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**ON**

**KENYA AGRICULTURAL AND LIVESTOCK  
RESEARCH ORGANIZATION**

**FOR THE YEAR ENDED  
30 JUNE, 2021**

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**KENYA AGRICULTURAL AND LIVESTOCK RESEARCH  
ORGANIZATION  
(KALRO)**

**ANNUAL REPORT AND FINANCIAL STATEMENTS**

**FOR THE FINANCIAL YEAR ENDING  
JUNE 30, 2021**

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**Prepared in accordance with the Accrual Basis of Accounting Method under the  
International Public Sector Accounting Standards (IPSAS)**

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## **ABBREVIATIONS**

AIA	Appropriation in Aid
AMRI	Agricultural Mechanization Research Institute
APVC	Agricultural Product Value Chains
ASA	American Society of Agronomy
ASAL	Arid and Semi-Arid Lands
BoM	Board of Management
CBPP	Contagious Bovine Pleuro-Pneumonia
CEO	Chief Executive Officer
CNA	Competence Needs Assessment
CS-APP	Climate Smart Agricultural Productivity Project
DUS	Distinctness Uniformity Stability
EAAPP	East African Agricultural Productivity Project
ECF	East Coast Fever
ERP	Enterprise Resource Planning
ESAMI	Eastern and Southern African Management Institute
FFS	Farmer Field Schools
GAP	Good Agricultural Practices
GCHERA	Global Consortium of High Education for Africa
	German Development Agency
GIZ	Gesellschaft für Internationale Zusammenarbeit
HRI	Horticulture Research Institute
ICWES	International Conference of Women Engineers and Sciences
IPSAS	International Public Sector Accounting Standards (IPSAS)
KALRO	Kenya Agricultural and Livestock Research Organization
KARI	Kenya Agricultural Research Institute
KEPHIS	Kenya Plant Health Inspectorate Services
KEVEVAPI	Kenya Veterinary Vaccines Production Institute
KCSAP	Kenya Climate-Smart Agriculture Project
MNLD	Maize Lethal Necrosis Disease
NPT	National Performance Trials
MoUs	Memorandum of Understandings
MT	Metric Tons
MTP	Medium Term Plan
NACOSTI	National Commission for Science, Technology and Innovation
NPT	National Performance Testing
NSRC	National Sericulture Research Centre
PCPB	Pest Control Products Board
PPR	Peste des Petits Ruminants
RVF	Rift Valley Fever
SSSEA	Soil Science Society of East Africa
ToTs	Trainer of Trainers
USAID-FtF	United States Agency for International Development - Feed the Future

### **Our Vision**

Excellence in agriculture and livestock research towards transformed livelihoods.

### **Our Mission**

To conduct agricultural research through application of science, technology and innovation to catalyse sustainable growth and development in agriculture and livestock Product Value Chains.

### **Organization Goal**

To contribute to the growth of the agricultural sector through research coordination and regulation; technology and innovation development; and catalyse transfer and utilization of agricultural research outputs.

### **Our Guiding Core Values**

KALRO will be guided by the following core values in its operations:

**a) Customer orientation**

The central focus of KALRO is to provide timely and responsive demand-driven research interventions aimed at addressing the needs of the customers within the agricultural sector. KALRO will achieve this by maintaining a culture that promotes responsiveness to customer needs.

**b) Professionalism**

KALRO will uphold high standards of excellence in the provision of services to their customers. One of the hallmarks of excellence is integrity and ethics in all areas of operation. In this regard, KALRO research outputs and recommendations will adhere to the highest standards of scientific rigour, ethics and sound evidence base.

**c) Innovativeness**

KALRO recognizes the need for innovation in order to be responsive to the agricultural sector challenges. In this regard KALRO commits to develop flexible and integrated solutions in-tandem with the needs of customers and stakeholders.

**d) Collaboration**

Given the multi-stakeholder interest that the agricultural sector attracts, KALRO is expected to collaborate and forge partnerships for the development of the sector in Kenya and beyond. KALRO will therefore endeavor to create beneficial opportunities for agricultural research and development.

**e) Environmental consciousness**

KALRO will ensure that the environment is conserved while discharging its mandate.

**f) Integrity**

KALRO is committed to ethical delivery of its mandate to all stakeholders.

## I. KEY ORGANIZATION INFORMATION AND MANAGEMENT

### (a) Background information

The Kenya Agricultural and Livestock Research Organization (KALRO) is a State Corporation established under the Kenya Agricultural and Livestock Research Act, No 17 of 2013, with perpetual succession, the power to sue and be sued in its own name and the ability to own and alienate movable and immovable property. The organization is also governed by the provisions of the State Corporations Act, Chapter 446 of the Laws of Kenya, an Act of Parliament providing for control and regulation of state corporations. KALRO falls under the Ministry of Agriculture, Livestock, Fisheries and Cooperatives, and is the country's principal national organization responsible for research and technology generation on crops, livestock, soil and water management and their socio-economics.

### (b) Principal Activities

The Organization's mandate is to undertake, streamline, coordinate and regulate all aspects of research in agriculture and livestock development, and promote the application of the research findings, technologies and innovations. Its mission is to conduct agricultural research through application of science, technology and innovation to catalyze sustainable growth and development in agriculture and livestock product value chains. In pursuit of this mission, KALRO seeks to acquire and contribute knowledge and creative solutions that are participatory and client-oriented; holistic and system-oriented; gender-sensitive and affordable to its stakeholders.

### (c) Key Management

The Organization's day-to-day management is under the following:

1. Director General
2. Deputy Director General (Livestock)
3. Deputy Director General (Crops)

### (d) Fiduciary Management

The key management personnel who held office during the financial year ended 30<sup>th</sup> June 2021 and who had direct fiduciary responsibility were;

#### 1. Directors

No.	Designation	Name
1	Director General	Dr. Eliud K. Kireger
2	Deputy Director General-Livestock	Dr. Joseph Mureithi
3	Deputy Director General -Crops	Dr. Felister Makini
4	Director, Livestock Systems	Dr. Foustine Wandera
5	Director, Socio-Economics & Policy Development	Dr. Festus Murithi
6	Director, Knowledge Management.	Dr. Jack Ouda
7	Director, Crops Systems	Dr. Lusike Wasilwa
8	Director, Natural Resources Management	Dr. David Kamau

<b>No.</b>	<b>Designation</b>	<b>Name</b>
9	Director, Partnership & Business Development	Dr. Monicah Waiganjo
10	Director, Planning & Performance Contract	Dr. Joseph Kimemia
11	Director, Human Resources & Administration	Mr. Sammy Ndei
12	Director, Finance & Accounts	Mr. David Muriithi
13	Director, Supply Chain Management	Mr. Stevens Musewe
14	Director, Information Communication and Technology	Mr. Boniface Akuku
15	Director, Corporate Communication	Ms. Virginia Ndungu
16	Director, Internal Audit	Mr. Francis Langat
17	Director, Security Services	Mr. Moses Boit
18	Director, Property Management	Mr. Henry Mbaluku
19	Principal Legal Officer	Ms. Patricia Ngutu

## **2. Assistant Directors**

<b>No.</b>	<b>Designation</b>	<b>Name</b>
1	Assistant Director, Crop Systems - Production, Agronomy, Breeding and Seed systems	Dr. Benjamin Kivuva
2	Assistant Director, Crop Systems- Health	Dr. Zakayo Kinyua
3	Assistant Director, Livestock Systems- Production, Breeding and Commercialization	Dr. Elkana Nyambati
4	Assistant Director Livestock Systems- Health	Dr. John Mugambi
5	Assistant Director, Socio-Economics & Policy Development- Socio-Economics and Policy	Dr. Wellington Mulinge
6	Assistant Director, Socio-Economics & Policy Development- Research Methods and Analytics	Dr. Alice Murage
7	Assistant Director, Planning & Performance Contract- Planning, Monitoring and Evaluation	Dr. Beatrice Salasya
8	Assistant Director, Performance Management and Quality Control	Mr. David Kipkoech Nyamasia
9	Assistant Director, Partnership & Business Development- Business Development	Dr. Margaret Makelo
10	Assistant Director, Partnership & Business Development- Partnership and Resource Mobilization	Ms. Scholastica Wambua
11	Assistant Director, Knowledge Management- Knowledge and Information	Dr. Freda Maina
12	Assistant Director, Natural Resources Management - Environmental and Sustainability	Dr. Michael Okoti
13	Assistant Director, Finance & Accounts	Ms. Ebby Musembi
14	Assistant Director, Supply Chain Management	Mr. Amos Mugo
15	Assistant Director, Information Communication and Technology	Ms Irene Kimani
16	Assistant Director, Human Resources & Administration Human	Mr. Benjamin

<b>No.</b>	<b>Designation</b>	<b>Name</b>
	Resources Management	Onyancha
17	Assistant Director, Human Resources & Administration - Training and Development	Ms. Gladys Wangia
18	Assistant Director, Corporate Communication	Ms. Florida Maritim
19	Assistant Director, Internal Audit	Mr. Stephen Kigo

**(e) Fiduciary Oversight Arrangements**

- Ministry of Agriculture, Livestock, Fisheries and Co-operatives
- The National Treasury

**(f) Organization Headquarters**

Kaptagat Road, Loresho  
P. O. Box 57811-00200  
Nairobi, Kenya

**(g) Entity Contacts**

Telephone : 0709 104 000, 0722 206 986/8/ 0733 333 223/4  
Email: [director@kalro.org](mailto:director@kalro.org)  
Website: [www.kalro.org](http://www.kalro.org)

**(h) Organization Bankers**

1. Kenya Commercial Bank  
P.O. Box 46950-00100  
Nairobi  
Tel No. 020-2214878,
2. NCBA Bank Kenya  
P.O. Box 44599- 00100  
Nairobi.  
Tel No. 020-4450882,
3. Co-operative Bank of Kenya Ltd  
P O Box 48231 - 00100  
Nairobi  
Tel No. 020-2776000
4. Stanbic Bank Kenya  
P.O Box 30550-00100  
Nairobi.  
Tel No. 020-3268888.
5. National Bank of Kenya  
P.O Box 72866-00200  
Nairobi.  
Tel No.020-2828000.

7. Absa Bank Kenya  
Westend Building,  
Off Waiyaki Way.  
PO Box 30120 - 00100.  
Nairobi.  
Tel: +254 (20) 3900000. Cell: +254 (722) 130120. Cell: +254 (732) 130120.

**(i) Independent Auditors**

Office of the Auditor General,  
Anniversary Towers, University Way  
P.O. Box 30084-00100  
Nairobi, Kenya

**(j) Principal Legal Adviser**

KALRO Legal Office  
P.O. Box 57811 – 00200  
Cellphone. 0709 104 000, 0722 206 986/8/ 0733 333 223/4  
Email: director@kalro.org  
Nairobi

## **II. THE BOARD OF MANAGEMENT**

### **Mr. Wilfred Chacha Rotich**



Mr Wilfred Chacha Rotich is the Chairman of the KALRO Board of Management. He holds a Bachelor's Degree in Social Studies (Government and Public Administration-First Class Honours from Moi University), Masters of Arts in Public Administration and Policy from Moi University and is currently pursuing a PhD in Political Science. His areas of interest are Policy, Governmental Processes Research and Development.

Mr. Wilfred Chacha is appointed Member, Chairman KALRO BoM.

### **Prof. Walter O. Oyawa, PhD**



Prof. Walter O. Oyawa is currently the Director General/Chief Executive Officer of the National Commission for Science, Technology and Innovation (NACOSTI). He holds a PhD in Civil Engineering (Structural Engineering), at Kyoto University, Japan, M.Sc. Civil Engineering (Structural Engineering), at the University of Nairobi, Master of Tropical Veterinary Science at the University of Edinburgh and a B.Sc. Civil Engineering, at the University of Nairobi. He holds an Executive Master of Business Administration (EMBA), at JKUAT. He is a Registered Professional Engineer, Engineers Registration Board of Kenya (ERB), Corporate member, Institution of Engineers of Kenya (IEK), and Lead Expert, National Environmental Management Authority (NEMA).

Prof. Walter O. Oyawa is a member of KALRO BoM.

### **CPA Margaret Wamuyu**



CPA Margaret Wamuyu is a professional accountant with experience at different Boards and is currently pursuing a PhD in Finance. She is a Certified Public Accountant and a Member of Institute of Certified Public Accountants of Kenya (ICPAK).

She also holds a Master of Business Administration degree from the University of Nairobi and Bachelor of Commerce degree (First Class Honors) from KCA University. She is a Senior Government Officer with a wealth of experience in Accounting, Performance Contracting and Public Financial Management. She is currently working at the National Treasury and Planning.

She represents, PS National Treasury

### **Mrs. Mary W. Mwambia**



Mrs. Mary Mwambia is appointed Member. She Chairs Finance and Administration Committee. Mrs Mary Mwambia holds a Bsc in Food science and Technology from the University of Nairobi, an MSC in Agricultural Studies from University of Queensland - Australia and an MA in Counselling Psychology from Daystar University. She also holds a certificate in milk quality Control from Swedish University of Agriculture. Mary has vast experience in Livestock issues and has served as Deputy Director of Livestock in charge of Dairy and Livestock Feeds in the Ministry of Agriculture and Livestock for 30 years. She has chaired Dairy and Livestock Feeds Committee in KEBS and has been involved in dairy and feeds standards development in Kenya, East Africa and COMESA. She is currently running a family business in Tea and Dairy farming in Murang'a.

Mrs. Mary Mwambia is appointed Member. She Chairs Finance and Administration Committee

### **Mrs. Grace G. Kimaru**



Mrs. Grace G. Kimaru is currently Deputy Director in charge of Livestock Market Development and Agribusiness in the Directorate of Livestock Production, State Department of Livestock Production, Ministry of Agriculture, Livestock, Fisheries and Cooperatives. She is currently pursuing a PhD in Entrepreneurship at Jomo Kenyatta University of Agriculture and Technology. She is a member of Animal Production Society of Kenya (APSK).

She also holds a Master's Degree in Entrepreneurship from the Jomo Kenyatta University of Agriculture and Technology and a Bachelor of Science in Agriculture (Upper Second Class honors) from The University of Nairobi. She has a wealth of experience in Policy formulation, Performance contracting and Training.

Mrs. Grace Kimaru represent PS State Department for Livestock

### **Mr. Elijah K. Nguyo**



Mr. Elijah K. Nguyo is an appointed Member of the Board and chairs the Audit, Risk and Governance Committee of the Board. He is a Consultant and Trainer in areas of Governance, Management, Leadership and Policy.

He is a holder of B.Sc - Bot/Zoo (UoN), PGDE (KU), MEd - Leadership and Policy (MU). He is a Certified Professional Mediator. Has served in many positions of leadership in Public and Private sectors.

### **Ms. Teresia Wambui Karanja**



Ms. Karanja holds a Master Degree in Plant Pathology. She heads the Pathology, Weeds and Pesticide Advisory Services Branch at Plant Protection Services Division. She is also a Board Committee Member of Technical Registration of new pest control products and Audit committees.

She represents, Principal Secretary, State Department for Crops Dev. & Agricultural Research, Ministry of Agriculture, Livestock, Fisheries & Cooperatives

### **Mr. Isaac Odek**



Mr. Isaac Odek represents Inspector General, State Corporations. He is a Member with no voting rights

### **Dr. Samuel N. Mburu**



Samuel N. Mburu (PhD) is an appointed member of KALRO board of management. He has over 17 years working experience at management level both in Corporates and Universities gained while working for various institutions both in Kenya and in the East African region.

Dr. Mburu is an Economist with the first Degree of Economics from Egerton University; a Master of Economics from University of Dar es Salaam and (PhD) Economics – at Kenyatta University. Dr. Mburu is also a lecturer at Kenyatta University and served as the Managing Director at KU Ltd; a subsidiary of the University in Rwanda. He has also held various leadership positions in the past.

Dr. Mburu is the Chairman of the Finance and Administration Committee at KALRO Board of Management and also a member of the Research, Technology and Innovation Committee.

### **Dr. Eliud K. Kireger, OGW**



Dr. Eliud Kiplimo Kireger is the Director General/CEO of KALRO. Prior to this appointment, he served as the Managing Director/CEO of the Tea Research Foundation of Kenya. Dr Kireger attained his PhD in Plant Eco-physiology from the University of Wales, (UK), MSc in Genetics and Tree breeding from University of Toronto (Canada) and a BSc in Forestry from Moi University (Kenya). He has trained in Conflict Management and Resolution,

Strategic Leadership, Company Directorship and Change Management among others. He was an Appointed Member of the board of management of Kenya Agricultural Research Institute (KARI) where he chaired the Audit Committee. He is the Secretary to the KALRO Board of Management.

### **III. MANAGEMENT TEAM**

**1. Dr. Eliud K. Kireger-B.Sc.; M.Sc.; PhD, OGW  
Director General**



Dr. Eliud Kiplimo Kireger is the Director General/CEO of KALRO. Prior to this appointment, he served as the Managing Director/CEO of the Tea Research Foundation of Kenya. Dr Kireger attained his PhD in Plant Eco-physiology from the University of Wales, (UK), MSc in Genetics and Tree breeding from University of Toronto (Canada) and a BSc in Forestry from Moi University (Kenya). He has trained in Conflict Management and Resolution, Strategic Leadership, Company Directorship and Change Management among others. He was an Appointed Member of the board of management of Kenya Agricultural Research Institute (KARI) where he chaired the Audit Committee.

**2. Dr. Joseph G. Mureithi-B.Sc.; MSc; PhD.  
Deputy Director General, Livestock**



Dr. Joseph G. Mureithi holds a Doctorate degree in Forage Agronomy from Reading University, UK; a Master of Science degree in Grassland Science from the same University and a Bachelor of Science in Agriculture from the University of Nairobi. Prior to this, he served as the Deputy Director in-charge of the Research and Technology at KARI. Dr. Mureithi has held professional positions in local and international bodies and has received reputable awards from the Soil Science Society of East Africa (SSSEA) and the American Society of Agronomy (ASA).

**3. Dr. Felister W. Makini - B. Sc.; M.Sc.; PhD.  
Deputy Director General, Crops**



Dr. Felister Makini holds a BSc in Botany and Chemistry from the University of Nairobi, Kenya and an MSc in Plant Pathology from Georgia State University, USA. She also has a PhD in Plant Pathology from the University of Greenwich, UK and has done several short courses in various fields. Prior to her current position, she worked as the Deputy Director in charge of the Department of Outreach and Partnerships at KARI. Recently together with others she published an operational field guide to innovation platforms as the lead author.

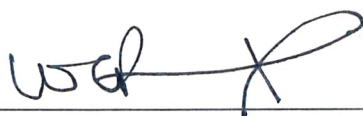
#### **IV. CHAIRMAN'S STATEMENT**

In the year under review, the KALRO Board of Management (BoM) ensured that the environment for the implementation of the 1<sup>st</sup> KALRO Strategic Plan (2017-2021) was created and sustained. This included implementation and adherence to COVID-19 pandemic guidelines by the Ministry of Health in conducting research activities. The management facilitated vaccination of deserving staff members to ensure smooth running of the organization's operations. In addition, the Board spearheaded the implementation of policies that guided the annual activity planning and milestones of the Organization. Subsequently, a performance contract with the Ministry of Agriculture, Livestock, Fisheries and Cooperatives was drawn and we committed ourselves to the achievement of the set targets. I am glad to report that we recorded commendable achievements on the targets for the year. Going forward, the Organization will continue to adopt the Agricultural Productivity Value Chain (APVC) approach for all research programs and projects.

Investment in internal revenue generation is fundamental in support of research activities and capital investments in light of declining development funding from the exchequer. These efforts by the board increased during the year under review. Despite the interruptions in operations caused by the continued outbreak of COVID-19 during the period under, AIA from sale of farm produce increased buoyed by aforementioned BoM efforts, favorable weather, continued implementation of CS –APP and KCSAP Projects and support from the National Government. Partnership and collaboration is one of our pillars and the BoM ensured that the Organization's innovation programs were developed and efficiently implemented in collaboration with sector, especially the county governments, industry and funding stakeholders. The BoM will continue to pursue collaboration and partnerships to ensure sustainable investments in research and to build technical and operational capabilities to catapult KALRO to play a significant role in developing and disseminating technologies, innovations and catalyze knowledge sharing in both local and global markets.

