Climate Smart Agriculture: Is Kenya doing something in this direction?

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How – Kenya Climate Smart Agriculture Project

- **5 Year Project**

- **Overall Development Objective:**

"to increase agricultural productivity and build resilience to climate change risks in the targeted smallholder farming and pastoral communities in Kenya, and in the event of an Eligible Crisis or Emergency, to provide immediate and effective response."

- **Project Focus:**
  - *Increasing agricultural **productivity**,*
  - *enhancing resilience to impacts of CC (**adaptation**),*
  - *reductions in GHG emissions (**mitigation**)*

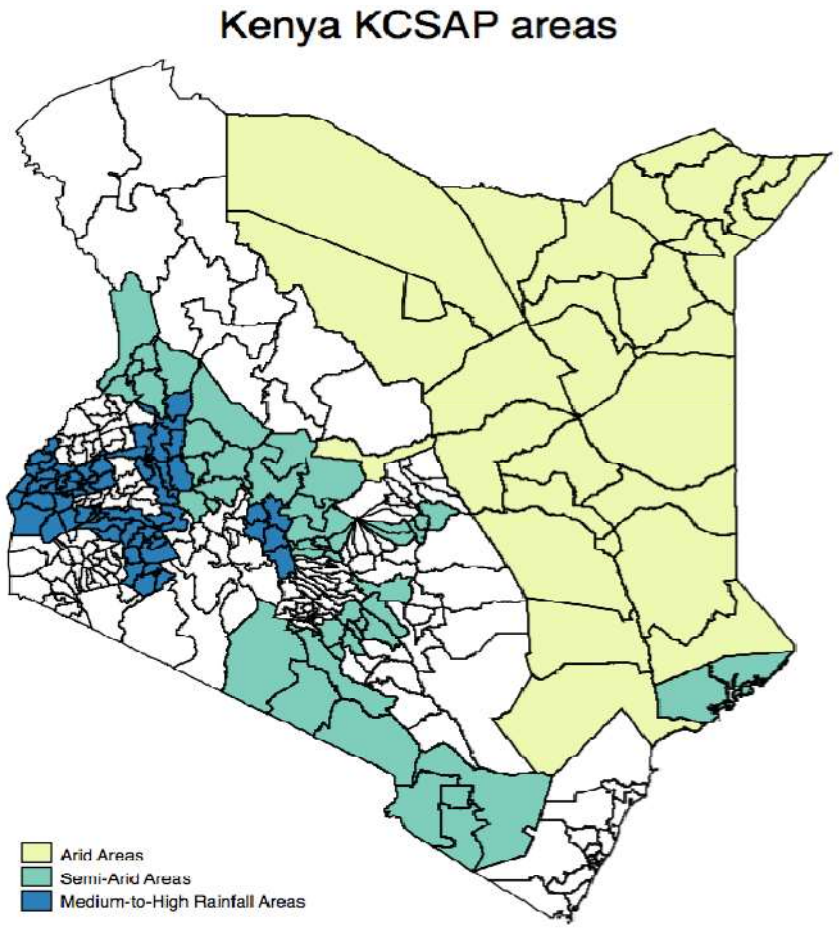
"the triple-wins"

Other project NAGRIP,ASDSP

Kenya Climate Smart Agriculture Project

Project Coverage

Area	Counties (24)
Arid	Marsabit, Isiolo, Tana River, Garissa, Wajir, and Mandera
Semi-Arid	West Pokot, Baringo, Laikipia, Machakos, Nyeri, Tharaka Nithi, Lamu, Taita Taveta, and Kajiado
Medium-to-High Rainfall	Busia, Siaya, Nyandarua, Bomet, Kericho, Kakamega, Uasin Gishu, Elgeyo Marakwet, and Kisumu



Crops Value Chains

Priority crops value chains


Cassava

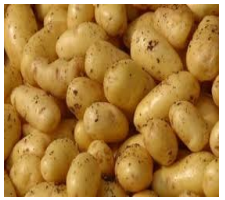

Pegion pea


Green gram


Banana


Finger millet


Sorghum


Potato


Tomato

County Demanded value chains


Cotton


Cashew Nut


Beans


Garden Pea


Maize


Teff

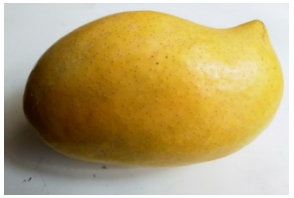

Coffee


AIVs


Onion


Cabbage


Kale


Mang
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Water melon

Priority Livestock Value Chains

Dairy (cattle)

