



Kenya Agricultural & Livestock Research Organization

Opportunities and Challenges in Participatory Research in Kenya

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KALRO

Establishment

- ❖ The Kenya Agricultural and Livestock Research Organization (KALRO) was created through Kenya Agricultural and Livestock Research Act No. 17 in January 2013

- ❖ The Kenya Agricultural and Livestock Research Organization was formed after the merger of the former:-
 - Kenya Agricultural Research Institute (KARI)
 - Coffee Research Foundation (CRF)
 - Tea Research Foundation of Kenya (TRFK)
 - Kenya Sugar Research Foundation Sugar (KESREF)





KALRO's Mandate

- To promote, streamline, co-ordinate and regulate research in crops, livestock, genetic resources and biotechnology and animal diseases
- To expedite equitable access to research information, resources and technologies
- To promote the application of research findings and developed technologies in the field of agriculture and livestock.





Strategic Plan: 2017-2021

Vision: Excellence in agricultural and livestock research towards transformed livelihoods.

Mission: To conduct agricultural research through application of science, technology and innovation to catalyze sustainable growth and development in agriculture and livestock.

Organizational Goal: To contribute to the growth of the agricultural and livestock sector through/by:-

- ✓ Research coordination and regulation
- ✓ Technology and innovations' development
- ✓ Catalyzing transfer and utilization of agricultural and livestock research outputs



KALRO Set-up

KALRO Headquarters

- Directorate (DG, DDGs)
- Directors of Operational Units
- Secretariat (Directorate, Operational Units, Corporate Services)

Institutes (16 Institutes)

- ✓ Housed within the Coordinating Centre
- ✓ Institute Director
- ✓ Research Coordination

Centres (51 Centres)

- Centre Director
- Researchers/Technical support
- Administrative support





KALRO Set-up...

Operational Units

1. Crop Systems
2. Livestock Systems
3. Socio-economics, Applied Statistics, Outreach and Partnerships
4. Commercial Enterprise and Business Development
5. Range and Environmental Management
6. Land and Water Management
7. Research Planning, Monitoring & Evaluation and Quality Assurance
8. Knowledge Management and Policy Research and Development