Although progress has been made towards the achievement of the Organization's strategic objectives, considerable momentum still needs to be built towards the enhancement of stakeholder awareness for sustained support for agricultural and livestock research initiatives to generate technology and innovation for enhanced production and productivity in agriculture. This will ensure improved incomes for farmers, attainment of food and nutrition security and employment. The Organization recognizes the need for continual improvement of internal process efficiencies in order to respond to challenges facing the agricultural innovation system promptly, effectively and affordably. Management has been tasked to accelerate plans already underway to address these challenges through capacity building and investments in technology.

I thank the Government of Kenya, development partners, collaborators, farmers, the KALRO Management and the entire staff for working hard to record these commendable achievements. Let us work even harder for we still owe our beloved nation and the Kenyan people even more for next year.



**Mr. Wilfred Chacha Rotich**  
**Chairman, KALRO BoM**

## **V. REPORT OF THE CHIEF EXECUTIVE OFFICER**

KALRO Management recognizes that under The Kenya Vision 2030 development blueprint is the desire for Kenya to become a knowledge-based economy. In such an economy, technology, knowledge and skills play a more profound role in economic growth and competitiveness than other factors of production. The management therefore continue to apply this ideal be in the implementation of the projects planned for the year under review to instill the requisite technology, innovations and knowledge in the agricultural sector, which is KALRO's core business. To sustain quality research, the management has invested in its human resource through staff development and welfare, both of which are meant to provide a conducive working environment, through compensation and motivation of staff. This is in addition to the development and maintenance of facilities in line with the country's research priorities. The research projects undertaken during the year were aligned to the first KALRO Strategic Plan (2017-2021), Government Medium Term Plans (2018-2022), the Agriculture Sector Growth and Transformation Strategy (ASTGS 2019-2029) and the Big Four Agenda. Furthermore, research projects focused on the assessment, validation and development of Climate Smart Agricultural (CSA) technologies identified along the Agricultural Product Value Chains (APVC) in effort to mitigate adverse climate change. To ensure environmental conservation within KALRO facilities, KALRO management led in planting 72,062 trees in a bid to increase forest cover.

Despite the difficulties experienced due to COVID-19 pandemic and desert locust invasion during the last two quarters of the contract period, researchers continued conducting various projects activities with funding mainly from the USAID FtF, World Bank and European Union and other development partners. Efforts by KALRO management to support the Government in the control of the desert locust bore fruit and stemmed the worst-case impact scenarios that had been focused on agriculture and the economy in general. The Organization managed to achieve A.I.A totaling to over Ksh. 818.26 Million down from Ksh. 887.75 Million in 2019/20 largely due to the decreased demand for KALRO's research products and services and unfavorable weather. The Management continued to apply the best practices by ensuring that funds allocated to the Institutes were utilized for the programmes and activities for which they had been planned. In this regard, the management committed to the expansion in application of Enterprise Resource Planning (ERP) system in Procurement, Financial and Human Resource Management.

A major achievement during the year was the submission of 77 promising lines of different crops to KEPHIS for NPT, including (3) maize varieties with resistance/tolerance to Maize Lethal Necrosis Disease (MLND), high yields and drought tolerance. In 2019/20 FY, testing of 28,547 soil samples was achieved through collaborative linkages with the Counties and International partners. In addition, the Adaptive Research Programme developed evaluated one (1) integrated weed management technology- A biological herbicide 'Kichawi Kill' that has been approved for commercial use against maize and sorghum Striga (witchweed) by the Kenya Pest Control Product Board (PCPB); Validated, promoted and disseminate to farmers one (1) organic farming technology using mushroom-based manure, six (6) bio-fertilizer and Bio-pesticides, (6) climate smart and natural resource management technologies, innovation and management practices and three (3) conservation agricultural technologies. Further, ten (10) crop germplasm tolerant to climate change were identified. Notable achievements in livestock research included; conducted clinical trials for Contagious Caprine Pleuro-Pneumonia (CCPP) vaccine and use ILRI infection model for goats; validation trials for a commercial batch of


thermos-tolerant PPR vaccine in sheep and goats and produce a dossier for registration of the vaccine in the East African Region; and analysis of 120 post-harvest animal products samples for contaminants.

On research knowledge sharing, over 88 papers from KALRO researchers were internally reviewed for publication in renowned peer reviewed journals. Another 112 papers internally reviewed for presentation in scientific conferences and some 133 technical papers were published with 164 Extension materials developed/updated and availed to users. This offered an opportunity to our researchers to communicate to farmers, the extension workers and other stakeholders on the technologies available. A total of 650 stakeholder-training sessions farmer training workshops, field days and demonstrations were held during the period under review. In addition 100 beekeepers were trained using a manual developed for the purpose.

To ensure that farmers used improved crop varieties and livestock breeds around the country, the Organization produced and sold 1,726.37 metric tonnes of basic seed (cereals, potatoes, grain legumes and cotton) and availed to farmers. This also included 2.104 million tea cuttings, 10.84 million coffee seedlings, 31,703 improved coconut seedlings and 33,322 cashew-nut seedlings of improved varieties to enhance crop production. On livestock production side, 176 Breeding Boran and Sahiwal bulls and 459,803 indigenous chicks among other technologies were availed to farmers. To ensure availability of quality livestock feed, the Organization tested 2,176 feed samples for development of feed rations, produced and availed to farmers 1,924,050 clean napier grass cuttings and 3,857kg rangelands grass seed.

Through the KALRO Training Master Plan, the management continued to ensure human resource development by coordinating, monitoring and evaluating staff on PhD and MSc training in both local and overseas universities as well as identifying potential sponsors for the trainings. KALRO also provided 40 Youth Internships and 377 students' industrial attachment and Apprenticeships during the period.

On behalf of the Management, I would like to take this opportunity to thank the Government of Kenya and our development partners for the support they accorded to KALRO during the reporting period. This support ensured that the Organization met the set targets leading to a commendable achievement of most of our Performance Contract targets.



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**Eliud Kiplimo Kireger (PhD, OGW)**  
**DIRECTOR GENERAL**

## VI. REVIEW OF KALRO PERFORMANCE FOR FY 2020/2021

Section 81 Subsection 2 (f) of the Public Finance Management Act, 2012 requires the Accounting Officer to include in the financial statement, a statement of the national government entity's performance against predetermined objectives.

KALRO has *five* strategic pillars and objectives within its Strategic Plan for the FY 2018/2019-2022/2023. These strategic pillars are as follows:

Pillar 1: Technologies and innovations for priority agricultural products value chains generated and disseminated;

Pillar 2: Knowledge, information and technologies on priority agricultural products value chains research collated, stored and shared;

Pillar 3: Socio-economics information, market and policy options supporting priority agricultural product value chains generated and advocated;

Pillar 4: Organization's capacities and resource management strengthened;

Pillar 5: Systems for coordination, prioritization and regulation of research developed and operationalized.

KALRO develops its annual work plans based on the above *five* pillars. Assessment of the Board's performance against its annual work plan is done on a quarterly basis. The *organization* achieved its performance targets set for the FY 2020/2021 period for its strategic pillars, as indicated in the table below:

Strategic Pillar	Objective	Key Performance Indicators	Activities	Achievements
Pillar 1: Technologies and innovations for priority agricultural products value chains generated and disseminated	1. To improve crop production, productivity and utilization	No. of crop varieties developed	Develop improved crop varieties for better nutrition and industrial development.	77 crop varieties were submitted to KEPHIS for National Performance Trials (NPT), 27 candidates are being evaluated for distinctness, uniformity and stability (DUS) upon which variety release indicators and 13 varieties have been released (5 Tea, 3 Maize, 2 wheat and 1 bean.
		Technologies developed	Develop good agronomic technologies and practices for priority APVCs	i. Analyzed 28,547 soil samples; ii. Developed and disseminated three (3) management technologies of problem soils (saline, sodic, vertisols) and two soil irrigation /drainage management. iii. Developed and disseminated six (6) climate smart and natural resource management technologies, innovation and management practices; iv. Developed and disseminated three (3) conservation agricultural technologies. v. Developed and disseminated six (6) climate smart and natural resource management technologies, innovation and management practices;

Strategic Pillar	Objective	Key Performance Indicators	Activities	Achievements
				vi. Developed and disseminated three (3) conservation agricultural technologies
		No. of disease resistant crop varieties for food safety.	Improve and maintain crop health and food safety	<ul style="list-style-type: none"> <li>i. Screened 400 new double haploid (DH) lines for MLND resistance/tolerance</li> <li>ii. Evaluated all pesticides submitted by PCPB and submitted reports;</li> <li>iii. Identified and evaluated six (6) bio-fertilizer and Bio-pesticides and disseminate to farmers the findings.</li> <li>iv. Developed integrated weed management technology- A biological herbicide 'Kichawi Kill' that has been approved for commercial use against maize and sorghum Striga (witchweed) by the Kenya Pest Control Product Board (PCPB);</li> <li>v. Validated and promoted one (1) organic farming technology using mushroom-based manure.</li> </ul>
		Technologies developed for pre and post-harvest	Develop pre and post-harvest handling and storage technologies and practices	<ul style="list-style-type: none"> <li>i. Produced and availed to farmers 89.8MT against a target of 271MT of Aflasafe KE01<sup>TM</sup>. This indicator was not achieved due to shortage of raw material for production;</li> <li>ii. Developed a policy to guide technology transfer and commercialization of Aflasafe.</li> </ul>
		Genetic resources conserved	Support plant genetic resources conservation.	<ul style="list-style-type: none"> <li>i. Undertook a study to determine rate of crops biodiversity loss;</li> <li>ii. Identified ten (10) crop germplasm tolerant to climate change.</li> </ul>
		Disease free planting materials	Material produced and disseminated	Basic seed (cereals, potatoes, and grain legumes) (MT), 1720.057, Coffee planting material (No. Millions), 10.844, Seed cane production (No.'000' MT), 2.25, Cassava (No. Million), 1.9, Sweet Potato vines (No. Million), 9.27, Coconut seedlings (No.), 31703, Cashew nut seedlings (No.), 33322, Cotton basic seed (ton) 6.312, Mulberry cuttings (No) 25,000, Macadamia 79,870, Fruit seedlings(avocado, sweet yellow passion, mango, grafted purple passion, sunrise solo papaya, tree tomato, pepino melon, Thorn melon and banana), 6560

Strategic Pillar	Objective	Key Performance Indicators	Activities	Achievements
	2. To improve livestock production, productivity and products utilization	Develop improved livestock breeds	Develop improved livestock breeds	<ul style="list-style-type: none"> <li>i. Evaluated and selected dams and sires based on breeding values;</li> <li>ii. Aailed 2,000 doses of Sahiwal semen for storage and distribution by KAGRC;</li> <li>iii. Provided data on selected dams and sires for performance evaluation and pedigree recording of selected dams and sires by Kenya Stud Book;</li> <li>iv. Carried out two (2) assessments to approve bulls for availing to farmers;</li> <li>v. Aailed 176 breeding bulls to farmers.</li> <li>vi. Produced and aailed 193 breeding bucks and rams.</li> <li>vii. Produced and aailed 459,803 chicks to farmers</li> </ul>
		No. of forage varieties developed	Develop forages, improved feeds and feeding systems	<ul style="list-style-type: none"> <li>i. Evaluated two Bracharia cultivars and three (3) SPV varieties, Enteropogon macrostachyus, Cenchrusciliaris Ecotypes TVT 1, MGD 3 and Chlorisrox burghiana, for ASALs and submitted to KEPHIS for NPT evaluation;</li> <li>ii. Analyzed 2,176 animal feed samples for their nutritive values and provide feedback in terms of advice to livestock farmers and feed processors accordingly;</li> <li>iii. Formulated and disseminated 10 (ten) feed rations and share with farmers.</li> </ul>
		Forage seed Systems developed	Develop a robust and sustainable forage seed systems	<ul style="list-style-type: none"> <li>i. 4,012,391 (no) clean nappier grass cuttings and</li> <li>ii. 5,112.2 kg rangelands grass seed produced</li> </ul>
		No. of vaccines developed	Improve and maintain livestock health and food safety	<ul style="list-style-type: none"> <li>i. Conducted clinical trial for Contagious Caprine Pleuro-Pneumonia (CCPP) vaccine and use ILRI infection model for goats;</li> <li>ii. Conducted validation trials for a commercial batch of thermos-tolerant PPR vaccine in sheep and goats and produce a dossier for registration of the vaccine in the East African Region;</li> <li>iii. Carried out field validation for CBPP sub-unit vaccine at control site in Magadi sub-county and experimental site in Mosiro ward.</li> </ul>
		No. of diagnostics developed		Capacity built technical staff on molecular techniques on Camel mastitis vaccine development in collaboration with UNITID on the use of the MinION sequencer, for

Strategic Pillar	Objective	Key Performance Indicators	Activities	Achievements
		Tests for mycotoxins, drug residues and heavy metals (in feeds and food) validated		sequencing the pathogens of interest; Analyzed 120 post-harvest animal products samples for contaminants;
		Number of feed samples analysed for contaminants	Improve and maintain livestock health and food safety	1,421 feed samples were analyzed and feedback provided to farmers.
		No. of value added livestock products developed	Support the development of processing and value addition of livestock products	Two value added products (propolis ginger and body cream) Developed
	3. To develop appropriate agricultural machinery and equipment/implements	No of Machinery acquired deployed	Machinery acquired deployed Improved efficiency	<ul style="list-style-type: none"> <li>i. Fabricated 3 equipment/machinery: backpack cassava-weeder, Maize harvester, and incubator for indigenous chicken;</li> <li>ii. Established two (2) strategic linkages with private sector for fabrication and supply of appropriate machinery and equipment and attendant support services -Partnered with MoA-ATDC and Busia Jua-kali group (Kalulu engineering) for fabrication and supply of appropriate machinery and equipment and attendant support services.</li> </ul>
<b>Pillar 2:</b> Knowledge, information and technologies on priority agricultural products value chains research collated, stored and shared	1.Promote knowledge and information management and outreach	No of Databases developed	Collect and collate KALRO Knowledge Information and Technologies (KITs) for storage, ease of retrieval and dissemination;	<ul style="list-style-type: none"> <li>i. Developed one (1) manual for beekeeping husbandry practices;</li> <li>ii.Held 2 meetings per county to promote soil analysis services in each of the following five (5) Counties (Busia, Tharaka-nithi, Taita-Taveta, Kisii, Kajiado);</li> <li>iii. Disseminated two (2) pre (Aflasafe KE01™) and two (2) post-harvest (Curing and processing of root and tuber crops and use of diffuse light store) technologies to reduce food contamination and wastage and assist farmers to recover food security</li> </ul>

Strategic Pillar	Objective	Key Performance Indicators	Activities	Achievements
				<p>affected by COVID-19 pandemic.</p> <p>iv. Developed and updated 164 extension materials, that include policy briefs, technical bulletins, pamphlets, leaflets and online library;</p> <p>v. Updated and disseminated one (1) brochure on FAW management;</p>
		No of Mechanisms for ease of retrieval deployed	Strengthen, digitalize and provide innovative library products and information services;	<p>a). Operationalized and Commissioned KALRO Big data platform and cloud services as a way of providing information on line;</p> <p>b). Carried out digitization by implementing One (1) crop model;</p> <p>c). Operationalized the Agro-weather Tool, which will be able to provide insights based on agriculture and weather as well as targeted advisories for farmers;</p> <p>d). Commissioned an ICT based agro-advisory system for on line access by stakeholders;</p> <p>e). Developed and shared four (4) Project documentaries on crops (2) and livestock (2) innovations and technologies;</p> <p><b>i. Crops link</b>  <a href="https://youtu.be/gN0xG0MQmUk">https://youtu.be/gN0xG0MQmUk</a>  <a href="https://youtu.be/UVuhi6J0naE">https://youtu.be/UVuhi6J0naE</a>  <a href="https://youtu.be/NS-HjaIuq7o">https://youtu.be/NS-HjaIuq7o</a>  <a href="https://youtu.be/zPTaxacRoJM">https://youtu.be/zPTaxacRoJM</a></p> <p><b>ii. Livestock links</b>  <a href="https://youtu.be/orIxFObEaRc">https://youtu.be/orIxFObEaRc</a>  <a href="https://youtu.be/-cIB2qdtFXQ">https://youtu.be/-cIB2qdtFXQ</a>  <a href="https://youtu.be/PsEeB77ObSI">https://youtu.be/PsEeB77ObSI</a>  <a href="https://youtu.be/XndmahpCICI">https://youtu.be/XndmahpCICI</a></p> <p>f). Implemented KALRO customer relation management system at the Headquarters and Tea Research Institute (TRI);</p>
		No of Digital libraries services in place		<p>i. Updated one (1) mobile digital application on FAW detection and management;</p> <p>ii. Evaluated three (3) bio-pesticides for management of fall armyworm;</p> <p>iii. Evaluated three (3) plant extracts for management of fall armyworm on maize;</p> <p>iv. Evaluated three (3) synthetic insecticides submitted to KALRO by PCPB from agrochemicals industry for management of fall armyworm on maize;</p> <p>v. Identified 20 FAW-tolerant populations for development of double haploid (DH);</p> <p>vi. Evaluated 100 hybrids for preliminary yield</p>

Strategic Pillar	Objective	Key Performance Indicators	Activities	Achievements
				under FAW infestation.
		No of Improved Journals for information sharing	Sustain and improve publication of the organization's peer reviewed journals to international repute, including the East African Agricultural and Forestry Journal and the Tea Quarterly Journal	<ul style="list-style-type: none"> <li>i. Submitted 88 internally reviewed papers for publications in peer reviewed refereed journals;</li> <li>ii. Developed 133 internally reviewed technical publications;</li> <li>iii. Submitted 112 papers internally reviewed for presentation in scientific conferences.</li> </ul>
		No. of Capacity building programs No. of Counties covered	Provide capacity building services within the 47 counties and in the African region in order to enhance synergy and benefits from agricultural research and products	<ul style="list-style-type: none"> <li>i. Trained 100 beekeepers using the manual.</li> <li>ii. Conducted 650 stakeholder-training sessions on various crops and livestock husbandry practices throughout the country;</li> <li>iii. Trained 60 Agricultural Product Value Chain (APVC) and Innovation Platform champions;</li> <li>iv. Held 150 consultative fora as follows, (50%);</li> </ul>
<b>Pillar 3:</b> Policies and market options supporting and facilitating priority agricultural product value chains developed and advocated	To generate socio-economics, gender and promotion of Participatory Research Methods information	No. of Improved information generated and shared	Generate and promote socio-economics information;	<ul style="list-style-type: none"> <li>i. Conducted economic analysis studies in two (2) institutes: DRI and TRI and availed reports;</li> <li>ii. Developed and published agricultural market information on four (4) commodities namely tea, maize, dairy and sugar;</li> <li>iii. Developed and submitted to donors 50 mega research proposals for funding;</li> <li>iv. Submitted 88 internally reviewed papers for publications in peer reviewed refereed journals;</li> <li>v. Developed 133 internally reviewed technical publications;</li> <li>vi. Developed and updated 164 extension materials, that include policy briefs, technical bulletins, pamphlets, leaflets and online library;</li> <li>vii. Submitted 112 papers internally reviewed for presentation in scientific conferences.</li> </ul>