Dairy Goats

Came

Apiculture

Indigenous chicken

Beef

Aquaculture

Project Components

Technology, innovation management practices(TIMPS)-Developing, Validating and Supporting Adoption of Climate Smart TIMPS	
2.1.1	Support identification and prioritization TIMPS at County Level
2.1.2	Prepare technical training materials and modules on relevant TIMPS
2.1.3	Deliver technical trainings on TIMPS to County technical departments and external service providers
2.1.4	Conduct adaptive research to validate TIMPS at county and community levels
2.1.5	Develop new TIMPS based on identified gaps
2.1.6	Coordinating component activities and strengthening linkages

Pictorials Adaptive Research

Banana FFBs in Maara and Igambangombe Tharaka Nithi

Seeds-Certified Seed Produced 2023

Crop	Quantity in Kgs
Beans (Nyota, KAT Bean 1)	269,481
Maize(Coast Composite, KH560E, GAF4)	14,500
Green grams (Ndegu Tosha, Biashara, Karembo, N26)	66,000
Cowpea (Kunde Soko, Kunde Faulu,Tumaini, Kunde Tamu)	62,000
Sorghum (KARI Mtama 1, Seredo, Serena, Gadam)	90,320
Wheat (Kenya Hyrax, Njoro 2, Jacana)	85,600
Rice (Komboka, Nericas)	45,000
Soya Bean (CG3, Gazelle, FB19, SW19, SS9)	15,460
Others	22,769
Vegetable Seeds (AIVs)	2,000
Total	**673,130**

Seedling Produced 2023

Crop	No.
Mango	102,684
Avocado	240,642
Macadamia	52,421
Pawpaw	89,241
Zambarao	2,517
Pomegranate	12,540
Custard apple	6,258
Guava	16,844
Loquat	66,421
Citrus	98,214
Oil Palm	50,000
Cashewnut	12,478

Crop	No.
Jackfruit	8,426
Tamarind	46,242
Amalura	48,248
Coconut	26,412
Baobab	28,200
TC Banana	43,281
Yellow Passion fruit	14,262
Straw berry	8,626
Rosemary	8,423
Others (Including Fodder trees and other forest trees)	264,568
Total	**1,246,948**

Livestock Seed/Breeds

	Item	No produced and maintained at tier 1 – parent stock
1	KALRO improved indigenous chicken	6,184
2	Ref Meat - Beef cattle	823
	Red Meat – (Sheep & Goats)	129,020
3	Sahiwal – dairy	600
	Dairy goats	326
	Camel	46
	AI doses	1,100,000
4	Aquaculture- tilapia	10,000,000
	Aquaculture – catfish	5,000,000
Grasses, legumes		
5	Range grasses	8,585 kg
6	Brachiaria	1,740,000 splits
7	Napier	1,805,000 cuttings
8	Forage sorghum	40,000 kg
9	Lupins	2,800 kg
10	Vetch	1800 kg
11	Sweet potato	1,200,000 vines

Lessons Learnt

1. Inventorying of TIMPs was valuable process. It has created awareness on what TIMPs exist and the gaps in technologies. Inventories are easily accessible by all.

2. The ToTs approach for upgrading the knowledge and improving technical capacities of extension staff, Service Providers and Lead Farmers was effective.

3. The integration of Service Providers and Lead Farmers into the trainings has set up a pool trainers and facilitators at grassroots.

4. Adaptive research projects promoted multi-institutional engagements and provided opportunities for institutional collaboration.

5. The validation trials enabled the extension staff and CIGs appreciate the effectiveness of the CSA TIMPs. It has promoted the adoption of TIMPs

Capacity building -Publications

Category	Number of papers
Papers published by PhD students	51
Papers published by MSc students	82
Total	133

Use of ICT

Objective was to help farmers address the challenges of climate variability and change, improve productivity and enhance their resilience.