KALRO Institutes

Livestock Research

1. Dairy
2. Goats and Sheep
3. Non Ruminants
4. Beef
5. Apiculture
6. Veterinary

Crops Research

1. Food Crops
2. Horticulture
3. Tea
4. Coffee
5. Sugar
6. Industrial Crops

Cross-cutting Research

1. Bio-Technology
2. Genetic Resources
3. Arid & Rangelands Resources
4. Mechanization



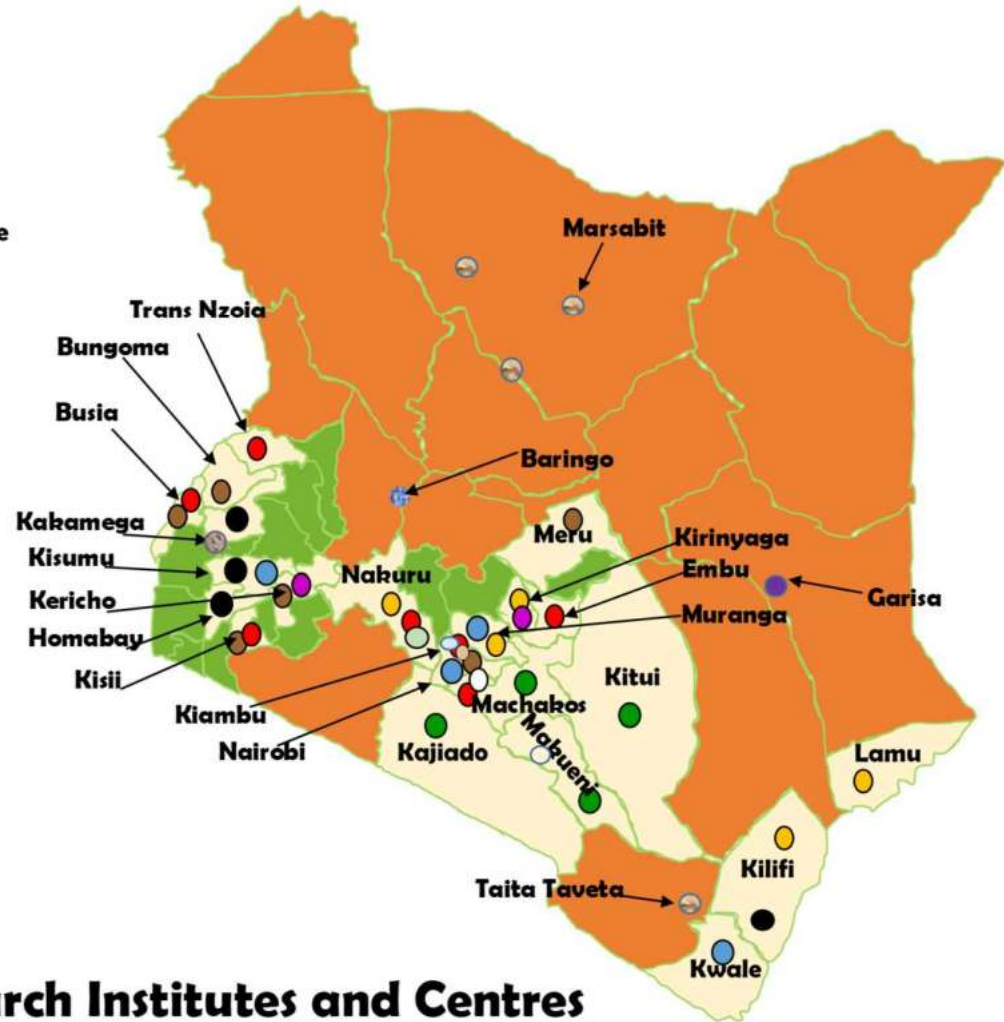


Crops Research Institutes

- Food Crops Research
- Horticulture Research Institute
- Industrial Crops Research Institute
- Genetic Resources Research Institute
- Tea Research Institute
- Coffee Research Institute
- Sugar Research Institute
- Agriculture Mechanization Research Institute

Livestock Research Institutes

- Apiculture Research Institute
- Biotechnology Research Institute
- Dairy Research Institute
- Beef Research Institute
- Veterinary Research Institute
- Arid & Range Research Institute
- Sheep & Goat Research Institute
- Non-Ruminant Research Institute



KALRO Research Institutes and Centres



KALRO's Research

Types:

- ✓ *Basic*
- ✓ *Adaptive*
- ✓ *Validation*

Approach

- **Strengthen Agricultural Product Value Chains (APVCs)**
- **Sustainability** (*Environment, Natural resources, Biotechnology, Agricultural Machinery*)

How?

- Researcher designed researcher implemented
- Researcher designed, farmer implemented
- Farmer designed, farmer implemented





KALRO FCRC Kabete

KALRO Headquarters



Food Crops Research Institute



FCRC Kabete
FCRC Muguga
FCRC Alupe
FCRC Embu
FCRC Kisii
FCRC Njoro
FCRC Kitale



1. **Plant Pathology**
2. **Entomology & Weed Science**
3. **Soil Fertility & Plant Nutrition**
4. **Irrigation, Drainage & Management of Problem Soils**
5. **Soil & Water Management**
6. **Environmental Sustainability**
7. **Kenya Soil Survey**
8. **Socioeconomics & Policy development**



Over 50 projects running

FiBL projects at KALRO

- ✓ SysCoM
- ✓ ORM4Soil
- ✓ ProEcoAfrica



Successful Research Implementation

Requirements	Inputs
Innovative research Technologies, approaches, etc.	Thorough literature search, networking with experts
Research Agenda Well thought out research agenda	Proposal formulation (Technology, sites, target group → adoption of research results)
Implementation plan	Practicable and affordable (time-frame, funding, collaborators, tools & equipment, methods & procedures)



Successful Research Implementation...

Requirements	Inputs
Funding Adequate, timely, sustainable	Enough to cover field implementation, data analysis, write-up, dissemination (publications, conferences, policy formulation) – Multiple donors, time extensions
Research Team Diversity	Multiple institutions, countries, disciplines, stakeholders, etc.
Collaborators Willing, able	Research on institutions, persons expertise using internet and networks



Successful Research Implementation...

Requirements	Inputs
Coordination/Lead implementer (Willing, able)	<ul style="list-style-type: none">– Institution Expertise and influence at country and international level– Coordinator Charismatic, dynamic, influential, humble, etc.)
Implementing team (Able, cohesive)	<ul style="list-style-type: none">– Core group Able, willing, identify using networks– Maintaining focus<ul style="list-style-type: none">• Schedule periodic meetings at local/international level –Skype, emails, physical)• Institute a Project Steering Committee



Successful Research Implementation...

Requirements	Inputs
Leading partner institution (Ability, commitment)	MoUs: Clearly spell out roles for leading partner and subsidiary implementing institutions on funds accounting, reporting, publishing)
Local site knowledge	<ul style="list-style-type: none">• Benchmarking: Site survey, questionnaire, desktop literature search)• Willing representative farmers• Identify through local farmer networks (e.g. MoA)
Data management (storage, analysis, interpretation, publishing)	<ul style="list-style-type: none">– Project database (lead partner has access)– Validate results by sharing with partners– Develop & apply data handling and publication rules



Successful Research Implementation...

Requirements

Continued farmer engagement

- Identify more farmers than you need
- Sign MOA with farmers (field experiments)
- Include farmer compensation
- Inform/involve local administration, MoA (E.g. for questionnaires involving transects, random selection of farms, etc.)

Data management

(Storage, analysis, interpretation, publishing)

- Project database (lead partner has access)
- Validate results by sharing with partners
- Develop & apply data handling and publication rules

Inputs



Challenges/Constraints...