Strategic Pillar	Objective	Key Performance Indicators	Activities	Achievements
<b>Pillar 4:</b> Capacity building to undertake research on priority agricultural product value chains strengthened	1. To improve human resource capacity development and management	% of Competitive remuneration package in place	Develop a reward and recognition system with an attractive and competitive salary and benefits package commensurate with work output;	<ul style="list-style-type: none"> <li>i. Trained disability mainstreaming committee and Senior Management; and sensitize staff at the institutes on disability;</li> <li>ii. Promoted attainment of Universal Health Coverage (UHC) at the workplace through offering services for disease prevention and wellness promotion for at least 80% (2290) of staff and family members with the following: <ul style="list-style-type: none"> <li>iii. Screened package: HIV, Cancer, Blood pressure, Blood sugar and BMI;</li> <li>iv. Sensitization package for non-communicable diseases (NCDs), Cancer (Breast, Cervical and prostate,) diabetes, hypertension, stress management and mental health;</li> </ul> </li> <li>iii. Sensitization package on HIV prevention;</li> </ul>
		No. of staff trained	Learning and development through regular short and long term training (technical and operational) of staff based on identified needs;	<ul style="list-style-type: none"> <li>i. Capacity built technical staff on molecular techniques on Camel mastitis vaccine development in collaboration with UNITID on the use of the MinION sequencer, for sequencing the pathogens of interest;</li> <li>ii. Capacity built 346 staff members on the identified skill gaps</li> <li>iii. In-house training of 20 interns (10-crops and 10-livestock) on development of research proposals and publications</li> <li>iv. Sensitized 50 employees in the five named institutes (10 each) on the commitments and standards stipulated in the service;</li> </ul>
		Level Improved Leadership index	Develop leadership and management skills in order to meet the corporate goals while observing integrity and good governance;	<ul style="list-style-type: none"> <li>a) Tracked compliance with the commitments and standards in the charter by; <ul style="list-style-type: none"> <li>i. Maintaining records on service delivery in all quarters;</li> <li>ii. Maintaining feedback registers in all quarters;</li> <li>iii. Analysis and compilation of a report on the feedback and shared it with the service providers;</li> </ul> </li> <li>b) Customized the service charter to unique needs of customers by;</li> <li>c) Developing an audio clip for the blind played on television screens at KALRO DRI</li> </ul>

Strategic Pillar	Objective	Key Performance Indicators	Activities	Achievements
	2. To mobilize and manage financial resources	Revenue generated	<p>Increase Internally Generated Revenue through commercialization of technologies, products and services;</p> <p>Strengthening the KALRO Seed Unit (KSU);</p> <p>Raising revenue from royalties, contract research and consultancies;</p>	<p>i. Kshs. (Million) 1,562.24</p> <p>ii. Developed and submitted to donors 50 mega research proposals for funding;</p>
	3. To improve organizational business processes for effective management and coordination	Cumulative % to achieve a Robust ICT	Establish, maintain and manage Information and Communications Technology (ICT)	<p>i. Developed a security risk mitigation plan and implement it at the Headquarters, ICRI, and BRI-Garissa;</p> <p>ii. Sensitized staff on security awareness at CRI, SG&amp;CRI and TRI;</p> <p>iii. Undertook one fire drill and marshal training in 3 Institutes (AMRI, VSRI and GeRRI);</p> <p>iv. Increased ICT security measures by ensuring 100% anti-virus updates and 100% data backup throughout the year;</p> <p>v. Increased online security by installing and maintaining an up to date Secure Socket Layer on KALRO website;</p> <p>vi. Increased online security by installing and maintaining Antispam Software for KALRO Corporate emails;</p> <p>vii. Conducted security checks of all persons who access KALRO facilities and maintain a register for all visitors;</p> <p>viii. Upgraded the surveillance system at the headquarters ‘;</p> <p>b. Identified, classified and secured information assets based on the following attributes; value, integrity, importance, confidentiality, accuracy and authenticity.</p>

<b>Strategic Pillar</b>	<b>Objective</b>	<b>Key Performance Indicators</b>	<b>Activities</b>	<b>Achievements</b>
		Support and facilitate KALRO Security Service for effective services	Security service implemented	<p>a) Updated Inventory Register by conducting a survey</p> <p>b). Developed a security risk mitigation plan and implement it at the Headquarters, ICRI, and BRI-Garissa;</p> <p>c). Sensitized staff on security awareness at CRI, SG&amp;CRI and TRI;</p> <p>d). Undertook one fire drill and marshal training in 3 Institutes (AMRI, VSRI and GeRRI);</p> <p>e). Increased ICT security measures by ensuring 100% anti-virus updates and 100% data backup throughout the year;</p>
	4.To enhance collaboration and partnerships	No. of collaborative initiatives	Build and maintain collaborations with other NARS such as universities, county governments, NGOs, agro-industry, commercially-oriented farms, and international organizations	<p>i. Capacity built technical staff on molecular techniques on Camel mastitis vaccine development in collaboration with UNITID on the use of the MinION sequencer, for sequencing the pathogens of interest;</p> <p>ii. Sixty (60) institute based research priority setting fora based on their Agricultural Product Value Chains (APVC) mandate;</p> <p>iii. Forty (40) engagements with strategic partners including the youth</p> <p>iv. Fifty (50) research coordination forums (i.e. project steering committee meetings).</p>
		No. of linkages with Country Governments	Establish and maintain linkages with County Governments	Partnered with 5 Counties to promote soil analysis services in order to increase crop productivity

## TECHNICAL RESEARCH PROGRAMME ACHIEVEMENTS: FY/2020/2021

Although the year recorded significant achievements in various projects under Crops and Livestock Research, the lock down because of COVID 19 limited the existing potential in most of KALRO activities to record higher achievements. This is because establishing trials, monitoring and evaluation as well as data collection was totally constrained in some cases. Presented below is the summary of the key achievements for the FY 2020/2021 as per the set Performance Contracting document.

### Improved crop production, productivity and utilization

#### Development of improved crop varieties

This involves field trials to select promising lines for particular agro ecological zones in the country. These promising crop lines are registered with KEPHIS for National Performance Trials (NPTs) and are evaluated for at least two years. The successful candidates are evaluated for Distinctness, Uniformity and Stability (DUS) upon which variety release indicators are confirmed and varieties submitted to National Variety Release Committee (NVRC) for official release and gazettelement. In the FY 2020/21, KALRO undertook the following activities targeting release of 12 varieties as per the Table 1 below:

**Table 1: NPT, DUS, Variety release for the year 2020/21**

<b>Crop</b>	<b>NPT</b>	<b>DUS</b>	<b>Releases</b>
Maize	11	2	3
Irish Potatoes	3	2	0
Rice	3	3	0
Cowpeas	3	1	0
Sorghum	4	2	0
Groundnuts	3		
Cassava	4		
Beans	3	1	1
Cotton	3		
Wheat	2	2	2
Green grams	4		
Sunflower	1	1	
Bambara	1		
Finger Fillet	5		
Coffee	4		
Sugar	15	7	
Tea			5
<b>Total</b>	<b>69</b>	<b>21</b>	<b>11</b>

### Production of crops' planting materials

During the FY 2020/21, KALRO produced planting materials of various crops species and sold to farmers and seed companies for planting, multiplication and commercialization as shown in Table 2 below.

**Table 2: Production of crops' planting materials**

Planting Materials	Achievement for the FY
Basic seed (cereals, potatoes, and grain legumes) (MT),	1,720.057
Tea plants and cuttings (Millions),	2.104
Coffee planting material (No. Millions),	10.844
Seed cane production (No.'000' MT),	2.25
Cassava (No. Million),	1.9
Sweet Potato vines (No. Million),	9.27
Coconut seedlings (No.),	31,703
Cashew nut seedlings (No.),	33,322
Cotton basic seed (ton)	6.312
Mulberry cuttings (No)	25,000
Macadamia	79,870
Fruit seedlings(avocado, sweet yellow passion, mango, grafted purple passion, sunrise solo papaya, tree tomato, pepino melon, Thorn melon and banana)	6,560

### Disseminate Pre- and Post-Harvest Crop Handling and Storage Technologies and Practices

During the FY 2020/21, KALRO disseminated two (2) pre (Aflasafe KE01™) and two (2) post-harvest (Curing and processing of root and tuber crops and use of diffuse light store) technologies to reduce food contamination and wastage and assist farmers to recover food security affected by COVID-19 pandemic.

### Improve and maintain crop health and food safety

#### Evaluation of maize clones tolerant to Maize Lethal Necrosis Disease

As a contribution to sustainable agriculture, host plant resistance will continue to be an important component of integrated management of Maize Lethal Necrosis Disease (MLND). During 2020/21 FY the following activities were undertaken towards this purpose:

- i. Screened 400 new double haploid (DH) lines for MLND resistance/tolerance;
- ii. Generated 200 single crosses with potential resistance/tolerance to MLND;
- iii. Generated 100 three-way crosses with potential resistance/tolerance to MLND;

- iv. Conducted Performance Yield Trials (PYT) for 300 entries of maize crosses with MLND resistance/tolerance;
- v. Conducted Advanced Yield Trials (AYT) for 30 lines with resistance/tolerance to MLND;
- vi. Submitted 3 maize varieties with MLND resistance/tolerance for evaluation in National Performance Trials.

### **Awareness creation and development of control measures for Fall Armyworm (FAW)**

The Fall Armyworm (FAW) is an insect pest that invaded the country in March 2017 and has adversely affected maize production. Currently, it has been reported in 43 Counties and if not controlled on time it can lead to total loss of the maize crop. During this financial year, KALRO created awareness on the importance of timely identification of the pest and conduct research to develop effective control strategies for the FAW as Follows:

- i. Updated and disseminated one (1) brochure on FAW management;
- ii. Updated one (1) mobile digital application on FAW detection and management;
- iii. Evaluated three (3) bio-pesticides for management of fall armyworm;
- iv. Evaluated three (3) plant extracts for management of fall armyworm on maize;
- v. Evaluated three (3) synthetic insecticides submitted to KALRO by PCPB from agrochemicals industry for management of fall armyworm on maize;
- vi. Identified 20 FAW-tolerant populations for development of double haploid (DH);
- vii. Evaluated 100 hybrids for preliminary yield under FAW infestation.

### **Production of Aflasafe KE01**

Aflatoxin is a poisonous substance produced by fungi, *Aspergillus flavus*. Aflasafe KE01<sup>TM</sup> is a biological control of aflatoxin developed to prevent the contamination of food produce by the fungi at the farm level.

During the contract period KALRO:

- i. Produced and availed to farmers 89.8MT against a target of 271MT of Aflasafe KE01<sup>TM</sup>. This indicator was not achieved due to shortage of raw materials for production;
- ii. Developed a policy to guide technology transfer and commercialization of Aflasafe.

### **Evaluation of Pesticides for Crop Pest Management**

KALRO is accredited by Pest Control Products Board (PCPB) to undertake pesticide efficacy trials. During the FY 2020/21, KALRO:

- i. Evaluated all pesticides submitted by PCPB and submitted reports;

- ii. Identified and evaluated six (6) bio-fertilizer and Bio-pesticides and disseminate to farmers the findings.

### **Develop and Promote Organic farming**

In FY 2020/21 the organization:

- i. Developed one (1) integrated weed management technology- A biological herbicide 'Kichawi Kill' that has been approved for commercial use against maize and sorghum Striga (witchweed) by the Kenya Pest Control Product Board (PCPB);
- ii. Validated and promoted one (1) organic farming technology using mushroom-based manure.

### **Conservation of Plant Genetic Resources**

KALRO maintains a genebank with 46,000 accessions of different crop species collected all over the country. In addition, the genebank preserves the world simsim and finger millet germplasm collection. These national and international germplasms require regular rejuvenation to maintain their viability. Because of the effects of climate change, there is urgent need to continue with collection and preservation of indigenous crop germplasm that may not have been collected, lest we lose it. During the contract period KALRO:

- i. Undertook a study to determine rate of crops biodiversity loss;
- ii. Identified ten (10) crop germplasm tolerant to climate change.

### **Develop environmental friendly technologies and natural resource systems for sustainability and increased productivity**

#### **Soil Analysis and Recommendations**

In alignment to the "Big Four" agenda on Food and Nutrition Security, KALRO undertook soil analysis to enhance food productivity through targeted fertilizer application to specific soil requirements. In the FY 2020/21, KALRO:

- i. Analyzed 28,547 soil samples;
- ii. Held 2 meetings per County to promote soil analysis services in each of the following five (5) Counties (Busia, Tharaka-nithi, Taita-Taveta, Kisii, Kajiado);
- iii. Developed and disseminated three (3) management technologies of problem soils (saline, sodic, vertisols) and two soil irrigation /drainage management.

## **Develop and promote climate change adaptation and mitigation technologies**

In the FY 2020/21, KALRO:

- i. Developed and disseminated six (6) climate smart and natural resource management technologies, innovation and management practices;
- ii. Developed and disseminated three (3) conservation agricultural technologies.

## **Improve livestock production, productivity and product utilization**

### **Breeding Bulls**

Sahiwal (milk and beef) and Boran (beef production) cattle breeds are tolerant to a wide range of climatic conditions and diseases that limit dairy and beef production in the country. The use of Sahiwal and Boran bulls to improve local breeds will go a long way in improving milk and beef production in Kenya. In the FY 2020/2021, KALRO undertook the following activities:

- i. Evaluated and selected dams and sires based on breeding values;
- ii. Aailed 2,000 doses of Sahiwal semen for storage and distribution by KAGRC;
- iii. Provided data on selected dams and sires for performance evaluation and pedigree recording of selected dams and sires by Kenya Stud Book;
- iv. Carried out two (2) assessments to approve bulls for availing to farmers;
- v. Aailed 176 breeding bulls to farmers.

### **Breeding Bucks and Rams**

Goats and sheep are critical livestock for food and nutrition security in the Arid and Semi-Arid Lands (ASALs) of the country. KALRO researches and produces high quality breeding bucks and rams for availing to farmers. In the FY 2020/21 KALRO produced and availed 193 breeding bucks and rams.

### **Improved Indigenous Chicken**

Indigenous chicken plays an important role in the rural communities as a source of protein, delicacy and cash from the sale of eggs and meat. KALRO has a programme for improving indigenous chicken production. The target is set in anticipation of putting up a new hatchery which was not completed during the last financial year. In the FY 2020/21, KALRO produced and availed 459,803 chicks to farmers against a target of 561,000 by 30<sup>th</sup> June, 2021.

### **Improved Honey Production**

Beekeeping is increasingly becoming important because it contributes to enhanced income as well as food security through provision of honey, beeswax, propolis and

improved pollination for field crops. Kenya has a rich biodiversity of honey bees due to the varied geographical agro ecological zones. During the period KALRO;

- i. Developed one (1) manual for beekeeping husbandry practices;
- ii. Trained 100 beekeepers using the manual.

### **Develop and Promote Forages, Improved Feeds and Feeding Systems**

In FY 2020/21, KALRO:

- i. Evaluated two *Bracharia* cultivars and three (3) SPV varieties, *Enteropogon macrostachyus*, *Cenchrusciliaris Ecotypes TVT 1, MGD 3* and *Chlorisrox burghiana*, for ASALs and submitted to KEPHIS for NPT evaluation;
- ii. Analyzed 2,176 animal feed samples for their nutritive values and provide feedback in terms of advice to livestock farmers and feed processors accordingly;
- iii. Formulated and disseminated 10 (ten) feed rations and share with farmers.

### **Improve and Maintain Livestock Health**

During the FY 2019/20, KALRO had targeted vaccine development, testing and strategic use as key factors in maintenance of animal disease-free zones. In FY 2020/21, KALRO continued with activities as follows;

- i. Capacity built technical staff on molecular techniques on Camel mastitis vaccine development in collaboration with UNITID on the use of the MinION sequencer, for sequencing the pathogens of interest;
- ii. Conducted clinical trial for Contagious Caprine Pleuro-Pneumonia (CCPP) vaccine and use ILRI infection model for goats;
- iii. Conducted validation trials for a commercial batch of thermos-tolerant PPR vaccine in sheep and goats and produce a dossier for registration of the vaccine in the East African Region;
- iv. Analyzed 120 post-harvest animal products samples for contaminants;
- v. Carried out field validation for CBPP sub-unit vaccine at control site in Magadi sub-county and experimental site in Mosiro ward.

### **Develop robust and sustainable forage seed systems**

KALRO continues to develop and promote improved feeds and feed systems, during the contract period, 4,012,391 clean nappier grass cuttings and 5,112kg rangelands grass seed were produced as shown in Table 3 below:

**Table 3: Production of forage seed**

<b>Activity</b>	<b>FY Achievement</b>
Napier grass cuttings (No.),	4,012,391
Rangelands grass seed (kg),	5,112.20

## **Develop appropriate agricultural machinery and equipment/implements**

In support of development and up scaling of agro-processing equipment/implements, KALRO undertook agricultural mechanization research to determine appropriate agricultural machinery and their level of efficiency at farm level. During the FY 2020/21, KALRO:

- i. Fabricated 3 equipment/machinery: backpack cassava-weeder, Maize harvester, and incubator for indigenous chicken;
- ii. Established two (2) strategic linkages with private sector for fabrication and supply of appropriate machinery and equipment and attendant support services -Partnered with MoA-ATDC and Busia Jua-kali group (Kalulu engineering) for fabrication and supply of appropriate machinery and equipment and attendant support services.

## **Knowledge, information and technologies on agricultural products value chains research collated, stored and shared**

### **Promotion of knowledge, information and technologies**

Low adoption of knowledge, information and technologies (KITS) by various value chain actors is attributable to many factors including weak relationships and linkages coupled with ineffective approaches and methods used to manage and share KITS. KALRO therefore recognizes the need for innovative mechanisms for management and sharing the requisite knowledge. In the FY 2020/21, KALRO undertook the following:

- i. Conducted 650 stakeholder-training sessions on various crops and livestock husbandry practices throughout the country;
- ii. Trained 60 Agricultural Product Value Chain (APVC) and Innovation Platform champions;
- iii. Held 150 consultative fora as follows;
  - a) Sixty (60) institute based research priority setting fora based on their Agricultural Product Value Chains (APVC) mandate;
  - b) Forty (40) engagements with strategic partners including the youth;
  - c) Fifty (50) research coordination forums (i.e. project steering committee meetings).

### **Research Proposals and Publications**

To enhance research funding and ensure research findings are shared with stakeholders on timely basis, KALRO undertook the following:

- i. Conducted economic analysis studies in two (2) Institutes: DRI and TRI and availed reports;
- ii. Developed and published agricultural market information on four (4) commodities namely tea, maize, dairy and sugar;

- iii. Developed and submitted to donors 50 mega research proposals for funding;
- iv. Submitted 88 internally reviewed papers for publications in peer reviewed refereed journals;
- v. Developed 133 internally reviewed technical publications;
- vi. Developed and updated 164 extension materials, that include policy briefs, technical bulletins, pamphlets, leaflets and online library;
- vii. Submitted 112 papers internally reviewed for presentation in scientific conferences.

### **Project Completion rate**

During the FY 2020/2021 the following projects had been targeted;

#### **Infrastructural Projects Implementation Targets Matrix**

<b>No.</b>	<b>Project Name</b>	<b>Project Description</b>	<b>Location</b>	<b>Completed (Outputs) for FY 2020/21</b>
<b>1.</b>	Apiary	Construct	ARI Transmara	The project was completed. Apiary equipment were bought and work accomplished and the apiary is functional.

### **Support the development of processing and value addition of livestock products**

Through interaction with farmers and County Governments, KALRO:

- i. Developed two (2) milk value added products namely: butter and yoghurt from goat and camel milk;
- ii. Capacity built 20 farmer groups on butter and yoghurt processing named in (a) above

## **VII. CORPORATE GOVERNANCE STATEMENT**

### **Overview**

The Kenya Agricultural and Livestock Research (KALR) Act, No 17 of 2013 established the Kenya Agricultural and Livestock Research Organization (KALRO) as a consequence, Kenya Agricultural Research Institute (KARI), Kenya Sugar Research Foundation (KESREF), Tea Research Foundation of Kenya (TRFK) and the Coffee Research Foundation (CRF) were merged. The Organization consists of the Board of Management and a Secretariat which implements Board decisions. The Act further established 16 Research Institutes which focus on different thematic research areas. KALRO complies fully and strictly with all requirements of the regulatory and other non-commercial entities in Kenya including clarity of financial reporting and accountability to the public (citizens and stakeholders) and aims to set best practice standards in agricultural research and fair conduct towards its staff, suppliers and general public.

The KALRO Board of Management held 19 Board meetings during the period under review. A schedule of the board meetings held and attendance by members is attached herein. The Board has a board charter; new members are issued with a copy upon joining the board. The process of appointment and removal of board members is outlined in the KALR Act Sections 6,7 and 8. Further, the roles and functions of the Board are listed under Section 9 of the KALR Act. The Board ensures that a performance evaluation is conducted annually and results therefrom discussed. The Board's remuneration is guided by the Guidelines for Terms and Conditions of Service for Chancellors of Public Universities, Board Chairpersons, Board Members and Staff of State Corporations. New members are taken through induction by being issued with copies of the KALR Act, Strategic Plan, Board Charter, main organizational policies and a presentation on the Organization which is done by the Director General. Training for Board Members is conducted from time to time on a need basis.

### **Organization structure**

KALRO is governed by a Board of Management as per the KALR Act No. 17 of 2013, while the day to day management is vested in the Director General who is the secretary to the Board.

