Post-harvest losses are primarily attributed to multiple factors including storage pests (predominantly weevils). The major storage insect pests include the larger grain borer *Prostephanus truncatus* (Horn) (Coleoptera: Bostrichidae), maize weevil, *Sitophilus zeamais* (Motschulsky) which is common in the county, inadequate drying practices, and poor storage conditions. High moisture content during storage increases the risk of aflatoxin contamination. Some farmers employ traditional pest control methods, such as using ash as a natural insecticide. Organizations working in the region have provided drying mats to some farmers to improve the drying process and reduce storage pest infestation.

Value addition opportunities remain limited in the region. Currently, maize processing is primarily confined to flour production, with only one large-scale miller operating in the county. At the community level, processing is limited to local posho mills. This lack of diversification in value addition constrains potential income opportunities for farmers.

Marketing challenges in the county are evident within the current system. The National Cereals and Produce Board (NCPB) determines market prices, leaving farmers with little control over pricing. Additional challenges include inadequate market information and low market prices, often forcing farmers to prolong storage periods, which further increases the risk of quality deterioration and pest damage.

The Sengwer community highlighted similar challenges during FGDs. Their post-harvest handling practices are basic, with maize primarily stored at home in plastic bags or on treated wooden platforms. They reported significant losses from pests, mold, and theft, which reduce year-round food availability and household income. They expressed a need for technical and financial support to improve maize storage and for resources to enable value addition to products such as milk. Transportation challenges further exacerbate these issues, as most produce is transported via motorcycles, with roads becoming impassable during the rainy season. This severely limits access to markets. Currently, farmers sell their produce to neighbours, middlemen, or at Siyoi Market but face oversupply, low demand, and delayed payments from the NCPB, all of which diminish their profit margins.

3.5 Gender roles, inclusivity and vulnerabilities

In West Pokot, gender relations are significantly influenced by traditional cultural norms. Field observations indicate pronounced educational disparities, with men generally having higher access to formal education while early marriage practices affect women's educational attainment. The practice of polygamy remains culturally accepted for men, reinforcing traditional gender hierarchies.

Gender-specific roles are clearly defined in agricultural activities and household management. Men primarily control decision-making regarding livestock management, particularly in goat farming, and are responsible for seasonal migration in search of pasture and water. Women bear multiple responsibilities including domestic duties, water collection, house construction, and agricultural labour. In maize production, while women and youth provide significant labour input, men retain control over harvest utilization and income management.

Economic participation shows distinct gender patterns. Men dominate formal economic activities and control major household assets and income. Women's economic participation is largely confined to informal sectors and manual labour, particularly when coping with crop losses due to climate-related hazards. Professional women show increasing resource access, though local women remain largely dependent on their husbands for economic resources.

Agricultural activities reflect strong gender segregation. In Pokot North, men control both goat and chicken farming, while in Pokot Central, women have some autonomy in poultry management. Labor distribution shows women and youth handling feeding and daily care of livestock, though men retain decision-making power regarding sales and distribution. Similar patterns exist in crop production, where women provide labour but have limited control over produce management.

Gender-specific vulnerabilities to climate change are evident. Women face increased pressure due to their role as primary food providers and their responsibility for water collection, often walking more than 5 kilometers daily during drought periods. Young girls may resort to early marriage as a coping strategy during climate stress, while boys often drop out of school to manage livestock. Women in low land areas experience heightened vulnerability due to combined domestic and agricultural responsibilities, limiting their time for income-generating activities.

3.6 Climate Finance in West Pokot

Climate finance remains a critical gap in West Pokot County, marked by limited knowledge, awareness, and engagement among stakeholders. Understanding of climate finance mechanisms and their potential to support resilience-building initiatives is generally low. Crop and livestock insurance, which are essential tools for mitigating climate-related risks, remain significantly underutilized.

The Ustahimilivu program sought to increase awareness and uptake of the Takafu insurance product. However, adoption rates have remained low, with Kacheliba sub-county exhibiting relatively higher potential and interest. This was reflected in FGDs, where only one group (mixed youth) in Kacheliba reported accessing and utilizing livestock insurance.