Category	Challenges/constraints	Possible interventions
Farmer challenges		
Farmer/ Farm identification	Unrepresentative farmers/farms selected	<ul style="list-style-type: none">• Conduct a baseline survey• Engage a wider team of stakeholders with local knowledge to identify
Farm level record keeping	<ul style="list-style-type: none">• Generally low (subsistence farming)• Low literacy levels among landowners >55 years)• Not traditionally practiced by extension (public/private)	<ul style="list-style-type: none">• Train farmers on record keeping• Engage farmer secretaries/enumerators in projects requiring detailed farm records e.g. ProEcoAfrica project



Challenges/Constraints...



Category	Challenges/constraints	Possible interventions
Farmer challenges		
Household Heads	Females who manage male headed households (males work in towns)	Identify the role of each member by asking the right questions
Small farm sizes (Central & Western Kenya)	On-farm experiments All treatments and replicates cannot fit on one farm	<ul style="list-style-type: none">• Farms can act as replicates• Place 'Mother' experiments in places with more land (schools, etc.) and 'Baby' trial on the farm



Challenges/Constraints...



Category	Challenges/Constraints	Possible interventions
Researcher challenges		
Research team	No/low cooperation in project activities	<ul style="list-style-type: none"> • Involve local project coordinator in selection of local research team • Understand involvement in other assignments
Mobility	No institutional vehicles	<ul style="list-style-type: none"> • Consider hiring vehicles (projects/partners) • Purchase a project vehicle
Funds disbursement	Untimely/inadequate	<ul style="list-style-type: none"> • Disburse year-wise not season-wise • Constant donors/project leader updates • Constant updates between lead project leader and research implementation team • Define funds disbursement mode and schedule in <i>MOU</i>



Challenges/Constraints...



Category	Challenges/Constraints	Possible interventions
Researcher challenges...		
Publications internationally refereed journals	Exclusion of local researchers → demoralization of research team, poor implementation	Discuss with local implementation partners & follow agreed publication plan (Universities, KALRO, etc.)
Collaborators	Absenteeism in meetings, project activities	<ul style="list-style-type: none"> • Convene meetings in a participatory manner • Facilitate collaborators to attend meetings Hold scheduled meetings regularly (review, plan ahead) • Circulate meeting minutes
Long duration experiments	<ul style="list-style-type: none"> • Farmers demand land back Late/intermittent disbursement of funds → late planting → failed experiments 	<ul style="list-style-type: none"> • Land compensation for farmers • Sign MOA with farmers • Timely disbursement of funds



Challenges/Constraints...



Category	Challenges/Constraints	Possible interventions
Researcher challenges...		
Results feedback to farmers	Farmers disinterest in project feel 'used')	<ul style="list-style-type: none"> • Share results with farmers (experiment demos, farm reports) • Give gifts/tokens of appreciation to farmers • Farmer trainings • Farmer to farmer exchange visits • Farmer participation certificates
Farmer's time	Long/multiple questionnaires	<ul style="list-style-type: none"> • Give gifts/tokens of appreciation to farmers • Make appointments with farmers • Use friendly enumerators



Challenges/Constraints...



Category	Challenges/Constraints	Possible interventions
Researcher challenges...		
KALRO	<ul style="list-style-type: none"> • Limited GoK funding to address key challenges in Kenyan agriculture • Donor/KALRO priorities not aligned • Project budget excludes Admin fees • Many retiring research/technical staff • Old vehicles • Research time compensation • Old outdated equipment • Cumbersome procurement procedures (→ delayed project implementation for expensive items) 	<ul style="list-style-type: none"> • Seek external donor funding (e.g. joint proposals, bilateral funding etc.) • Donors & KALRO management to engage • Admin fee =15%. Discuss 'in kind' solutions • Engage qualified Interns, Research Assistants, Students (MSc, PhD), etc. • Purchase new ones; Hire from others • Budget for staff time compensation • Budget for new equipment in project • Explore alternative importation options



Research Opportunities at KALRO...

1. Well defined research programs

• *Crops*

Food Crops, Horticultural Crops, Coffee, Tea, Sugar, Industrial Crops

• *Livestock*

Dairy, Beef, Goat/Sheep, Poultry, Apiculture, Camels

• *Cross cutting themes*

- ✓ Agricultural Machinery
- ✓ Biotechnology
- ✓ Natural Resource Management
- ✓ Socioeconomics & Policy Development





Research Opportunities at KALRO

2. Vast infrastructure

Buildings, Labs, Land, Vehicles, Machinery

3. Diverse environments

Coastal, Highland/Humid, Arid & Semi-arid

4. Established research structures

Directorate, Secretariat, Institutes, Centers

5. Research & technical staff

Well trained (MSc, PhD) in diverse disciplines





Research Opportunities at KALRO...

6. Strong publishing culture

High quality manuscripts required

7. Collaboration

Well respected & connected with local/regional NARS, IARCs and CGIAR

8. Reliable accounting procedures

ERP, FinPronet)





Research Opportunities at KALRO...



9. Strong partnerships



Thank You