The object and function for which the organization is established is to:

- a). Promote, streamline, coordinate and regulate all research in crops, livestock, genetic resources and biotechnology in Kenya;
- b). Promote, streamline, coordinate and regulate research in crops and animal diseases; and
- c). Expedite equitable access to research information, resources and technology and promote the application of the research findings and technology in the field of agriculture.

## **Appointment of the Board**

The Board is appointed pursuant to the provisions of KALRO Act No 17 of 2013. The Chairman of the Board is appointed by the President of the Republic of Kenya. Members of the Board are appointed by the Cabinet Secretary, Ministry of Agriculture, Livestock and Fisheries on recommendation of various nominating institutions provided under the KALR Act.

## **Board Organization and Structures**

The composition of the KALRO Board of Management consists of

- a) Chairperson appointed by the President;
- b) The Principal Secretary in the Ministry for the time being responsible for agriculture;
- c) The Principal Secretary in the Ministry for the time being responsible for finance;
- d) The Principal Secretary for the time being responsible for livestock;
- e) The Secretary to the Science Council appointed under paragraph 6 of the Second Schedule to the Science and Technology Act;
- f) Five persons appointed by the Cabinet Secretary, of whom
  - i) One represents the interests of farmers;
  - ii) One shall represent the interest of the general public;
  - iii) One shall be a representative of an institution of higher learning;
  - iv) Two persons co-opted by the Board, who may be non-citizen scientists in the field of agriculture and who possess such knowledge and experience as may be necessary for the better carrying out of the functions of the Board; and
  - v) The Director General appointed in accordance with Section 14.

## **Role of the Board of Management**

The Board provides organizational strategic direction and oversight to management as provided in the KALR Act which states that the functions of the Board of Management of KALRO shall be:

- a) Carry out the objects and functions of the Organization;
- b) Advise the Cabinet Secretary on Matters of policy relating to agricultural research;
- c) Oversee the effective co-ordination of the operations of the Organization;
- d) Ensure that the activities of the Organization are consistent with the policy and objectives of the government, and the national priorities relating to agriculture and agricultural research;
- e) Approve, oversee and evaluate on a continuing basis the programs being implemented by the Organization;
- f) Direct strategic research and policy and prioritize and determine the research agenda;
- g) Co-operation with other lead agencies and organizations in carrying out agricultural research;
- h) Development of an economic, efficient and cost effective internal management structure, strategic Annual plan of the Organization;
- i) Implementation and fulfilment of the policies and agreed objectives, performance targets and service standards of the Organization;
- j) Provision of advice as required on all matters within the responsibility of the Organization; and
- k) Perform such other functions as may be necessary for the exercise of its powers under the Act.

## Board Meetings

The Board and its Committees' are required to meet not less than four times in any calendar year and not more than four months shall lapse between the date of one meeting and the date of the next meeting. In addition to the regular Board meetings, there may be other special meetings to deal with specific matters. During the financial year under review the KALRO BoM held meetings as per attendance report Table below;

Names of Members	Board Meetings		Board Committee Meetings			
			Research, Technical & Innovation	Finance & Administration		Audit, Risk & Governance
	Scheduled	Special	Scheduled	Scheduled	Special	Scheduled
	<b>4</b>	<b>1</b>	<b>4</b>	<b>4</b>	<b>0</b>	<b>4</b>
Mr. Wilfred C. Rotich	4	1				
Mrs. Mary Mwambia	4	1	4	3		
Mr. Elijah K. Nguyo	4	1	3			4
Dr. Samuel N. Mburu	2		1	1		
Mrs. Grace G. Kimaru	4	1	4	4		4
Ms. Teresa Karanja	1		1	1		1
Ms. Margaret Wamuyu	4	1		2		1
Prof. Walter O. Oyawa	4	1	3			
Mr. Isaac Odek	1			1		
Dr. Eliud K. Kireger	4	1	1	3		

## Other Board information

The KALRO Board of Management is answerable to the Government through the parent Ministry. The board signs a Performance Contract (PC) every financial year with the Government through the same Ministry outlining performance targets in line with the above stated functions. The signed PC is monitored and evaluated periodically and at the end on the contract term.

## Board Committees

To effectively discharge its mandate, the Board established committees with specific terms of reference.

The Board appointed into committees, members with requisite skills and competence to discharge allocated responsibilities. In the event that a committee lacked specific skills within its membership, the Board, with the approval of the oversight body, co-opt skilled non-Board members to serve on the committee, provided that the chair of a committee shall not be a co-opted member or the Chairperson of the Board. The Board may, from time to time, rotate Board members between the Committees.

The Board remains collectively responsible for the decisions and actions taken by any committee. A committee may only perform the tasks delegated to it by the Board and may not exceed the authority or powers of the Board.

The Chairperson of each Committee, in consultation with the Board, determined the frequency of committee meetings as is necessary to fulfill the committee's functions. The Chairperson of each committee, in consultation with management, developed the committee's agenda. The Board however determined the procedure and process within which committees take independent professional advice at the organization's expense.

The committees promptly reported to the Board any actions taken for ratification and any major developments that they become aware of. The Board as set out in the terms of reference of the respective committees, received reports of the committee's findings and actions.

The Board established the following standing committees:-

- i. Audit, Risk and Governance,
- ii. Finance and Administration,
- iii. Research, Technical and Innovation

The Organization may establish any other ad hoc committees to handle any special business. The above committees permit and facilitate more in-depth deliberations on issues that would otherwise, not be possible in a normal full Board Meetings. The Committees undertake preliminary discussions of the business of the board and prepare their resolutions for deliberations and adoption by the full Board Meetings. A decision of any of the Committees only becomes effective after it has been approved and confirmed by the full board.

### **Communication**

The Board receives management reports in advance of all scheduled meetings and in turn formally, communicates to staff through the Director General. Informal communication to staff may be made during Board meetings while in the Organization. Board members cannot commit the Board in any way when having informal communication with staff.

## VIII. MANAGEMENT DISCUSSION AND ANALYSIS

### a) Operational performance

During the Financial Year 2020/21, KALRO implemented various projects and programmes under the Crops and Livestock Research as discussed in detail in the report of the directors. The Programmes were mainly funded through Government grants, Development partners and internally generated funds.

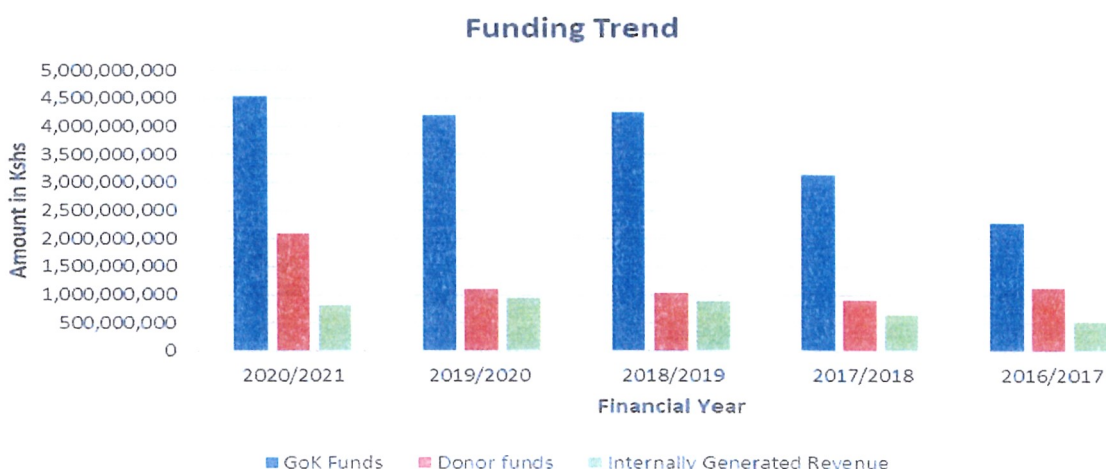
Government grants were mainly used for personnel emoluments, operations and maintenance. Donor funds were used for research technologies in line with partnership agreements. Internally generated funds were used to cater for utility bills and ploughed back to generate revenue

### b) Financial performance

#### i. Funding trends

The following is a summary of the income organization received in the last five years;

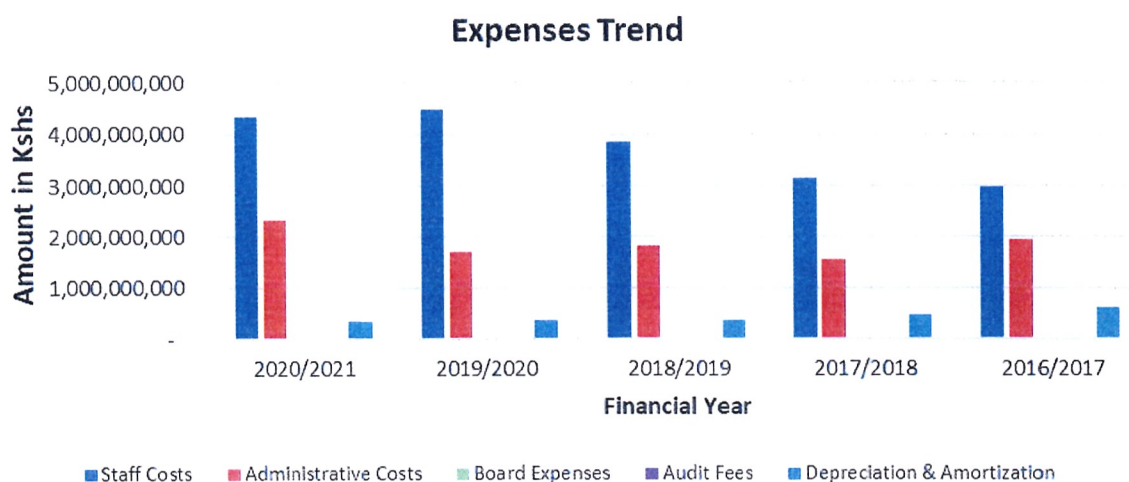
Source of Funds	2020/2021 (Kshs.)	2019/2020 (Kshs.)	2018/2019 (Kshs.)	2017/2018 (Kshs.)	2016/2017 (Kshs.)
GoK Funds	4,534,643,420	4,226,479,908	4,199,461,130	4,253,740,000	3,128,261,405
Donor funds	2,086,566,905	1,137,578,844	1,103,777,575	1,028,292,514	901,441,578
Commodity levy	0	0	0	0	73,976,211
Internally Generated Revenue	818,259,466	879,724,957	938,341,409	888,673,027	646,020,904
<b>Total Revenue</b>	<b>7,439,469,791</b>	<b>6,243,783,709</b>	<b>6,241,580,114</b>	<b>6,170,705,541</b>	<b>4,749,700,098</b>



## ii. Expenditure trends

The following is a summary of the expenditure in the last five years;

Expenses	2020/2021 (Kshs.)	2019/2020 (Kshs.)	2018/2019 (Kshs.)	2017/2018 (Kshs.)	2016/2017 (Kshs.)
Staff Costs	4,325,254,026	4,173,383,007	4,468,850,596	3,839,385,842	3,145,121,525
Administrative Costs	2,316,292,036	1,747,402,082	1,704,613,365	1,820,038,861	1,543,984,176
Board Expenses	5,962,481	12,345,491	13,408,978	5,827,027	4,693,830
Audit Fees	4,312,430	3,996,600	3,800,000	6,749,844	6,490,355
Depreciation & Amortization	352,557,374	385,381,833	360,221,967	369,254,021	464,166,620
<b>Total</b>	<b>7,004,378,347</b>	<b>6,550,894,906</b>	<b>6,041,255,595</b>	<b>5,164,456,506</b>	<b>5,527,510,611</b>



The staff costs increased during the year under review as compared to 2019/20 FY.

Administrative costs caters for research materials, travelling and accommodation, farm development, fuel and lubricants supplies for production, laboratory materials, utilities cost, repairs and maintenance, contracted services, finance costs, property & staff insurance, purchase of animals & seeds, farmer grants, office running expenses, cafeteria expenses, security expenses, legal dues and provision for bad debts.

Board expenses caters for sitting allowances, travelling and accommodation and honorarium.

## c) Compliance with statutory requirements

During the current financial year, KALRO complied with all the statutory requirements and remitted all taxes due in good time. There was no penalty for failure to comply with the statutory requirements.

**d) Material arrears in statutory and other financial obligations**

KALRO is faced with liability relating to NSSF penalty for the period January 1998 to January 2008 which amounted to Ksh. 206.49million. KALRO continues to settle the obligation and the amount outstanding as at 30<sup>th</sup> June 2021 was Kshs.40.69 million. This is recognized in the financial statement as a liability.

## **IX. ENVIRONMENTAL AND SUSTAINABILITY REPORTING STATEMENT**

Demand of agricultural technologies and increased consumption of agricultural products obligates KALRO to provide demand-driven solutions to agricultural challenges locally, regionally and internationally through cutting-edge research. These is achieved through observation of the Organization's core values, namely; Customer focus, Professionalism, Integrity, Innovativeness, Collaboration and Environmental consciousness. Below is an outline of the Organization's policies and activities that promote sustainability:

### **i) Sustainability strategy and profile**

Being the premier agricultural and livestock research organization in Kenya, KALRO is obligated to provide demand-driven solutions to agricultural challenges locally, regionally and internationally through cutting-edge research. Thus, KALRO not only focuses on addressing the national challenges but also lead globally through partnerships, collaboration and networking to generate technology and innovations. KALRO is guided by its Vision "Excellence in agricultural and livestock research towards transformed livelihoods"; and Mission "To conduct agricultural research through application of science, technology and innovation to catalyse sustainable growth and development in agriculture and livestock product value chains".

### **ii) Environmental performance**

#### **a) Environment policy**

Sustainability is a guiding influence for all KALRO research programs. It is based on a simple principle: Everything that we need for our survival and well-being depends either directly or indirectly, on our natural environment. To pursue sustainability is to create and maintain the conditions under which the Kenyan communities can exist in productive harmony to support present and future generations.

The Organizations pursuit for Environmental Sustainability in anchored in law. We integrate environmental considerations in our operations to fulfil the requirement of a clean, healthy and sustainable environment for all as per article 42 of the Constitution and EMCA Cap 387. KALRO also has a draft Environment Policy that guides its research activities to adopt and maintain good practices that contribute to the quality of environment on a long term basis.

#### **b) Successes**

Institutionalization of environment issues by creating an office that coordinates and oversees - Assistant Director, Environment sustainability.

Involvement in the annual Tree planting days as called out by the Ministry of Environment. The latest, KALRO tree planting day was held on Friday 16th April 2021. The Organization also maintains fruit and tree nurseries in several Institutes and Centres which also serve in KALRO's CSR activities, e.g. Tea Research Institute (TRI),

Coffee Research Institute (CRI), Sugar Research Institute (SRI), Horticulture Research Institute (HRI) & Industrial Crops Research Institute (ICRI).

For better soil and water health. KALRO collects and also receives soil and water samples at its referral laboratories (KALRO Kabete, TRI, CRI, SRI) for analysis and makes recommendations to farmers on the health status of the soils and management; recommended fertilizer use; and crops suitability.

Promotion of efficient drip irrigation for water conservation.

Soil conservation measures. KALRO has been upscaling several technologies aimed at controlling soil erosion. This includes; terracing, water harvesting, conservation agriculture, mulching, etc.

### **c) Shortcomings**

Whereas KALRO has vast research land in the various Centres, there are limited financial resources to scale up the environmental related activities.

### **d) Efforts to manage biodiversity**

KALRO through the Genetic Resources Research Institute (GERRI) has conserved various plant accessions that can be used in future. Other efforts to conserve biodiversity include; in-situ sites at TRI, CRI and SRI. Through its activities like field days, farmer demonstration and trainings, the organization also creates awareness to its stakeholders on the importance of biodiversity.

### **e) Waste management policy**

The Organization promotes waste separation at source in the various Institutes and Centre's. Some of the waste is incinerated at source and some is taken to licensed incinerators. The KALRO Waste Disposal guidelines is as prescribed in the Environmental policy.

### **f) Efforts to reduce environmental impact of the Organization's products.**

To reduce the environmental impact of the organizations products, Climate Smart Agricultural (CSA) practices and Good Agricultural Practices (GAP) are promoted in all the farming systems. These practices aim at optimizing production and at the same time conserving the environment. Environmental Impact Assessment (EIA) is done for all major projects and programs that may have an environmental impact. In many cases controlled trials are undertaken to minimize or reduce any negative environment externalities.

## **iii) Employee welfare**

KALRO has a Human Resource Policy & Procedures Manual developed to support service delivery, commitments and obligations of the Kenya Agricultural & Livestock Research Organization (KALRO) to the targeted beneficiaries. The manual sets the guidelines on recruitment and selection of members of staff, management and development of human resource in the Organization. It is also the official means for the

Organization to communicate its policies on human resource management related matters

#### **iv) Responsible Supply chain and supplier relations**

KALRO enhances responsible supply chain and supplier relations through;

- a. Making good use of government procurement policies and rules through adaptation and adherence to Public Procurement and Asset Disposal Act (PPADA) revised edition 2016 and its regulations of 2020 and any other circulars.
- b. Establishing a strong Procurement Management Framework through mapping out workflows, and building out Standard Operating Procedures (SOPs).
- c. Ensuring transparency in all organizational Procurement through managing and updating the approved supplier lists often, keeping contact information of reliable suppliers while staying on the lookout for new contacts and opportunities.
- d. Conducting audits frequently. This is done through subjecting suppliers to high standards and evaluating their performance (appraisals) regularly to ensure they're meeting organization demands at competitive rates
- e. Engaging Suppliers through Strategic supplier relationships. This is achieved by building a solid relationship, integrating with suppliers by ensuring vendors deliver reliable, high-quality goods and services on time and at the best rate.
- f. By automating procurement processes and other cognate departmental procedures e.g. ERP (Enterprise Resource Planning). This ensures efficiency and timely settlements of supplier thus honoring their credit periods.

#### **v) Corporate Social Responsibility / Community Engagements**

KALRO seeks to participate and contribute in Social and Economic development of local communities that it operate within through Corporate Social Responsibility (CSR) activities. With the guidance of KALRO Strategic Plan 2017-2021, the Organization is committed to setting aside funds for CSR activities. The Management of the Organization through its CSR Committee at the Secretariat and Center level, plans and monitor the expenditure of its CSR activities. The CSR activities assist in building relationships with local communities, internal and external stakeholders, and the society at large.

Currently, a KALRO CSR Policy has been formulated in line with the strategic plan and lays down guidelines and mechanisms for adoption by the organization in order to carry out all CSR Project/ Programs. The Policy is a guideline for KALRO CSR activities intended to support local communities on a variety of socially suitable activities with a view to enable high impact of and ensure measurable outcomes of the funds deployed towards such activities.

All CSR activities undertaken for the FY 2020/21 were implemented through a focused approach towards target beneficiaries for generating maximum impact with most of the activities being carried out in partnership with other credible stakeholders.