- ICT Infrastructure
- Integration
- Innovation and digitization,
- Use cases,
- Capacity building

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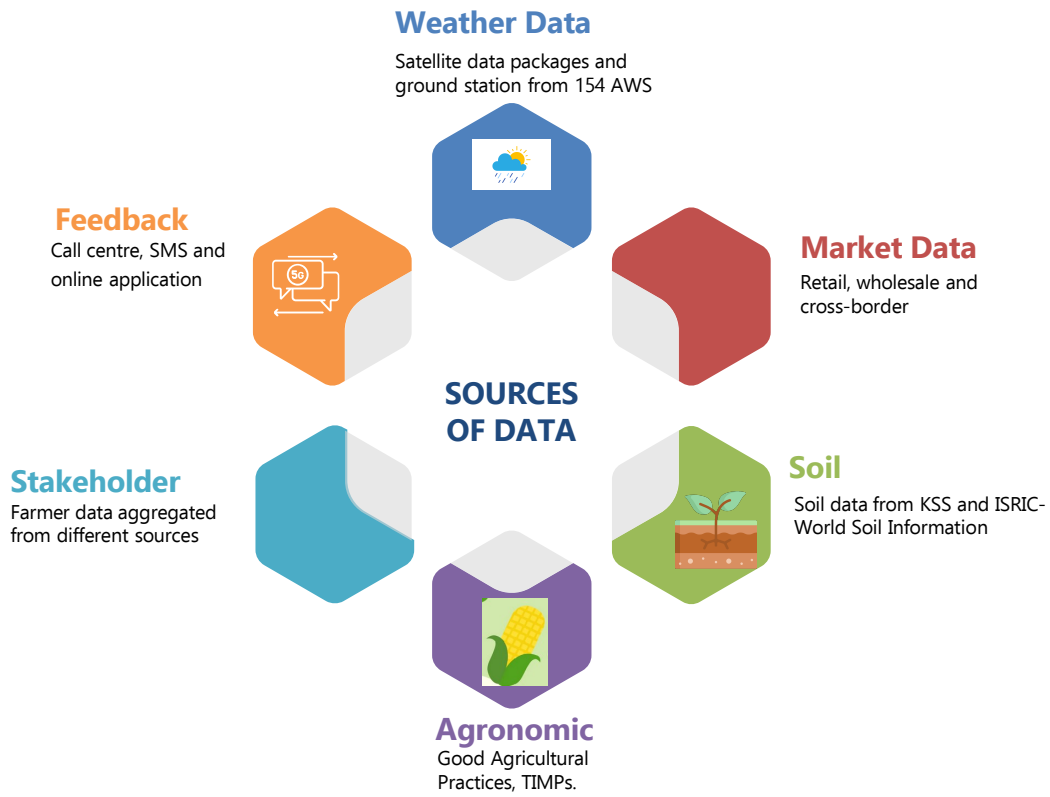
Establishment of ICT infrastructure and Key Data sets aggregation and storgae within the infrastructure



Databases turned in to services, scaled down and packaged into actionable advisory messages for different channels of dissemination

Achievement BIG DATA Operationalization for CSA and Completion of AWS, Agromet and Hydromet sites

Several data products and services developed, leveraging on the ICT capacity to analyze large datasets from different sources in real-time.

1 Kenya Agricultural Observatory Platform

Accurate and relevant decision for planning on climate information to minimize the negative impact of climate variability at the farm level

2 Selector

select what crops, pastures, and livestock are suitable on your farm based on agronomic insights, soil, historical and future weather pattern

3 Suitability Map

Agronomic advisories on where to crow specific crop varieties and livestock breeds