Another FGD conducted with representatives from the Sengwer community revealed that they are largely unaware of existing financial services. While they are familiar with organizations such as Apollo, One Acre Fund, and Jirani Smart, they find the high-interest loans offered by these institutions to be detrimental. The Sengwer community emphasized the need for community-driven choices in support programs, financial assistance for crops like Irish potatoes, and resources for beekeeping, which currently lacks adequate support.

To address these gaps, targeted pilot programs are recommended to build the capacity of households, cooperatives, and community groups on the functionality and benefits of insurance products. Such initiatives would provide practical demonstrations of how insurance can mitigate climate-related risks and enhance financial security.

The county has existing mechanisms that can complement climate finance efforts. For instance, the Ministry of Trade and Cooperative operates a cooperative fund accessible to communities through registered groups or cooperatives. This fund offers highly concessional loans at a 1% interest rate, promoting sustainability and continuity. This contrasts with grant-based programs such as Financing Locally Led Climate Action (FFLoCA). Additionally, the department has organized workshops to enhance the operations and financial accessibility of existing Savings and Credit Cooperative Organizations (SACCOs). One notable example is WEPESA SACCO, which provides loans tailored to livestock production systems. Other financial institutions, such as Kenya Commercial Bank (KCB) and Equity Bank, offer specialized financial products and capacity-building initiatives for farmers and Small and Medium-sized Enterprises (SMEs). For instance, KCB has a product specifically designed for women farmers, while Equity Bank provides ecosystem loans. Microfinance institutions, including Juhudi Kilimo and Kenya Women Finance Trust (KWFT), also play a pivotal role in offering financial products to smallholder farmers and promoting economic empowerment.

4. Conclusion and Recommendations

In West Pokot, livestock and maize are fundamental value chains that support household incomes, food security, and resilience to climate variability, including droughts, floods, and rising temperatures. Goats are highly valued for their adaptability to arid conditions. Despite efforts by the community to adopt climate adaptation strategies such as pasture preservation and rotational grazing, significant challenges persist. These include resource conflicts and limited water access, while financial and knowledge barriers, especially among women and youth, hinder the widespread adoption of CSA.

Access to reliable climate information is constrained by high illiteracy levels and past inaccuracies in disseminated data. There is a need to enhance the capacity for monitoring, analysis, and dissemination of climate risk information through strengthened institutional frameworks for weather and early warning systems. Integrating scientific and local knowledge systems can improve the relevance and accuracy of seasonal weather forecasts, particularly through PSP. Establishing community-based climate information centres, supported by meteorology and extension offices, would address literacy barriers and improve access. Additionally, leveraging existing communication networks such as radio stations, SMS platforms, and community forums (barazas) would ensure the timely delivery of localized early warnings and weather updates, empowering farmers to make informed decisions. Partnerships with KMD and NDMA could help sustain these initiatives and ensure continuous information flow to farmers.

To strengthen agricultural resilience, the expansion of CSA practices in the county should be prioritized. This includes promoting drought-tolerant crop varieties and resilient livestock breeds, such as Small East African and Galla goats, which are better suited to climate variability and can improve productivity. Conservation agriculture techniques, including minimal tillage, soil cover, and crop rotation, should be advanced to improve soil health and water retention. Community-based demonstration farms can serve as learning sites for showcasing CSA practices, complemented by farmer training programs and the provision of subsidized inputs, such as certified seeds and fertilizers. These measures would equip vulnerable communities with the knowledge and resources needed to implement sustainable farming techniques, enhancing food security and agricultural productivity.

Water access and availability remain key challenges in West Pokot, exacerbated by climate-related hazards, which have also contributed to resource conflicts that destabilize social cohesion. To address these issues, innovative water harvesting and sustainable management techniques should be promoted, including the use of sand dams, small dams, cascading check weirs, water pans, and agroforestry practices. Training and capacity building are essential for technical staff and ward committees to maintain water infrastructure, such as boreholes, irrigation systems, and reservoirs. The rehabilitation of irrigation schemes, including improving canal linings, clearing vegetation along canal corridors, installing water gates, and creating silt bays, would improve water delivery efficiency. Collaborating with local communities to establish water reservoirs and collection points would further enhance sustainable water use.