In the financial year, the organization supported various activities which fall under the sectors of environment conservation, health, education, agriculture, staff and community welfare;

<b>Centre</b>	<b>Venue and intended beneficiary</b>	<b>Nature of CSR event (Environmental conservation, education, health, community welfare and staff welfare)</b>	<b>Remarks</b>
KALRO Oljororok	Visit to Talitha Kum Children's Home Nyahururu	Community welfare	Took 5,050 cash, foodstuffs and milk.
	Nyandarua Prison during Christmas festivities.		Donated 50 litres of milk from the Center.
KALRO Embu Centre	KALRO Embu	Improve the livelihood of community by offering casual Labour engagement to the community	Engaged over 1,000 casual workers by giving priority to the community
		Education	134 University and college students offered attachment
			119 Secondary school students visit/training
		Community welfare to support and improve the livelihood of the community by supporting lesser privileged sections	Donated 50 fresh fruit mangoes to Josephine Wambui Orphanage in Kirinyaga County by supporting lesser privileged sections through sustainable and measurable initiatives
		To improve the livelihood of Employee welfare	Organized a sensitization meeting on the scope of staff medical cover
Food Crop Research Centre (FCRC) Kabete	FCRC Kabete	Environment	Tree planting exercise

Centre	Venue and intended beneficiary	Nature of CSR event (Environmental conservation, education, health, community welfare and staff welfare)	Remarks
Industrial Crops Research Centers	<p>Venues: KALRO Centres: Mwea, Molo, NSRC, and Mtwapa.</p> <p>Beneficiary: All KALRO Mwea staff and casuals working at the Centre.</p>	Environmental Conservation	<p>Availed 1,292 fruit and tree seedlings for planting as follows:                      Gravillea- 220                      Casuarina - 220                      Bixa - 97                      Vitex – 250                      Jacaranda – 300                      Podo Cover -200</p> <p>NB                      -220 trees were donated by the Kenya Forest services</p> <p>-1500 Coconut and 1000 Cashewnut seedlings @100 were prepared but could not be planted due to drought.</p>
Coffee Research Institute	CRI Jacaranda Community	Community welfare and staff welfare.	Support Jacaranda community recreation activities e.g. Football team - Provide coach for the football team - Maintenance of football ground
		Community welfare and staff welfare.	Maintenance of jacaranda community complex Hall (

Centre	Venue and intended beneficiary	Nature of CSR event (Environmental conservation, education, health, community welfare and staff welfare)	Remarks
			Community TV Hall, meeting halls & Church  - Payment of utility bills(water and electricity) - Maintenance and cleanliness of the complex
		Education, Community welfare and staff welfare.	Support activities of CRI Blue Mountain Kindergarten. - Providing amenity for the school - Payment of Teachers' salaries & Support staff - Payment of utility bills (water electricity) - Maintaining school amenity(sanitary services& gardening)

## **X. REPORT OF THE DIRECTORS**

The Directors submit their report together with the audited financial statements for the year ended June 30, 2021, which show the state of the Kenya Agricultural and Livestock Research Organization (KALRO) affairs.

### **a) Principal activities**

The principal mandate of KALRO is to undertake, streamline, coordinate and regulate all aspects of research in agriculture and livestock development, and promote the application of the research findings, technologies and innovations

### **b) Results**

The results of the entity for the year ended June 30, 2021, are set out on page 1 to 6

### **c) Directors**

The members of the Board of Directors who served during the year are shown on page VI-X. During the year Mr. Harry G. Mwangi retired in November 2020 and in his place Mrs. Teresa Karanja was appointed with effect from 16th November 2020. Also Mr. Lawrence Okudo left in December 2020 and replaced with Mr. Isaac Odek

### **d) Surplus remission**

In accordance with Regulation 219 (2) of the Public Financial Management (National Government) Regulations, regulatory entities shall remit into Consolidated Fund, ninety per centum of its surplus funds reported in the audited financial statements after the end of each financial year. KALRO being a non regulatory entity hence no remittance to the Consolidated Fund

### **e) Auditors**

The Auditor General is responsible for the statutory audit of the KALRO in accordance with Article 229 of the Constitution of Kenya and the Public Audit Act 2015.

By Order of the Board

**Name:** E. K. Kireger (PhD, OGW) **Signature**

**Secretary to the Board**



**Date** 28/09/2021

## **XI. STATEMENT OF DIRECTOR'S RESPONSIBILITIES**

Section 81 of the Public Finance Management Act, 2012 and Section 14 of the State Corporations Act, require the Directors to prepare financial statements in respect of that organization, which give a true and fair view of the state of affairs of the organization at the end of the financial year/period and the operating results of the organization for that year/period. The Directors are also required to ensure that the organization keeps proper accounting records which disclose with reasonable accuracy the financial position of the organization. The Directors are also responsible for safeguarding the assets of the organization.

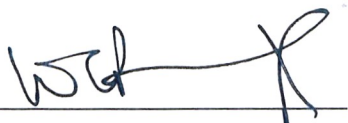
The Directors are responsible for the preparation and presentation of the organization's financial statements, which give a true and fair view of the state of affairs of the organization for and as at the end of the financial year (period) ended on June 30, 2021. This responsibility includes: (i) maintaining adequate financial management arrangements and ensuring that these continue to be effective throughout the reporting period; (ii) maintaining proper accounting records, which disclose with reasonable accuracy at any time the financial position of the organization; (iii) designing, implementing and maintaining internal controls relevant to the preparation and fair presentation of the financial statements, and ensuring that they are free from material misstatements, whether due to error or fraud; (iv) safeguarding the assets of the organization; (v) selecting and applying appropriate accounting policies; and (vi) making accounting estimates that are reasonable in the circumstances.

The Directors accept responsibility for the organization's financial statements, which have been prepared in accordance with International Public Sector Accounting Standards (IPSAS), and in the manner required by the PFM Act and the State Corporations Act. The Directors are of the opinion that the organization's financial statements give a true and fair view of the state of organization's transactions during the financial year ended June 30, 2021, and of the organization's financial position as at that date. The Directors further confirm the completeness of the accounting records maintained for the organization, which have been relied upon in the preparation of the organization's financial statements as well as the adequacy of the systems of internal financial control.

With effect from 1st July 2014, Kenya Agricultural Research Institute (KARI), Kenya Sugar Research Foundation (KESREF), Tea Research Foundation (TRF) and Coffee Research Foundation (CRF), were dissolved in pursuant to the Kenya Agricultural and Livestock Research Act, 2013. Its newly acquired name is Kenya Agricultural and Livestock Research Organization (KALRO). This will not affect the organization going concern for at least the next twelve months from the date of this statement.

### **Approval of the financial statements**

The KALRO financial statements were approved by the Board on 28/09/2021 and signed on its behalf by:



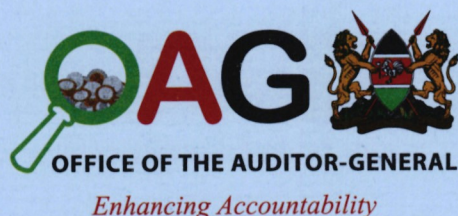
**Mr. Wilfred Chacha Rotich**  
Chairman, KALRO BoM



**Eliud K. Kireger (PhD, OGW)**  
Director General

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NAIROBI

## **REPORT OF THE AUDITOR-GENERAL ON KENYA AGRICULTURAL AND LIVESTOCK RESEARCH ORGANIZATION FOR THE YEAR ENDED 30 JUNE, 2021**

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### **PREAMBLE**

I draw your attention to the contents of my report which is in three parts:

- A. Report on the Financial Statements that considers whether the financial statements are fairly presented in accordance with the applicable financial reporting framework, accounting standards and the relevant laws and regulations that have a direct effect on the financial statements.
- B. Report on Lawfulness and Effectiveness in Use of Public Resources which considers compliance with applicable laws, regulations, policies, gazette notices, circulars, guidelines and manuals and whether public resources are applied in a prudent, efficient, economic, transparent and accountable manner to ensure Government achieves value for money and that such funds are applied for intended purpose.
- C. Report on Effectiveness of Internal Controls, Risk Management and Governance which considers how the entity has instituted checks and balances to guide internal operations. This responds to the effectiveness of the governance structure, the risk management environment, and the internal controls developed and implemented by those charged with governance for orderly, efficient and effective operations of the entity.

An unmodified opinion does not necessarily mean that an entity has complied with all relevant laws and regulations, and that its internal controls, risk management and governance systems are properly designed and were working effectively in the financial year under review.

The three parts of the report are aimed at addressing the statutory roles and responsibilities of the Auditor-General as provided by Article 229 of the Constitution, the Public Finance Management Act, 2012 and the Public Audit Act, 2015. The three parts of the report, when read together constitute the report of the Auditor-General.

### **REPORT ON THE FINANCIAL STATEMENTS**

#### **Qualified Opinion**

I have audited the accompanying financial statements of the Kenya Agricultural and Livestock Research Organization (KALRO) set out on pages 1 to 22, which comprise of the statement of financial position as at 30 June, 2021, and the statement of financial performance, statement of changes in net assets, statement of cash flows and statement of comparison of budget and actual amounts for the year then ended, and a summary of

significant accounting policies and other explanatory information in accordance with the provisions of Article 229 of the Constitution of Kenya and Section 35 of the Public Audit Act, 2015. I have obtained all the information and explanations which, to the best of my knowledge and belief, were necessary for the purpose of the audit.

In my opinion, except for the effect of the matters described in the Basis for Qualified Opinion section of my report, the financial statements present fairly, in all material respects, the financial position of Kenya Agricultural and Livestock Research Organization as at 30 June, 2021, and of its financial performance and its cash flows for the year then ended, in accordance with International Public Sector Accounting Standards (Accrual Basis) and comply with the Kenya Agricultural and Livestock Research Act, 2013 and the Public Finance Management Act, 2012.

## **Basis for Qualified Opinion**

### **1. Inaccuracies in Cash and Cash Equivalents**

The statement of financial position reflects cash and cash equivalent balance of Kshs.1,843,707,000 and as disclosed in Note 22 to the financial statements. However, the following anomalies were noted:

#### **1.1 Unaccounted for Cash**

As previously reported, the cash and cash equivalents balance of Kshs.1,843,714,000 (2020 - Kshs.775,619,000) excludes cash withdrawals totalling Kshs.6,914,345 made in the financial year 2009/2010 in respect of the Sugar Research Institute against which the related supporting documents were not provided for audit. Although Management had indicated that the missing documents were a subject of investigation by the Sugar Research Institute and other arms of Government, the amount remains unaccounted for and the status of investigations was not disclosed.

#### **1.2 Dormant Accounts**

Review of the Organization's bank accounts revealed that sixteen (16) bank accounts were dormant and continued to attract bank charges. No explanation was provided for failure to close these bank accounts.

In the circumstances, the accuracy and completeness of the cash and cash equivalents balance of Kshs.1,843,707,000 could not be confirmed.

### **2. Long Outstanding Receivables from Exchange Transactions**

The statement of financial position reflects receivables from exchange transactions balance of Kshs.412,057,000 which as disclosed in Note 23 to the financial statements includes amounts due from Kenya Seed Company of Kshs.19,945,000, Bungoma Union of Kshs.746,000 and Mugama Co-operative Union of Kshs.1,863,000 all totalling Kshs.22,554,000 that have remained outstanding for more than two (2) years.

In the circumstances, the accuracy, and recoverability of the receivables from exchange transactions totalling to Kshs.22,554,000 could not be confirmed.

### **3. Long Outstanding Receivables from Non-Exchange Transactions**

The statement of financial position reflects receivables from non-exchange transactions balance of Kshs.418,282,000 as disclosed in Note 24 to the financial statements which includes commodity levy of Kshs.314,497,000. Included in the latter are amounts of Kshs.7,073,687, Kshs.23,445,000 and Kshs.124,496,000 due from Nyambene Mills (in receivership), Coffee Board of Kenya and Kenya Planters Co-operative Union (KPCU), respectively which have been outstanding for more than two (2) years. Although the Management has made a full provision of Kshs.124,496,000 in respect of KPCU debt and forwarded a claim to the receiver Manager, of Nyambene Mills (in receivership) no meaningful progress has been reported towards recovery of this debt and provision made for the other long outstanding debts appears inadequate.

Further, the balance includes outstanding staff advances and outstanding imprests of Kshs.2,174,694 and Kshs.95,422,000 out of which balances totalling Kshs.2,106,661 and Kshs.9,235,300 have been outstanding for more than three (3) years and one year respectively.

In the circumstances, the accuracy and recoverability of the receivables from non-exchange transactions balance of Kshs.418,282,000 could not be confirmed.

### **4. Property, Plant and Equipment**

As disclosed in Note 28 to the financial statements, the statements of financial position reflects property, plant and equipment balance of Kshs.24,310,980,000 and however, the following unsatisfactory matters were observed:

#### **4.1 Unsupported Additions**

The balance includes additional assets amounting to Kshs.470,599,000 which includes land with a value of Kshs.400,000,000 in respect of 400 acres of land located at Tipis FCRC - Njoro in Nakuru County which were allocated to the Kenya Agricultural Research Institute in 2011. However, Management did not provide for audit, ownership documents for the parcel of land.

#### **4.2 Inaccurate Depreciation and Amortization Charge**

The statement of financial performance reflects depreciation and amortization charge for the year of Kshs.352,557,000 out of which Kshs.335,700,000 and Kshs.16,857,000 relates to depreciation on property plant and equipment and amortization of intangible assets, respectively. Re-computation of the depreciation charge amounted to Kshs.400,282,181 resulting to an unexplained variance of Kshs.47,725,181.

#### **4.3 Unresolved Land Matters**

The statement of financial position reflects property plant and equipment balance of Kshs.24,310,980,000 which as disclosed in Note 28 to the financial statements includes a balance of Kshs.18,208,626,000 in respect of land. Review of records revealed that Management has not resolved previous issues in the previous years as detailed below:

- i. As previously reported, included in the property, plant and equipment balance of Kshs.24,310,980,000 (2020 - Kshs.24,176,081,000) as at 30 June, 2021 is an amount of Kshs.2,932,785,960 in respect of six (6) parcels of land relating to the former Kenya Agricultural Research Institute for which the Organization has no ownership documents.
- ii. Further, part of the Organization's land at Manera and Olmagogo farms in Naivasha - Mai Mahiu Road and another property in Katumani Centre measuring approximately 100 hectares were illegally acquired by informal developers in the year 2000. In addition, part of this land is being used as a dumping site by the County Government of Machakos and construction of a power station is taking place on the same land.
- iii. Similarly, in January, 2011, some individuals invaded the Organization's land in Naivasha, claiming ownership. The Organization filed a case in court to have them evicted, and a ruling in favour of the Organization was made on 29 March, 2012 and their title documents were revoked by the Chief Registrar on 22 February, 2019 as per the Kenya Gazette Notice No.1716. However, a review of the position revealed that informal settlers had not vacated the land.
- iv. As reported in the previous years, fifty (56) parcels of land all under the Sugar Research Institute in Kibos area did not have ownership documents.
- v. The property, plant and equipment balance of Kshs.24,310,980,000 as at 30 June, 2021 excludes undetermined value of parcels of land located in Azani and Koru measuring 99 ha and 127 ha respectively which the Coffee Research Institute uses for farming. The titles to the parcels of land are in the name of the Coffee Board of Kenya (CBK) which has since merged to form the Agricultural Food Authority.
- vi. The Agricultural Mechanization Services (AMS) - a Department within the Ministry of Agriculture, Livestock, Fisheries and Co-operatives occupies a portion of the Organization's land at Rukera and has set up its own buildings. Although Management clarified that the value of the constructions/improvements by the AMS are not included in the assets balance, and that AMS was devolved from the National Government to the County Government, the County Government had not signed any lease agreement and has not paid any rent to the Kenya Agricultural and Livestock Research Organization.  
  
The property, plant and equipment balance of Kshs.24,310,980,000 also excludes the value of twenty (20) acres' piece of land developed by the Tea Research Institute in Kirinyaga County with an estimated value of Kshs.8,430,634.
- vii. The property, plant and equipment balance of Kshs.24,310,980,000 includes an amount of Kshs.81,650,080 representing the value of buildings allocated to the Kenya Plant Health Inspectorate Service in 1998. The balance of Kshs.24,310,980,000 is, therefore overstated by Kshs.81, 650,000.
- viii. The property, plant and equipment balance of Kshs.24,310,980,000 includes the value of an office block completed in the year 2012/2013 at a cost of Kshs.663,772,203 for Sugar Research Institute. However, as previously reported,

the valuation report on the building placed the value as Kshs.447, 992,751 resulting in an overvaluation of Kshs.215,779,452. No explanation was provided on how the value of a new building would drop below the actual construction cost with such a high margin.

- ix. As reported in the previous year, the Organization's residential building at Kisii Sub-Centre of Coffee Research Institute was taken over by the Kisii County Government with no benefit accruing to the Organization.
- x. Included in the value of land balance of Kshs.18,208,626,000 as at 30 June, 2021 is an amount of Kshs.117,000,000 being the cost of land in Ruiru - Jacaranda where the Coffee Research Institute is located. Although Management indicated that the title deed was misplaced, efforts being made to replace the title deed was not disclosed.
- xi. Review of records indicates that title deed for a parcel of land at Muguga was released to the Ministry of Lands, Housing and Urban Development to facilitate the excision of a portion of land allocated to the Kenya Plant Health Inspectorate Service at the time of its inception. However, the title deed got lost while in the custody of the Ministry exposing the land to the risk of alienation, unlawful excision, and subdivision.
- xii. KALRO owns 142.06 ha of land in Matuga for which it has a title deed. However, informal settlers have encroached on this land making it impossible for the Organization to utilize the land for the purposes of agricultural research.
- xiii. Included also in the balance of land of Kshs.18,208,626,000 is a beach plot in Mtwapa valued at Kshs.56,734,160 but the Organization does not have a title deed for the land. The Management explained that the land was illegally subdivided into five plots but the Commissioner of lands revoked the allotments. A private developer filed a suit in court to affirm ownership of the beach plots. The matter had not been determined as at 30 June, 2021 and ownership of the plots could not be confirmed.
- xiv. The balance also excluded the value of a parcel of land on which five (5) buildings located in Kitale while in Kakamega, staff houses belonging to the Non-Ruminant Centre have been constructed on twenty (20) acres of land that were left out during allotment of the land to the Organization.
- xv. Further, included in the balance of land of Kshs.18,208,626,000 are 1418 Ha of land in Lanet where the National Beef Research Centre is located. Records held at the Organization indicates that in 1984 a farmer surrendered two hundred and thirty (230) acres of his land to the Government and it was agreed that he would be compensated with an equivalent acreage of vacant land at the Beef Research Institute. However, the farmer was instead allotted two hundred and seventy acres (275), an excess of forty (40) acres. Further, the farmer violated the conditions of the land exchange and occupied the developed part of the land leading to destruction of property belonging to KALRO. The said part of the land has since been subdivided into plots for sale to the public. In addition, records provided indicates that another farmer agreed to surrender three hundred and twenty acres (320) of his land in Nakuru but during exchange and transfer of the land he irregularly

acquired an extra one hundred and fifty-two acres (150) of KALRO 's land. Additionally, informal settlers have been trying to encroach the land since year 2014. There is therefore a high risk that the Organization may lose the disputed parts of its land in Lanet.

- xvi. The balance of land of Kshs.18,208,626,000 does not also include the value of the parcels of land situated in Msabaha, Kilifi Njoro in Nakuru, five (5) parcels of land in Limuru, Kiambu and a parcel of land in Alupe Sub-Centre, Busia.

Consequently, the ownership, completeness and valuation, land balance of Kshs.18,208,626,000 as at 30 June, 2021 could not be confirmed.

## **5. Unsupported Trade and Other Payables Balances**

As disclosed in Note 33 to the financial statements, the statement of financial position reflects trade and other payables balance of Kshs.254,389,000. Included in the balance are other creditors amounting to Kshs.76,445,684 out of which Kshs.35,349,672 relates to employee obligations whose detailed analysis was not provided for audit.

In the circumstances the accuracy and completeness of the other creditors balance of Kshs.76,445,684 could not be confirmed.

The audit was conducted in accordance with International Standards of Supreme Audit Institutions (ISSAIs). I am independent of the Kenya Agricultural and Livestock Research Organization Management in accordance with ISSAI 130 on Code of Ethics. I have fulfilled other ethical responsibilities in accordance with the ISSAI and in accordance with other ethical requirements applicable to performing audits of financial statements in Kenya. I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my qualified opinion.

### **Key Audit Matters**

Key audit matters are those matters that, in my professional judgment, are of most significance in the audit of the financial statements. There were no key audit matters to report in the year under review.

### **Other Matter**

### **Unresolved Prior Year Matters**

In the audit report of the previous year, several other issues were raised under the Report on Financial Statements, Report on Lawfulness and Effectiveness in Use of Public Resources, and Report on Effectiveness of Internal Controls, Risk Management and Governance. However, the Management has not resolved the issues or given any explanation for failure to adhere to the guidelines issued by the Public Sector Accounting Standards Board and The National Treasury's Circular Ref: AG.4/16/2 Vol.3(72) dated 30 June, 2021.

# REPORT ON LAWFULNESS AND EFFECTIVENESS IN USE OF PUBLIC RESOURCES

## **Conclusion**

As required by Article 229(6) of the Constitution, based on the audit procedures performed, except for the matters described in the Basis for Conclusion on Lawfulness and Effectiveness in Use of Public Resources section of my report, I confirm that, nothing else has come to my attention to cause me to believe that public resources have not been applied lawfully and in an effective way.