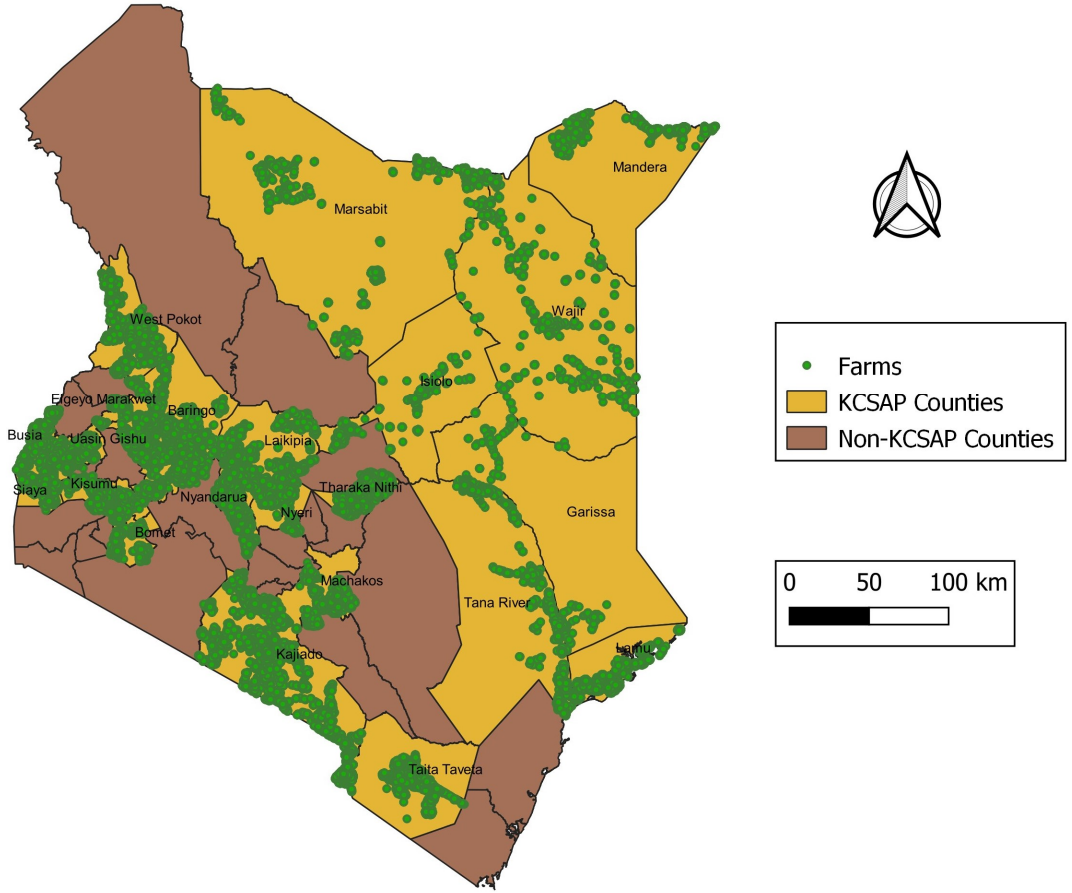
4 Digital Climate Advisory Services

Translating climate information practices into actionable knowledge to increase productivity and build resilience to climate risks

Achievement

Registration of Stakeholder and Mapping of project Investments

	Targeted Groups	Achieved
1.	Sub Projects	120
2.	Producer Organizations	176
3.	Community Driven Development Committee	132
4.	Vulnerable and Marginalized Groups	1300
5.	Common Interest Groups	10,749
	Total Investments	**12,477**



Impact

% of beneficiaries satisfied with the relevance, timeliness and usefulness of agro-weather-market advisories received

Evaluation Study on the Impact of KALRO Digital Services

The study was conducted in May – June 2023 after the maize planting ended. The focus was on the adoption of maize planting practices after receiving the KALRO advisories

- **72%** **- Report season was "much better" because of the advisories**
  - Favorably on timeliness, trustworthiness and relevancy of the advisories
  - More likely to be "very disappointed" if they could no longer receive the message

- **78%** **- Experience successful germination of all seeds**
  - The advisories are effective in promoting practices that enable germination and prevent pest infestation, such as planting at the right time and managing soil moisture

- **60%** **- No crop damage due to weather**

Impact to Date

Tool freee agroadvisory Call Center Feedback

- Inquiries on the Weather forecast and the start of rains
- Drought mitigation measures by the Government
- Government subsidized fertilizers
- Inquiries on animal diseases, management, control, and prevention.
- Inquiries on where to source certified planting materials and breeding animals.
- Agro-products market and market trends
- Inquiries on how to enroll for SMS

Case studies of KCSAP

CASE STUDY.Final Version 0.pdf

Climate smart agriculture strategy

kenya_climate_smart_agriculture_strategy.pdf

Sustainability/commercialization

- Food system-approach
- Agripreneur model-ward, subcounty, county

- Cooperatives-aggregation, point of service

Bringing everything together; Ministerial level role of research& innovation

- Harmonization and optimization along the TIMPS circle
- Beyond the project life span

- Resources-farmers- research triangle with coordination and commercialization at the centre
- Place of CCU?

Acknowledgement

- National project coordinating unit(NPCU)staff under the leadership of John Kinyanga, Charles Lubanga, Priscilla muiruri
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- World bank group
- Community groups- spread in various parts of Kenya
- Ministry of agriculture and livestock
- County governments Department of agriculture and livestock