Climate finance in West Pokot is underdeveloped, and there is limited awareness of how such mechanisms can be utilized by communities to mitigate climate-related risks. It is crucial to implement mechanisms that provide protection against climate-induced losses. Training programs should be developed to educate extension agents, cooperatives, and community leaders, including women, youth, and indigenous groups, about index insurance and other risk-transfer solutions. These initiatives could be supported through partnerships with financial institutions such as Equity Bank, Juhudi Kilimo, KWFT and Kenya Commercial Bank to develop robust, long-term distribution strategies. The use of digital solutions and printed guides for extensionists and farmers would improve awareness and access to climate finance products.

Addressing gender disparities is critical, as women are disproportionately affected by climate vulnerabilities. Future interventions must adopt gender-sensitive approaches to ensure equitable participation in and access to resources. Programs should focus on empowering women through targeted livelihood interventions, access to agricultural inputs, and capacity-building initiatives in financial literacy and climate adaptation. Engaging men in gender empowerment activities could foster greater acceptance of women's roles in decision-making, promoting inclusive and sustainable community development.

Efforts to conserve and rehabilitate rangelands in West Pokot have shown promise but require scaling up. The county should prioritize the establishment of pasture lands with climate-resilient fodder varieties such as Napier grass, Boma Rhodes, and *Cenchrus ciliaris*. Degraded rangelands should be restored through enclosures and reseeding with drought-tolerant grasses such as star grass and red oat grass. Community training and awareness programs are vital for promoting sustainable grazing techniques and rangeland conservation. Strengthening community-led governance of rangelands through the development and implementation of adaptive management plans would enhance conservation and promote sustainable grazing patterns.

Value addition in agriculture remains underutilized in West Pokot, and market access continues to be a significant challenge. Establishing livestock sale yards could support cross-border trade between Kenya and Uganda, improving economic opportunities for farmers. Training programs should focus on preservation and value-addition techniques to increase the shelf life and marketability of agricultural products. Improving market infrastructure and access to information would further enable farmers to benefit from their produce.

These recommendations provide a pathway for strengthening resilience, improving resource management, and empowering communities to adapt to the challenges of climate variability while fostering sustainable development in West Pokot County.

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Appendices

Appendix 1: Ethics Review Approval



Reference: Enhancing Climate Resilience and Food Security to Empower Vulnerable Communities in Kenya (222)

Dear Dorcas Jalango Anyango and project team,

The Institutional Review Board (IRB) of the Alliance of Bioversity International and CIAT has evaluated your request for review of the research activities under the project referenced above. Your research is exempt from full review and with this letter the IRB provides clearance to move forward with the activity. The study shall be implemented following the guidelines, protocols and consent forms that you have described in, and attached to the request for review.

This IRB clearance is valid for one year from today. If you need to modify the research activities during this period, please submit an [addendum form](#) to the IRB before implementing the modifications.

Thank you for taking the time to submit your application, and for addressing the IRB's comments. We wish you success in the project.

I take this opportunity to invite you to take training on research ethics, provided through our institutional account on CITI Program. Find more information [here](#)

Sincerely,
Juliana Muriel
Alliance IRB Committee Co-Chair

Appendix 2: Field Photos

Photos of Climate Smart Agricultural Practices



Drought-Resilient Aloe Vera Cultivation



Woman extracting water from a hand-dug well



Drought-Resilient Sorghum Cultivation



Maize Storage Granary



Beekeeping



Water Harvesting through a Water Pan System

Enumerator Training Photos



Photos of Focus Group Discussions



Focus Group Discussion with Mixed Groups of Youth, Female, and Male Farmers at Kacheliba Ward Offices



Focus Group Discussion session with Male Farmers Over 35 Years at Sigor Ward



Focus Group Discussion with Young Farmers Aged 18 to 35 Years at Kacheliba Ward Offices

Exit Meeting Photo



Photo of CIAT Research Team, County Executive Officer, Chief Officer, Director of the Climate Change Unit, and Enumerators during the Exit Meeting.

Brenda Binge, b.binge@cgiar.org

Chris Mwungu, c.miyinzi@cgiar.org

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