## **Basis for Conclusion**

### **1. Idle Asset due to Lack of Funds**

As previously reported, property plant and equipment balance of Kshs.24,310,980,000 includes tea research and development factory at the Tea Research Institute in Kericho. The Government had spent a sum of Kshs.304,505,436 on the project to completion but the facility is yet to be commissioned and lies idle owing to lack of funds to purchase machinery for operationalization of the venture.

In the circumstances, value for money on resources utilized in the construction of the factory could not be confirmed.

### **2. Non-Operationalization of the ERP System**

During the 2017/2018 financial year, the Organization awarded a contract for supply, delivery, installation and implementation of an Enterprise Resource Planning (ERP) to automate the organization's Business Processes to a company at a contract sum of Kshs.28,373,496 for a contract period of sixteen (16) weeks. The ERP System was to integrate additional modules on human capital management payroll, transport and fleet management, warehousing, customer relationship management and supply chain management modules. However, review of the implementation status of the ERP system in February, 2022 revealed that the human capital management and payroll, transport and fleet management, and customer relationship management capabilities modules were not operational while the supply chain management module was not fully functional as store records were still manually filled. This is despite the organization having fully paid for their installation.

Further, review of the general ledgers for the various KALRO Centres and Institutes revealed numerous reversals and misclassification. This is an indication that majority of the organization's ERP users have not been adequately trained on its use.

In the circumstances, value for money on the expenditure of Kshs.28,373,496 spent on the ERP system could not be confirmed.

### **3. Non-operationalization of Agricultural Research Fund**

The statement of financial performance reflects amounts of Kshs.50,000,000, Kshs.1,342,586,000 and Kshs.743,981,000 in respect of Government of Kenya, World Bank and other donors development funding for research activities for the year ended

30 June, 2021. However, the Organization has not operationalized the Agricultural Research Fund which should be managed by trustees to manage these funds and support the operations of the organization contrary to Section 39(1) of the Kenya Agricultural and Livestock Research Act, 2013.

Further, the Organization did not provide for audit, details of research grants obtained during the year under review and their respective agreements, outcomes of concluded researches, distribution of the research outcomes and the custody over the research outcomes.

In the circumstances, Management was in breach of the law.

#### **4. Anomalies in Kenya Agricultural and Livestock Research Act, 2013**

As previously reported, the Kenya Agricultural and Livestock Research Act, 2013 had set 01 August, 2014 as the commencement date for the operation of the Organization. The Act repealed the Science and Technology Act, 250, Coffee Act (No.9 of 2001), Sugar Act, (2001) and the Tea Act, Cap 343 which had established the Kenya Agricultural Research Institute (KARI), the Coffee Research Foundation (CRF), the Kenya Sugar Research Foundation (KESREF and the Tea Research Foundation (TRF), respectively. However, other than the Kenya Agricultural Research Institute, which was operating under the Science and Technology Act Cap. 250 of the Laws of Kenya, the other parastatals were operating under the Companies Act, Cap 486 of the Laws of Kenya. According to Section 221(1) of the then Companies Act, Cap. 486, "An application to the court for winding up of a Company shall be by petition presented, subject to the provisions of this section, either by the Company, by any creditor or creditors (including any contingent or prospective creditor or creditors), contributory or contributories, or by all or any of those parties, together or separately".

Management, however, did not provide evidence that this provision of the Companies Act, Cap 486 was complied with in the establishment of KALRO. Although Management stated that the entities were not wound up but merged, this explanation seems to be in contradiction with Section 56 of the KALRO Act, 2013 which states that, "Any reference to the former institution in any written law or in any contract, document or instrument of whatever nature shall, on the commencement of this Act, be read and construed as a reference to the Organization". In the absence of such evidence therefore, the Coffee Research Foundation (CRF), the Tea Research Foundation (TRF) and the Kenya Sugar Research Foundation (KESREF) are still legally in existence.

In the circumstances, Management was in breach of the law.

The audit was conducted in accordance with ISSAI 4000. The standard requires that I comply with ethical requirements and plan and perform the audit to obtain assurance about whether the activities, financial transactions and information reflected in the financial statements are in compliance, in all material respects, with the authorities that govern them. I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my conclusion.

## REPORT ON EFFECTIVENESS OF INTERNAL CONTROLS, RISK MANAGEMENT AND GOVERNANCE

### **Conclusion**

As required by Section 7(1)(a) of the Public Audit Act, 2015, based on the audit procedures performed, except for the matter described in the Basis for Conclusion on Effectiveness of Internal Controls, Risk Management and Governance section of my report, I confirm that, nothing else has come to my attention to cause me to believe that internal controls, risk management and overall governance were not effective.

### **Basis for Conclusion**

#### **Ageing Workforce and Inadequate Staffing**

As disclosed in Note 14 to the financial statements, the statement of financial performance reflects an amount of Kshs.4,325,254,000 in respect of staff costs. Review of Human Resource Management records revealed the Organization operates with inadequate staff of 1,880 out of 3,612 of the authorized staff establishment. Consequently, the Management engaged 456 interns in the year under review to bridge the gap.

However, the Organization engaged interns for periods exceeding twelve (12) months contrary to Section 2.9.4 of the KALRO Human Resource Manual September, 2017 which states that, internship programmes shall not exceed twelve (12) months. Although Management explained that the Organization was seeking to recruit two hundred and twenty-four (224) additional staff, the proposed additional number is insufficient to cover the gap.

Further, an analysis of staff ages as at 30 June, 2021 revealed that 62% of the Organization's workforce was aged between 51 and 65 years. However, no explanations were provided on the succession strategies the Organization had adopted to ensure retention of key skills in the Organization.

Under the circumstances, the Organization's succession strategies put in place to ensure retention of key skills in the Organization could not be confirmed.

The audit was conducted in accordance with ISSAI 2315 and ISSAI 2330. The standard requires that I plan and perform the audit to obtain assurance about whether processes and systems of internal controls, risk management and overall governance were operating effectively, in all material respects. I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my conclusion.

#### **Responsibilities of Management and the Board of Management**

Management is responsible for the preparation and fair presentation of these financial statements in accordance with International Public Sector Accounting Standards (Accrual Basis) and for maintaining effective internal controls as Management determines is necessary to enable the preparation of financial statements that are free from material

misstatement, whether due to fraud or error and for its assessment of the effectiveness of internal controls, risk management and overall governance.

In preparing the financial statements, Management is responsible for assessing the Organization's ability to continue to sustain its services, disclosing, as applicable, matters related to sustainability of services and using the applicable basis of accounting unless Management is aware of the intention to terminate the Organization or to cease operations.

Management is also responsible for the submission of the financial statements to the Auditor-General in accordance with the provisions of Section 47 of the Public Audit Act, 2015.

In addition to the responsibility for the preparation and presentation of the financial statements described above, Management is also responsible for ensuring that the activities, financial transactions and information reflected in the financial statements are in compliance with the authorities which govern them, and that public resources are applied in an effective way.

The Board of Management is responsible for overseeing the Organization's financial reporting process, reviewing the effectiveness of how Management monitors compliance with relevant legislative and regulatory requirements, ensuring that effective processes and systems are in place to address key roles and responsibilities in relation to governance and risk management, and ensuring the adequacy and effectiveness of the control environment.

### **Auditor-General's Responsibilities for the Audit**

The audit objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes my opinion in accordance with the provisions of Section 48 of the Public Audit Act, 2015 and submit the audit report in compliance with Article 229(7) of the Constitution. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISSAIs will always detect a material misstatement and weakness when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

In addition to the audit of the financial statements, a compliance audit is planned and performed to express a conclusion about whether, in all material respects, the activities, financial transactions and information reflected in the financial statements are in compliance with the authorities that govern them and that public resources are applied in an effective way, in accordance with the provisions of Article 229(6) of the Constitution and submit the audit report in compliance with Article 229(7) of the Constitution.

Further, in planning and performing the audit of the financial statements and review of compliance, I consider internal controls in order to give an assurance on the effectiveness of internal controls, risk management and overall governance processes and systems in accordance with the provisions of Section 7(1)(a) of the Public Audit Act, 2015 and submit

the audit report in compliance with Article 229(7) of the Constitution. My consideration of the internal control would not necessarily disclose all matters in the internal control that might be material weaknesses under the ISSAIs. A material weakness is a condition in which the design or operation of one or more of the internal controls components does not reduce to a relatively low level the risk that misstatements caused by error or fraud in amounts that would be material in relation to the financial statements being audited may occur and not be detected within a timely period by employees in the normal course of performing their assigned functions.

Because of its inherent limitations, internal controls may not prevent or detect misstatements and instances of non-compliance. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies and procedures may deteriorate.

As part of an audit conducted in accordance with ISSAIs, I exercise professional judgement and maintain professional skepticism throughout the audit. I also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for my opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the Management.
- Conclude on the appropriateness of the Management's use of the applicable basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Organization's ability to continue to sustain its services. If I conclude that a material uncertainty exists, I am required to draw attention in the auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify my opinion. My conclusions are based on the audit evidence obtained up to the date of my audit report. However, future events or conditions may cause the Organization to cease to continue to sustain its services.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information and business activities of the Organization to express an opinion on the financial statements.
- Perform such other procedures as I consider necessary in the circumstances.

I communicate with the Management regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that are identified during the audit.

I also provide Management with a statement that I have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on my independence, and where applicable, related safeguards.

  
CPA Nancy Gathungu, SBS  
AUDITOR-GENERAL

Nairobi

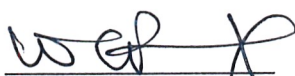
09 September, 2022

**XI. STATEMENT OF FINANCIAL PERFORMANCE**

For the year ended 30 June 2021

	Notes	2020-2021 Kshs'000	2019-2020 Kshs'000'
<b>Revenue from exchange transactions</b>			
Goods	6	392,197	499,808
Services	7	186,785	172,283
Interest Received	8	9,598	10,078
Other Receipts	9	229,679	205,577
		<b>818,259</b>	<b>887,745</b>
<b>Revenue from non-exchange transactions</b>			
GoK Recurrent	10	4,484,643	4,140,316
GoK Development	11	50,000	76,000
World Bank	12	1,342,586	413,870
Other Grants	13	743,981	746,095
		<b>6,621,210</b>	<b>5,376,281</b>
<b>Total Revenue</b>		<b>7,439,470</b>	<b>6,264,026</b>
<b>Expenses</b>			
Staff Costs	14	4,325,254	4,170,361
Administrative Costs	15	2,160,967	1,619,821
Board Expenses	16	5,962	12,345
Audit Fees	17	4,312	3,940
Depreciation & Amortization expense	18	352,557	394,567
Repairs and Maintenance	19	99,099	76,199
Contracted Services	20	46,334	29,475
Finance Cost	21	9,892	7,303
<b>Total Expenses</b>		<b>7,004,378</b>	<b>6,314,011</b>
<b>Surplus/(Deficit)</b>		<b>435,091</b>	<b>(49,985)</b>

The Financial Statements set out on pages 1 to 21 were signed on behalf of the Board of Directors by:




Mr. Wilfred Chacha Rotich  
Chairman, KALRO BoM

Date: 28/09/2021



Ms. Ebby Musimbi  
Ass. Director, Finance & Accounts  
ICPAK Member Number: 10936

Date: 28/09/2021



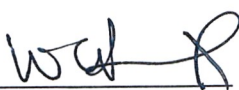
Dr. Eliud K. Kireger, OGW  
Director General

Date: 28/09/2021

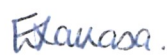
**XII. STATEMENT OF FINANCIAL POSITION  
As at 30th June 2021**

	Notes	2020-2021 Kshs'000	2019-2020 Kshs'000'
<b>Assets</b>			
<b>Current Assets</b>			
Cash and Cash equivalents	22	1,843,714	775,619
Receivables from Exchange Transactions	23	412,057	244,079
Receivables from Non-exchange Transactions	24	418,282	406,548
Prepayments	25	96,516	19,930
Inventories	26	203,247	310,265
Deposits	27	2,585	2,585
<b>Total Current Assets</b>		<b>2,976,401</b>	<b>1,759,026</b>
<b>Non-Current Assets</b>			
Property, Plant and Equipment	28	24,310,980	24,176,081
Investments	31	510	2,149
Intangible Assets	29	2,300	16,779
Biological Assets	30	859,328	716,185
<b>Total Non- Current Assets</b>		<b>25,173,118</b>	<b>24,911,194</b>
<b>Total Assets</b>		<b>28,149,518</b>	<b>26,670,220</b>
<b>Liabilities</b>			
<b>Current liabilities</b>			
Bank overdraft	32	7	-
Trade & Other Payables	33	254,389	253,564
<b>Total Current Liabilities</b>		<b>254,396</b>	<b>253,564</b>
<b>Non-Current liabilities</b>			
Deferred Income	34	855,204	226,924
<b>Total Non- Current Liabilities</b>		<b>855,204</b>	<b>226,924</b>
<b>Total Liabilities</b>		<b>1,109,600</b>	<b>480,488</b>
<b>Net assets</b>		<b>27,039,918</b>	<b>26,189,732</b>
<b>Capital and Reserves</b>			
General Reserve	35	1,247,629	812,538
Capital Fund	36	5,926,912	5,511,817
Revaluation Reserve	37	19,865,377	19,865,377
<b>Total Capital and Reserves</b>		<b>27,039,918</b>	<b>26,189,732</b>


The Financial Statements set out on pages 1 to 21 were signed on behalf of the Board of Directors by:

  
Mr. Wilfred Chacha Rotich  
Chairman, KALRO BoM

Date: 28/09/2021

  
Ms. Ebby Musimbi  
Ass. Director, Finance & Accounts  
ICPAK Member Number: 10936

Date: 28/09/2021

  
Dr. Eliud K. Kireger, OGW  
Director General

Date: 28/09/2021

**XIII STATEMENT OF CHANGES IN NET ASSETS**

For the year ended 30 June 2021

	Notes	Capital Fund	Revaluation Reserve	General Reserve	Totals
		Kshs'000'	Kshs '000'	Kshs'000'	Kshs'000'
<b>At 1st July 2019</b>		<b>5,425,197</b>	<b>19,865,377</b>	<b>862,523</b>	<b>26,153,097</b>
Surplus/(Deficit) for the period		86,620	-	(49,985)	36,634
Prior year adjustments		-	-	0	0
<b>At 30 June 2020</b>		<b>5,511,817</b>	<b>19,865,377</b>	<b>812,538</b>	<b>26,189,732</b>
<b>At 1st July 2020</b>		<b>5,511,817</b>	<b>19,865,377</b>	<b>812,538</b>	<b>26,189,732</b>
Capital grants received during the period		415,095	-	-	415,095
Surplus/(Deficit) for the period		-	-	435,091	435,091
<b>At 30 June 2021</b>		<b><u>5,926,912</u></b>	<b><u>19,865,377</u></b>	<b><u>1,247,629</u></b>	<b><u>27,039,918</u></b>

The notes set out on pages 6 to 21 form an integral part of the financial statements.

**XIV STATEMENT OF CASHFLOW**

As at 30th June 2021

	Notes	2020-2021 Kshs'000	2019-2020 Kshs'000
<b>Cash Flow from Operating Activities</b>			
Cash generated from/(used in) operations	37	639,201	125,273
<b>Net cash generated from/(used in) operating activities</b>		<b>639,201</b>	<b>125,273</b>
<b>Cash flow from Investing Activities</b>			
Revaluation of Biological assets		(143,143)	(81,995)
Purchase of property, plant & equipment	28	(470,599)	(173,261)
Purchase of intangible assets	29	(2,378)	(20)
Proceeds from sale of Assets		-	-
Gain/(Loss) on Valuation of Investments		1,639	-
<b>Cash generated from/(used in) investing activities</b>		<b>(614,481)</b>	<b>(255,276)</b>
<b>Cash flow from Financing Activities</b>			
Capital Grant		415,095	86,620
Deferred Income(Capital )		628,280	(24,539)
<b>Cash generated from/(used in)Financing activities</b>		<b>1,043,375</b>	<b>62,080</b>
Increase in Cash and Cash Equivalent for the Year		1,068,095	(67,922)
Cash and Cash Equivalent at the Start of the Year		775,619	843,541
<b>Cash and Cash Equivalent at the End of the Year</b>	32	<b>1,843,713</b>	<b>775,619</b>


The Financial Statements set out on pages 1 to 21 were signed on behalf of the Board of Directors by:

  
Mr. Wilfred Chacha Rotich  
Chairman, KALRO BoM

Date: 28/09/2021

  
Ms. Ebby Musimbi  
Ass. Director, Finance & Accounts  
ICPAK Member Number: 10930

Date: 28/09/2021

  
Dr. Eliud K. Kireger, OGW  
Director General

Date: 28/09/2021

**XV. STATEMENT OF COMPARISON OF BUDGET AND ACTUAL AMOUNTS**

	Original budget	Adjustments	Final Budget	Actual on comparable basis	Performance difference	% of utilisation
	2020-2021	2020-2021	2020-2021	2020-2021	2020-2021	2020-2021
	Kshs'000	Kshs'000'	Kshs'000'	Kshs'000'	Kshs'000'	
	A	B	C=(A+B)	D	E=(C-D)	F=D/C
<b>Revenue from exchange transactions</b>						
Goods	615,000		615,000	392,197	(222,803)	64%
Services	165,000	-	165,000	186,785	21,785	113%
Interest Received	10,000	-	10,000	9,598	(402)	96%
Other Receipts	90,000		90,000	229,679	139,679	255%
<b>Sub total</b>	<b>880,000</b>	<b>-</b>	<b>880,000</b>	<b>818,259</b>		<b>93%</b>
<b>Revenue from non-exchange transactions</b>						
GOK Personal Emoluments	4,315,000	164,000	4,479,000	4,484,643	5,643	100%
GOK Development	100,000	(50,000)	50,000	50,000	-	100%
World Bank	600,000	742,586	1,342,586	1,342,586	-	100%
Other Grants	700,000	-	700,000	743,981	43,981	106%
<b>Sub total</b>	<b>5,715,000</b>		<b>6,571,586</b>	<b>6,621,210</b>		<b>101%</b>
<b>Total Revenue</b>	<b>6,595,000</b>		<b>7,451,586</b>	<b>7,439,470</b>		<b>100%</b>
<b>Expenses</b>						
Staff Costs	4,531,515		4,531,515	4,325,254	206,261	95%
Administrative Costs	1,789,410	697,286	2,486,696	2,160,967	325,729	87%
Board Expenses	20,000		20,000	5,962	14,038	30%
Audit Fees	3,800	600	4,400	4,312	88	98%
Depreciation & Amortization	345,957	500	346,457	352,557	(6,100)	102%
Repairs and Maintenance	130,000		130,000	99,099	30,901	76%
Contracted Services	15,000	40,000	55,000	46,334	8,666	84%
Finance cost	5,775	4,200	9,975	9,892	83	99%
<b>Total Expenses</b>	<b>6,841,457</b>	<b>-</b>	<b>7,584,043</b>	<b>7,004,378</b>	<b>579,665</b>	<b>92%</b>
<b>Surplus/(Deficit)</b>	<b>(246,457)</b>		<b>(132,457)</b>	<b>435,091</b>		<b>-328%</b>

The notes set out on pages 6 to 21 form an integral part of the financial statements.

**Budget notes**

- 1.Change between original and final budget is as a consequence of budget adjustment from Exchequer
- 2.High revenue received from WorldBank against the projection was as a result of Kenya Climate Smart Project(KCSAP) implementation restructuring that added part of Component 3 to be spearheaded by KALRO
- 3.The % decrease in revenue from goods against the budget is attributed to decrease in demand of KALRO products due to the effect of COVID 19
- 4.The % increase in revenue from services against the budget is attributed to slight increase in demand for services due to the lifting of ban on movement and gathering restrictions as a result of COVID-19.
- 5.The decrease in revenue from other grants against the budget in realization of the grants from donors is due to low disbursement by the Development Partners as a result of COVID-19
- 6.Board expenses underutilization against the budget was a result of postponement of Corporate Governance training that were to be conducted to the Board Members
- 7.Repairs and maintainance decrease was as a result of the delay in the take off of the refurbishing and/or Upgrading of Research Facilities and Infrastructure funded under the Kenya Climate Smart Project
- 8.Contractd services increase was as a result of operationalisation of Atlasafe KE01™ production by KALRO

**XVI. NOTES TO THE FINANCIAL STATEMENTS**

**1. General Information**

KALRO is established by and derives its authority and accountability from Kenya Agricultural and Livestock Research Act, No 17 of 2013. The organisation is wholly owned by the Government of Kenya and is domiciled in Kenya. The entity's principal activity is to undertake, streamline, coordinate and regulate all aspects of research in agriculture and livestock development, and promote the application of the research findings, technologies and innovations.

**2. Statement of compliance and basis of preparation – IPSAS 1**

The organization's financial statements have been prepared in accordance with the PFM Act, the State Corporations Act, and International Public Sector Accounting Standards (IPSAS). The financial statements are presented in Kenya shillings, which is the functional and reporting currency of the organization and all values are rounded to the nearest thousand (Kshs. 000). The accounting policies have been consistently applied to all the years presented.

The financial statements have been prepared on the basis of historical cost, unless stated otherwise. The cash flow statement is prepared using the direct method. The financial statements are prepared on accrual basis

**3. Adoption of New and Revised Standards**

i. Relevant new standards and amendments to published standards effective for the year ended 30 June 2021

**i) i. New and amended standards and interpretations in issue effective in the year ended 30 June 2021**

Standard	Impact
Other Improvements to IPSAS	<p><b>Applicable: 1st January 2021:</b></p> <p>a) Amendments to IPSAS 13, to include the appropriate references to IPSAS on impairment, in place of the current references to other international and/or national accounting frameworks.</p> <p>b) IPSAS 13, Leases and IPSAS 17, Property, Plant, and Equipment. Amendments to remove transitional provisions which should have been deleted when IPSAS 33, First Time Adoption of Accrual Basis International Public Sector Accounting Standards (IPSASs) was approved.</p> <p>c) IPSAS 21, Impairment of Non-Cash-Generating Assets and IPSAS 26, Impairment of Cash Generating Assets. Amendments to ensure consistency of impairment guidance to account for revalued assets in the scope of IPSAS 17, Property, Plant, and Equipment and IPSAS 31, Intangible Assets.</p> <p>d) IPSAS 33, First-time Adoption of Accrual Basis International Public Sector Accounting Standards (IPSASs). Amendments to the implementation guidance on deemed cost in IPSAS 33 to make it consistent with the core principles in the Standard.</p>

**ii) ii. New and amended standards and interpretations in issue but not yet effective in the year ended 30 June 2021**

Standard	Impact
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<p><b>IPSAS 41: Financial Instruments</b></p>	<p><b>Applicable: 1st January 2023:</b>                  The objective of IPSAS 41 is to establish principles for the financial reporting of financial assets and liabilities that will present relevant and useful information to users of financial statements for their assessment of the amounts, timing and uncertainty of an entity's future cash flows.                  IPSAS 41 provides users of financial statements with more useful information than IPSAS 29, by:</p> <ul style="list-style-type: none"> <li>• Applying a single classification and measurement model for financial assets that considers the characteristics of the asset's cash flows and the objective for which the asset is held;</li> <li>• Applying a single forward-looking expected credit loss model that is applicable to all financial instruments subject to impairment testing; and</li> <li>• Applying an improved hedge accounting model that broadens the hedging arrangements in scope of the guidance. The model develops a strong link between an entity's risk management strategies and the accounting treatment for instruments held as part of the risk management strategy.</li> </ul>
<p><b>IPSAS 42: Social Benefits</b></p>	<p><b>Applicable: 1st January 2023</b>                  The objective of this Standard is to improve the relevance, faithful representativeness and comparability of the information that a reporting entity provides in its financial statements about social benefits. The information provided should help users of the financial statements and general purpose financial reports assess:</p> <ul style="list-style-type: none"> <li>(a) The nature of such social benefits provided by the entity;</li> <li>(b) The key features of the operation of those social benefit schemes; and</li> </ul>
<p><b>Amendments to Other IPSAS resulting from IPSAS 41, Financial Instruments</b></p>	<p><b>Applicable: 1st January 2023:</b>                  a) Amendments to IPSAS 5, to update the guidance related to the components of borrowing costs which were inadvertently omitted when IPSAS 41 was issued.                  b) Amendments to IPSAS 30, regarding illustrative examples on hedging and credit risk which were inadvertently omitted when IPSAS 41 was issued.                  c) Amendments to IPSAS 30, to update the guidance for accounting for financial guarantee contracts which were inadvertently omitted when IPSAS 41 was issued.                  Amendments to IPSAS 33, to update the guidance on classifying financial instruments on initial adoption of accrual basis IPSAS which were inadvertently omitted when IPSAS 41 was issued.</p>

**iii) Early adoption of standards**

The entity did not early – adopt any new or amended standards in year 2020/2021

*NOTES TO THE FINANCIAL STATEMENTS (Continued)*

**4. Summary of significant accounting policies**

**a) Revenue recognition**

**i) Revenue from non-exchange transactions - IPSAS 23**

**Transfers from other government entities**

Revenues from non-exchange transactions with other government entities are measured at fair value and recognized on obtaining control of the asset (cash, goods, services and property) if the transfer is free from conditions and it is probable that the economic benefits or service potential related to the asset will flow to the organization and can be measured reliably.

**ii) Revenue from exchange transactions – IPSAS 9**

**Rendering of services**

The organization recognizes revenue from rendering of services only when it is probable that the economic benefits or service potential associated with the transaction will flow to the organization. When the outcome of the transaction involving the rendering of services cannot be estimated reliably, revenue shall be recognized only to the extent of the expenses recognized that are recoverable.

**Sale of goods**

Revenue from the sale of goods is recognized when the significant risks and rewards of ownership have been transferred to the buyer, usually on delivery of the goods and when the amount of revenue can be measured reliably and it is probable that the economic benefits or service potential associated with the transaction will flow to the organization.

**Interest income**

Interest income is accrued using the effective yield method. The effective yield discounts estimated future cash receipts through the expected life of the financial asset to that asset's net carrying amount. The method applies this yield to the principal outstanding to determine interest income each period.

**Rental income**

Rental income arising from operating leases on investment properties is accounted for on a straight-line basis over the lease terms and included in revenue

**b) Budget information – IPSAS 24**

The annual budget is prepared on the accrual basis, that is, all planned costs and income are presented in a single statement to determine the needs of the organization. As a result of the adoption of the accrual basis for budgeting purposes, there are no basis, timing or organization differences that would require reconciliation between the actual comparable amounts and the amounts presented as a separate additional financial statement in the statement of comparison of budget and actual amounts. The period covered by the annual budget is the same as the period covered by the financial statements.

**c) Property, plant and equipment – IPSAS 17**

All property, plant and equipment are stated at cost less accumulated depreciation and impairment losses. Cost includes expenditure that is directly attributable to the acquisition of the items. All other repair and maintenance costs are recognized in surplus or deficit as incurred. Where an asset is acquired in a non-exchange transaction for nil or nominal consideration the asset is initially measured at its fair value.

Biological assets are measured on initial recognition and at the end of each reporting period at fair value less costs to sell in accordance with IPSAS 27,

Bearer plant are "a living plant that is used in the production or supply of agricultural produce, is expected to bear produce for more than one period has a remote likelihood of being sold as agricultural produce, except for incidental scrap sales. This includes Coffee and Tea plants .

Before maturity, bearer plants are measured at their accumulated cost. After the bearer plants matures, KALRO measures the bearer plants using either the cost model or the revaluation model.

**NOTES TO THE FINANCIAL STATEMENTS (Continued)**

Depreciation is calculated to write off the cost or valuation of fixed assets using the straight-line method at the following annual rates

Buildings	2.00%
Bearer Plants	2.00%
Motor vehicles and Motor cycles	25.00%
Tractors	12.50%
Plant and machinery	12.50%
Office equipment	12.50%
Computers & Electronics	33.33%
Furniture & fittings	12.50%
Laboratory equipment	12.50%
Infrastructural Assets	25.00%

Depreciation will be charged in the year of acquisition and not charged in the year of disposal of the asset.

**d) Intangible assets–IPSAS 31**

Intangible assets acquired separately are initially recognized at cost. The cost of intangible assets acquired in a non-exchange transaction is their fair value at the date of the exchange. Following initial recognition, intangible assets are carried at cost less any accumulated amortization and accumulated impairment losses. Internally generated intangible assets, excluding capitalized development costs, are not capitalized and expenditure is reflected in surplus or deficit in the period in which the expenditure is incurred.

The useful life of the intangible assets is assessed as finite and amortised over the useful economic life and assessed for impairment whenever there is an indication that the intangible asset may be impaired. The amortisation period (a period of 3 years) and the amortisation method for an intangible asset with a finite useful life is reviewed at least at the reporting date.

**e) Research and development costs**

The organization expenses research costs as incurred. Development costs on an individual project are recognized as intangible assets when the organization can demonstrate:

- The technical feasibility of completing the asset so that the asset will be available for use or sale
- Its intention to complete and its ability to use or sell the asset
- How the asset will generate future economic benefits or service potential
- The availability of resources to complete the asset
- The ability to measure reliably the expenditure during development

Following initial recognition of an asset, the asset is carried at cost less any accumulated amortization and accumulated impairment losses. Amortization of the asset begins when development is complete and the asset is available for use. It is amortized over the period of expected future benefit. During the period of development, the asset is tested for impairment annually with any impairment losses recognized immediately in surplus or deficit.

**f) Inventories – IPSAS 12**

Inventory is measured at cost upon initial recognition. To the extent that inventory was received through non-exchange transactions (for no cost or for a nominal cost), the cost of the inventory is its fair value at the date of acquisition.

After initial recognition, inventory is measured at the lower of cost and net realizable value. However, to the extent that a class of inventory is distributed or deployed at no charge or for a nominal charge, that class of inventory is measured at the lower of cost and current replacement cost.

Net realizable value is the estimated selling price in the ordinary course of operations, less the estimated costs of completion and the estimated costs necessary to make the sale, exchange, or distribution.

Inventories are recognized as an expense when deployed for utilization or consumption in the ordinary course of operations of the organization.

**g) Nature and purpose of reserves**

The organization creates and maintains reserves in terms of specific requirements. organization to state the reserves maintained and appropriate policies adopted.

**NOTES TO THE FINANCIAL STATEMENTS (Continued)**

**h) Employee benefits – IPSAS 25**

**Retirement benefit plans**

The organization provides retirement benefits for its employees. The retirement scheme is contributory with employee and employer contributing as below on the basis of the Basic Salary. The entity's obligation under the scheme is limited to employee and employer contributions

Employee	Employer
10%	20%

The entity also contributes to the statutory National Social Security Fund (NSSF). The entity's obligation under the scheme is limited to employee and employer contributions.

**i) Cash and cash equivalents**

Cash and cash equivalents comprise cash on hand and cash at bank. Bank account balances include amounts held at various commercial banks at the end of the financial year net of bank overdrafts. In the Statement of Financial Position, bank overdrafts are included as borrowings under current liabilities.

**j) Comparative figures**

Where necessary comparative figures for the previous financial year have been amended or reconfigured to conform to the required changes in presentation.

**k) Foreign currency transactions IPSAS 4.**

Transactions in foreign currencies are initially accounted for at the ruling rate of exchange on the date of the transaction. Trade creditors or debtors denominated in foreign currency are reported at the statement of financial position reporting date by applying the exchange rate on that date. Exchange differences arising from the settlement of creditors, or from the reporting of creditors at rates different from those at which they were initially recorded during the period, are recognized as income or expenses in the period in which they arise

**l) Subsequent events – IPSAS 14**

There have been no events subsequent to the financial year end with a significant impact on the financial statements for the year ended June 30, 2021.

**m) Related Parties – IPSAS 20**

The Organisation regards a related party as a person or an entity with the ability to exert control individually or jointly, or to exercise significant influence over the Organisation, or vice versa. The Government of Kenya is the principal shareholder of the entity, holding 100% of the entity's equity interest. Other related parties include the Parent Ministry (Ministry of Agriculture, Livestock, Fisheries and Cooperatives) and Board of Management. Members of key management are regarded as related parties and comprise senior managers. No related party contracts or dealings were exchanged during the year except for earnings as employees. Further, the key management do not hold any specific interests. Allowances to members of the Board of Management are as shown (see Note 16), while the three key management emoluments for the year were Kshs 21.617million. This is included in the staff costs.

**n) Taxes – IAS 12**

The Organisation is only liable to income tax payable on interest and dividends received which are payable at source. The organisation is exempt from paying corporation tax.

**o) Leases – IPSAS 13**

The determination of whether an arrangement is, or contains a lease is based on the substance of the arrangement and requires an assessment of whether the fulfillment of the arrangement is dependent on the use of a specific asset or assets and the arrangement conveys a right to use the asset. Leases are classified as finance leases whenever the terms of the lease transfer substantially all risks and rewards of ownership to the Organization as the lessee. All other leases are classified as operating leases. Where the Organization is the lessee, the total payments made under operating leases are charged to the statement of financial performance on a straight line basis over the period of the lease.

**p) Changes in accounting policies and estimates – IPSAS 3**

The Organisation recognizes the effects of changes in accounting policy retrospectively. The effects of changes in accounting policy are applied prospectively if retrospective application is impractical.

**NOTES TO THE FINANCIAL STATEMENTS (Continued)**

**q) Financial Risk Management Objectives and Policies**

The Board has initiated and facilitated the process that will see the enhancement of risk management. The Board has an integrated risk management strategy. The Board's approach to risk management is based on risk governance structures, risk management policies, risk identification, measurement, monitoring and reporting. The risk management policies and systems are reviewed regularly to ensure that they are in tandem with the micro and macro environment, regulatory guidelines, industry practice, market conditions as well as the services offered. The Board recognizes the critical role the risk management will continue to play in its endeavor to carry out its business in a dynamic environment. The Board is committed to ensure that corporate governance and risk management are deeply entrenched in the Organisation and culture.

**i) Liquidity risk**

Liquidity risk is the risk that the Board will not have sufficient financial resources to meet its obligations when they fall due or will have to do so at excessive costs. This risk can arise from mismatches in the timing of cash flows from revenue and capital/ operational outflows, assets and liabilities according to their maturity profiles and can occur where cash flow streams have been discontinued, etc. Funding risk arises when the necessary liquidity to fund illiquid asset positions cannot be met at expected terms and when required. The objective of the liquidity and funding management is to ensure that all foreseeable operational and capital commitment expenditure can be met under both normal and stressed conditions and the mismatch is controlled in line with allowable risk levels.

The table shows the undiscounted cash flows on the Organisation financial assets and liabilities on the earliest possible maturity date. The liquidity ratio in FY 2020/21 is 10.51(FY 2019/20:5.62)

	Note	2020-2021 Kshs '000	2019-2020 Kshs '000
<b>Financial Assets</b>			
Bank and Cash Balances	19	1,843,707	775,619
Receivables	20&21	830,339	650,626
<b>Total Financial Assets</b>		<b>2,674,046</b>	<b>1,426,245</b>
<b>Financial Liabilities</b>			
Payables	30	254,389	253,564
<b>Total Financial Liabilities</b>		<b>254,389</b>	<b>253,564</b>
Net Liquidity		<b>2,419,656</b>	<b>1,172,681</b>
Liquidity Ratio		10.51	5.62

**ii) Currency Risk**

Currency risk arises primarily from purchasing and sales of goods and services from/to overseas or indirectly via local supplies. The currency risk is minimal as cash and cash equivalents held with banks are dominated in Kenya Shillings and there are minimal dealings in foreign currency.

**iii) Operational risk**

Operational risk is the risk of direct or indirect loss arising from a wide variety of causes associated with the Organisation's processes, personnel, technology and infrastructure and from external factors other than credit, market and liquidity risks such as legal and regulatory requirements and generally acceptable standards of corporate behavior.

The Organisation seeks to ensure that key operational risks are managed in a timely and effective manner through a framework of policies, procedures and tools to identify, assess, monitor and report such risks. The Organisation's objective is to manage operational risk so as to balance the avoidance of financial losses and damage to the Organisation's reputation with overall cost effectiveness and to avoid control procedures that restrict initiative and creativity.

**iv) Compliance and Regulatory Risk**

Compliance and regulatory risk includes the risk of non-compliance with regulatory requirements. The Organisation has complied with all externally imposed requirements throughout the year.

**NOTES TO THE FINANCIAL STATEMENTS (Continued)**

**5) Significant judgments and sources of estimation uncertainty – IPSAS 1**

Estimates and judgments are continually evaluated and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances. Although these estimates are based on the directors' knowledge of current events and actions, actual results may differ from these estimates. The estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognized in the period in which the estimate is revised if the revision affects only that period or in the period of the revision and future periods if the revision affects both current and future periods. The key areas of judgments and sources of uncertainty in estimation are as set out below:

**i) Useful lives of Property, Plant and Equipment**

The Board make estimates in determining the depreciation rates for property and equipment. The rates used are set out in the accounting policy (c) above for property and equipment. The Board reviews the estimated useful lives of plant and equipment at the end of each reporting period. During the financial year, no changes to the useful lives were identified by the Board.

**ii) Contingent Liabilities**

As disclosed in these financial statements, the Board is exposed to various contingent liabilities in the normal course of business. The Board evaluate the status of these exposures on a regular basis to assess the probability of the Board incurring related liabilities. However, provisions are only made in the financial statements where, based on the Board's evaluation, a present obligation has been established.

**iii) Provision for Doubtful Debts**

The organization reviews its receivables portfolio to assess the likelihood of impairment. Provision for impairment of receivables is established when there is an objective evidence that the Board will not be able to collect all amounts due. Where necessary, an estimation of the amounts irrecoverable is made in that year at 5% of the portfolio. Provision for impairment shall be recognized upon approval by the Board of Management.

**iv) Other provisions**

Other provisions are recognized when the Board has legal or constructive obligation as a result of past events, for which it is probable that an outflow of economic benefits will be required to settle the obligation, and a reliable estimate can be made of the amount of the obligation.

**6 Goods**

	2020-2021	2019-2020
	Kshs '000	Kshs '000
Sheep & Goats	2,042	1,592
Pigs	2,053	935
Camels	-	40
Cows	26,183	23,206
Poultry	95,481	66,322
Maize	6,676	9,954
Sorghum & Millets	6,961	8,217
Rice	1,078	677
Root and Tuber	3,270	530
Vegetables	167	615
Herbs	1	6,445
Beans	54,176	63,474
Fruits	1,154	1,011
Bananas	2,555	1,182
Wheat	3,082	2,190
Cassava	220	-
Seeds	49,416	65,063
Seedlings	56,519	53,174
Trees and Plants	181	1,113
Manure	865	672
Firewood	626	1,358
Flowers	88	75
Pyrethrum	6	36
Cotton	70	120
Fodder	32,279	20,296
Beef	257	1,480

**NOTES TO THE FINANCIAL STATEMENTS (Continued)**

Milk	28,887	34,412
Eggs	2,845	4,414
Tomatoes	109	121
Hay	9,747	9,270
Water	3,039	3,829
Other Farm produce	2,868	3,354
Increase/Decrease in Stock	(159,434)	18,416
Sale of Scrap	-	72
Coffee, Milling Cane and Tea Sales	158,731	96,143
<b>Total</b>	<b>392,197</b>	<b>499,808</b>

**7. Services**

	2020-2021	2019-2020
	Kshs '000	Kshs '000
Soil Analysis	19,522	14,775
Other Lab Services	6,027	1,364
Sale of Journals Periodicals	931	173
Hire-Ground/Conference Facilities	57,139	58,015
Royalties	6,421	10,001
Rent	60,285	52,550
Other services	36,460	35,406
<b>Total</b>	<b>186,785</b>	<b>172,283</b>

**8. Interest Received**

	2020-2021	2019-2020
	Kshs '000	Kshs '000
Interest Received	9,598	10,078
<b>Total</b>	<b>9,598</b>	<b>10,078</b>

**9. Other Receipts**

	2020-2021	2019-2020
	Kshs '000	Kshs '000
Cafeteria Income	35,940	53,090
Guest House Income	28,872	45,397
Bus Income	5,065	1,991
Utilities Income	6,899	10,852
Sale of Tender Documents	1	18
Grazing Fee	131	15
Gain/(Loss) on Foreign exchange	11,267	4,926
Gain/(Loss) on Biological assets	143,143	81,995
Gain/(Loss) on Sale of Fixed Assets	0	7,293
Gain/(Loss) on Valuation of Investments	(1,639)	0
<b>Total</b>	<b>229,679</b>	<b>205,577</b>

**10. GoK Personnel Emoluments**

This represents GoK funds received from the Government for payment of staff costs

	2020-2021	2019-2020
	Kshs '000	Kshs '000
Grants-Personnel Emoluments	4,484,643	4,140,316
<b>Total</b>	<b>4,484,643</b>	<b>4,140,316</b>

**NOTES TO THE FINANCIAL STATEMENTS (Continued)**

**11. GoK Development Funds**

This represents GoK funds received from the Government for development of research activities.

						2020-2021	2019-2020
						Kshs '000	Kshs '000
Development Grant -GoK						50,000	76,000
<b>Sub-Total</b>						<b>50,000</b>	<b>76,000</b>
<b>10 &amp; 11. Transfers from Ministries</b>						2020-2021	2019-2020
Name of the Entity sending the grant	Amount recognized to Statement of Comprehensive Income Kshs '000	Amount deferred Kshs '000	Amount recognised in capital fund Kshs '000	Total grant income during the year Kshs '000			
Ministry of Agriculture, Livestock, Fisheries and Co-operatives	4,484,643	-	-	4,484,643	4,484,643	4,140,316	
Ministry of Agriculture, Livestock, Fisheries and Co-operatives	50,000	-	-	50,000	50,000	76,000	
<b>Total</b>	<b>4,534,643</b>	<b>-</b>	<b>-</b>	<b>4,534,643</b>	<b>4,534,643</b>	<b>4,216,316</b>	

**12 World Bank**

		2020-2021	2019-2020
		Kshs '000	Kshs '000
Development Fund - KCSAP		1,342,586	413,870
<b>Total</b>		<b>1,342,586</b>	<b>413,870</b>

**13. Development Funds - Other Donors**

These represent grants received from various donors for research activities.

		2020-2021	2019-2020
		Kshs '000	Kshs '000
Development Grant - EU		45,683	27,664
Development Grant - USAID		-	133,291
Development Grant - Rockefeller		-	1,515
Development Grant - CIP		1,258	200
Development Grant - CIAT		9,798	20,040
Development Grant - ICRAF		1,435	3,340
Development Grant - FAO		7,020	4,422
Development Grant - ILRI		-	456
Development Grant - ICRISAT		1,965	5,625
Development Grant - CIMMYT		47,587	42,524
Development Grant - NRF		8,174	43,793
Development Grant - IDRC		85,657	53,992
Development Grant - AGRA		29,128	3,848
Development Grant - KCEP		1,872	18,476
Development Grants -CORNEL UNI		34,500	12,419
Development Grant - Other Grants		469,904	374,492
<b>Total</b>		<b>743,981</b>	<b>746,095</b>

**14. Staff Costs**

		2020-2021	2019-2020
		Kshs '000	Kshs '000
Basic Salary		2,065,344	2,008,061
House Allowance		624,117	669,761
Other Personal Allowance		109,434	113,506

**NOTES TO THE FINANCIAL STATEMENTS (Continued)**

Commuter Allowance	170,230	184,558
Transfer Allowance	2,935	3,264
Passage & Leave Expenses	11,070	12,532
Gratuity & Pension Contribution	443,541	417,717
Medical Expenses	326,628	320,299
Contractual Employee	180,556	185,545
Casual Labour	391,399	255,119
<b>Total</b>	<b>4,325,254</b>	<b>4,170,361</b>

**15. Administrative Costs**

	2020-2021	2019-2020
	Kshs '000	Kshs '000
Fuels, Oils and Lubricants	72,784	53,825
Vehicle Insurance	5,900	18,012
Road Tax & Licenses	2,471	886
Hire of Transport	7,893	4,738
Freight, Clearing & Shipping	594	791
Purchase of Supplies Production	153,288	79,650
Purchase of Drugs	6,678	5,797
Purchase of Sierra & Vaccines	3,165	2,559
Farm Development	37,303	20,545
Purchase of Fungi Insecticide & Sprays	3,955	3,733
Purchase of Farm Input	44,468	27,669
Purchase of Laboratory Stores	52,330	60,366
Research Materials	25,121	24,644
Purchase of Animals	7,804	3,012
Purchase of Dressing & Non Pharmaceutical	173	318
Purchase of Consumables Stores	16,413	61,715
Food and Ration	18,485	12,916
Hire Machinery & Equipment's	2,812	4,848
Purchase of Workshop Tools, Spares & Equipment	5,454	2,731
Farmer Grants (CIGs/CBOs)	39,301	34,023
Purchase of seed	24,792	82,477
Office Stationery	25,167	21,875
Computer Expenses	35	51
Printing and Publishing	13,947	6,211
Advertising and Publicity	9,358	9,487
Library Expenses	193	464
Farmers Training, Field day, Show Expenses	213,703	17,395
Cafeteria Expenses	23,600	42,343
Official Entertainment	8,029	9,714
Conference and Seminars	42,905	48,970
Rent and Rates	9,915	1,933
Commission and Honoraria	4,618	3,995
Security Expenses	111,784	122,577
Insurance - Property	17,281	30,375
Uniforms and Clothing	2,786	1,670
Subscriptions to Newspapers	739	754
Insurance - GPA & GL	32,323	17,420
Daily Subsistence Allowance	867,029	564,392
External Travels and Per Diem	4,769	20,408
Travel Costs (Air & Bus) Mileage	20,580	5,940
Training	18,770	18,086
Water Expenses	5,981	4,783
Electricity Supplies	77,774	85,625
Gas Expenses	2,652	1,876
Telephone Expenses	21,301	11,564
Postage and Courier Expenses	3,528	3,755

**NOTES TO THE FINANCIAL STATEMENTS (Continued)**

Provision for bad debts	27,365	0
Internet Connections	28,009	29,905
Membership Fees & Subscription	9,060	5,015
Legal Dues, Arbitration & Compensation	26,586	27,982
<b>Total</b>	<b>2,160,967</b>	<b>1,619,821</b>

**16. Board Expenses**

<b>Board</b>	<b>2020-2021</b>	<b>2019-2020</b>
	<b>Kshs '000</b>	<b>Kshs '000</b>
Sitting Allowance	3,489	4,083
Travelling and Accomodation	1,119	4,274
Telephone Allowance	84	-
Mileage Expenses	310	847
Honoraria	960	880
Training	-	2,262
<b>Total</b>	<b>5,962</b>	<b>12,345</b>

**17. Audit Fees**

These are fees incurred by the Institute during external audits.

	<b>2020-2021</b>	<b>2019-2020</b>
	<b>Kshs '000</b>	<b>Kshs '000</b>
Audit Fees	4,312	3,940
<b>Total</b>	<b>4,312</b>	<b>3,940</b>

**18. Depreciation & Amortization Expense**

	<b>2020-2021</b>	<b>2019-2020</b>
	<b>Kshs '000</b>	<b>Kshs '000</b>
Buildings	135,919	135,519
Plant and Machinery	9,487	29,154
Motor Vehicles	66,609	52,205
Lab & Scientific Equipment	41,629	95,539
Office & Computer Equip.	28,262	15,666
Office Furniture & Fittings	13,850	37,743
Infrastructure(G/hses,fences,streetlighting)	35,580	16,065
Amortization -Bearer Plants	4,304	4,292
Amortization-Software	16,857	8,385
<b>Total</b>	<b>352,557</b>	<b>394,567</b>

**19. Repairs and maintenance**

These refers to repairs and maintenance on the various assets of the organisation

	<b>2020-2021</b>	<b>2019-2020</b>
	<b>Kshs '000</b>	<b>Kshs '000</b>
Repairs & Maintenance of Vehicles	44,142	35,682
Repairs & Maintenance of Motor Cycles	492	377
Repair & Maintenance of Buildings & Stations	34,466	22,571
Repair & Maintenance of Water Supplies and Pumps	3,607	2,689
Repair & Maintenance of Office Equipment	6,792	5,718
Repairs & Maintenance Laboratory Equipment	1,837	2,841
Repairs & Maintenance Furniture	1,313	664
Maintenance of Plant and Machinery	5,827	2,711
Maintenance of Roads	184	779
Minor Alteration & Maintenance of Works	438	2,167
<b>Total</b>	<b>99,099</b>	<b>76,199</b>

**20. Contracted Professional Services**

	<b>2020-2021</b>	<b>2019-2020</b>
	<b>Kshs '000</b>	<b>Kshs '000</b>
Contracted Professional Services	46,334	29,475
<b>Total</b>	<b>46,334</b>	<b>29,475</b>

**21 Finance cost**

	<b>2020-2021</b>	<b>2019-2020</b>
	<b>Kshs '000</b>	<b>Kshs '000</b>
Bank Charges	9,892	7,303
<b>Total</b>	<b>9,892</b>	<b>7,303</b>

**NOTES TO THE FINANCIAL STATEMENTS (Continued)**

	2020-2021	2019-2020
	Kshs '000	Kshs '000
<b>22 Cash and cash equivalent</b>		
Bank Balances	1,843,714	775,619
Bank overdraft (Note 32)	(7)	-
<b>Total</b>	<b>1,843,707</b>	<b>775,619</b>
Cash and cash equivalent are held in various banks as per below summary:		
Kenya Commercial Bank	1,769,110	695,348
NCBA Bank	10,138	9,629
ABSA Bank Kenya	6,630	12,800
National Bank of Kenya	20,903	24,238
Cooperative Bank of Kenya	24,333	27,898
Stanbic Bank Kenya	11,622	3,218
MPESA	721	1,684
Cash	250	805
<b>Total</b>	<b>1,843,707</b>	<b>775,619</b>
	<b>2020-2021</b>	<b>2019-2020</b>
	<b>Kshs '000</b>	<b>Kshs '000</b>
<b>23 Receivables from Exchange Transactions</b>		
Trade Debtors	65,414	103,023
Kenya Seed	19,945	19,945
Prepayments	1,592	1,592
Rent dues	6,183	4,519
Bungoma Union	746	746
Mugama Co-op Union	1,863	1,863
Other Receivables	337,916	119,436
Former staff debtors	0	663
Provision for Doubtful Debts	(21,603)	(7,708)
<b>Total</b>	<b>412,057</b>	<b>244,079</b>
	<b>2020-2021</b>	<b>2019-2020</b>
	<b>Kshs '000</b>	<b>Kshs '000</b>
<b>24 Receivables from Non-exchange Transactions</b>		
Commodity Levy	314,497	314,473
Staff Imprest	95,422	69,733
Staff advances	2,175	2,005
Transfers to other Institutions	0	679
Coffee Board of Kenya	23,445	23,445
KPCU	124,496	124,496
Provision for Doubtful Debts	(141,752)	(128,283)
<b>Total</b>	<b>418,282</b>	<b>406,548</b>
<b>25 Prepayments</b>		
These are prepayments on insurance covers taken by KALRO with commencement date of 1 <sup>st</sup> October 2020 and expiring on 30 <sup>th</sup> September 2021		
	<b>2020-2021</b>	<b>2019-2020</b>
	<b>Kshs '000</b>	<b>Kshs '000</b>
Insurance Premium	96,516	19,930
<b>Total</b>	<b>96,516</b>	<b>19,930</b>
<b>26 Inventories</b>		
	<b>2020-2021</b>	<b>2019-2020</b>
	<b>Kshs '000</b>	<b>Kshs '000</b>
Consumables	78,695	307,637
Crop	124,893	2,969
Provision for obsolete stock	(341)	(341)
<b>Total</b>	<b>203,247</b>	<b>310,265</b>
<b>27 Deposits</b>		
	<b>2020-2021</b>	<b>2019-2020</b>
	<b>Kshs '000</b>	<b>Kshs '000</b>
Deposits	2,585	2,585
<b>Total</b>	<b>2,585</b>	<b>2,585</b>

NOTES TO THE FINANCIAL STATEMENTS (Continued)  
28. Property, plant and Equipment

	LAND	BEARER PLANTS	BUILDINGS	MOTOR VEHICLES	PLANT & MACHINERY	OFFICE EQUIP.	FURNITURE & FITTINGS	LAB EQUIPMENT	MOTOR CYCLES & BICYCLES	INFRASTRUCTURE (RE/G/hses, fences, streetlighting)	WORK IN PROGRESS	TOTAL
	Kshs'000'	Kshs'000'	Kshs'000'	Kshs'000'	Kshs'000'	Kshs'000'	Kshs'000'	Kshs'000'	Kshs'000'	Kshs'000'	Kshs'000'	Kshs'000'
Cost	17,808,626	215,195	6,793,029	671,672	266,188	521,887	302,528	867,136	7,748	148,738	(0)	27,602,746
As at 1 <sup>st</sup> July 2019			2,429	57,363	225	56,011	334	27,387		29,512		173,261
Addition for the period												
Reclassification of assets categories												
Disposal for the period				(7,292)								(7,292)
Transfer from WIP												
At 30 <sup>th</sup> June 2020	17,808,626	215,195	6,795,458	721,743	266,412	577,898	302,862	894,523	7,748	178,250	(0)	27,768,714
Addition for the period	400,000			24,501	9,757	19,730	1,831	6,604	247	451	7,478	470,599
Transfer from WIP												
Reclassification of assets categories												
Transfer from Biological assets												
Disposal for the period												
At 30 <sup>th</sup> June 2021	18,208,626	215,195	6,795,458	746,244	276,169	597,628	304,693	901,127	7,995	178,700	7,478	28,239,313
Depreciation												
At 1 <sup>st</sup> July 2019		9,892	927,459	597,609	209,350	507,352	195,065	661,283	7,748	97,986		3,213,744
Charge for the period		4,304	135,919	66,609	9,487	28,262	13,850	41,629	62	35,580		335,700
Accumulated depreciation on disposal				(7,292)								(7,292)
At 30 <sup>th</sup> June 2020		14,196	1,063,378	656,925	218,837	535,614	208,916	702,912	7,809	133,566		3,542,152
Charge for the period		4,304	135,919	66,609	9,487	28,262	13,850	41,629	62	35,580		335,700
Accumulated depreciation on disposal												
Depreciation on reclassification												
At 30 <sup>th</sup> June 2021		18,488	1,198,897	709,130	247,991	551,279	246,658	798,451	7,809	149,631		3,928,333
Net book values												
At 30 <sup>th</sup> June 2020	18,208,626	196,707	5,596,561	37,114	28,179	46,349	58,035	102,676	185	29,070	7,478	24,310,980
At 30 <sup>th</sup> June 2021	17,808,626	201,011	5,732,480	79,222	27,908	54,860	70,054	137,701	0	64,199	(0)	24,176,081

Motor vehicles and motorcycles with a gross carrying amount of ksh. 450,861,000 and ksh. 6,606,660 respectively, had been fully depreciated during the year ending 30th June 2021 and are still in use

**NOTES TO THE FINANCIAL STATEMENTS (Continued)**

**29 Intangible Assets**

	2020-2021 Kshs '000	2019-2020 Kshs '000
<b>Cost</b>		
At beginning of the year	262,776	262,756
Addition	2,378	20
<b>At end of the year</b>	<b>265,154</b>	<b>262,776</b>
<b>Amortization</b>		
At beginning of the year	245,997	237,611
Amortization	16,857	8,385
At end of the year	262,854	245,997
<b>Net Book Value</b>	<b>2,300</b>	<b>16,779</b>

**30 Biological Assets**

	2020-2021 Kshs '000	2019-2020 Kshs '000
As at 1st July	716,185	634,190
Gain in Value during the year	143,143	81,995
<b>As at 30th June</b>	<b>859,328</b>	<b>716,185</b>
<b>Total</b>	<b>859,328</b>	<b>716,185</b>

**31 Investments**

	2020-2021 Kshs '000	2019-2020 Kshs '000
<b>Quoted Investments:</b>		
1,672 B A T Kenya PLC shares-	510	17
<b>Other Investments:</b>		
KPCU Unsecured Loan Stock	-	40
KPCU Redeemable Ordinary shares Fairvalue is Kshs 0 (2019/2020Kshs 0)	-	2,092
<b>Total</b>	<b>510</b>	<b>2,149</b>

The Kenya Planters Co-operative Union unsecured loan stock and redeemable ordinary shares are unquoted investments classified as available for sale and measured at cost. The fair value of KPCU is estimated at zero as the Government has liquidated KPCU.

For investments in equity share listed under note 31 above, the equity investments is under the following categories:

Name of entity where investment is held	No of shares			Nominal value of shares Kshs '000	Fair value of shares	Fair value of shares
	Direct shareholding	Indirect shareholding	Effective shareholding		Current year	Prior year
	%	%	%		Kshs '000	Kshs '000
British American Tobacco Kenya PLC	0.0000167	-	0.0000167	17	510	531
	<b>0.0000167</b>	<b>-</b>	<b>0.0000167</b>	<b>17</b>	<b>510</b>	<b>531</b>

The fair value of BAT shares is determined by reference to published price quotation in the active market (NSE). On 30th June 2021, the shares traded at Kshs. 305.00(2019/2020:Kshs.317.75) per share.

**32 Bank Overdraft**

	2020-2021 Kshs '000	2019-2020 Kshs '000
Bank overdraft	7	-
<b>Total</b>	<b>7</b>	<b>-</b>

**NOTES TO THE FINANCIAL STATEMENTS (Continued)**

**33 Trade and Other Payables**

	2020-2021	2019-2020
	Kshs '000	Kshs '000
Trade Creditors	131,888	94,682
Statutory Deductions	45,242	59,642
Other Creditors	76,446	34,581
Rent Deposits	814	814
Provision for Liabilities(Arbitration - Dinesh Construction )	0	63,846
<b>Total</b>	<b>254,389</b>	<b>253,564</b>

**34 Deferred income**

Grants received from donors for specific projects are classified as non-current liabilities. They are carried at amortized cost of which amortization is recorded as other grants in proportion to expenditure incurred on the project over the life of the project.

Description	2020-2021	2019-2020
	Kshs '000	Kshs '000
National Government	-	-
International funders	855,204	226,924
Prior Year Adjustments-International funders	-	-
Public contributions and donations	-	-
<b>Total deferred income</b>	<b>855,204</b>	<b>226,924</b>

The deferred income movement is as follows:

	National government	International funders	Public contributions and donations	Total	Total
	Kshs '000	Kshs '000	Kshs '000	Kshs '000	Kshs '000
Balance brought forward	0	226,924	-	226,924	251,463
Prior year adjustment*				-	0
Additions		-	673,962	673,962	-
Transfers to Capital fund				-	-
Transfers to income statement		(44,649)	-	(44,649)	(24,539)
Other transfers		(1,032)		(1,032)	
<b>Balance carried forward</b>	<b>-</b>	<b>181,243</b>	<b>673,962</b>	<b>855,204</b>	<b>226,924</b>

**35 General reserve**

	2020-2021	2019-2020
	Kshs '000	Kshs '000
Balance Brought Forward as at 1 July	812,538	862,523
Surplus/(Deficit) for the Year	435,091	(49,985)
Prior year adjustments	-	0
<b>Balance Carried Forward as at 30 June</b>	<b>1,247,629</b>	<b>812,538</b>

**NOTES TO THE FINANCIAL STATEMENTS (Continued)**

**36 Capital fund**

	2020-2021 Kshs '000	2019-2020 Kshs '000
Capital Funds Brought Forward as at 1st July	5,511,817	5,425,197
Capital Funds received during the year	415,095	86,620
<b>Balance Carried Forward as at 30th June</b>	<b>5,926,912</b>	<b>5,511,817</b>

**37 Reconciliation of operating profit/(loss) to cash generated from/(used in) operations**

	2020-2021 Kshs '000	2019-2020 Kshs '000
<b>Cash Flow from Operating Activities</b>		
Surplus/(Deficit)	435,091	(49,985)
<b>Adjustment for;</b>		
Depreciation and Amortisation	352,557	394,567
<b>Operating profit/(loss) before working capital changes</b>	<b>787,649</b>	<b>344,582</b>
<b>Working Capital adjustments</b>		
Decrease /(Increase) in Inventories	107,018	(18,416)
Decrease /(Increase) in Receivables-Exchange	(167,978)	(150,931)
Decrease /(Increase) in Receivables-Non-Exchange	(11,735)	(19,301)
Decrease /(Increase) in Prepayments	(76,586)	75,336
Increase/(Decrease) in Current liabilities	832	(105,996)
Decrease /(Increase) in Deposits	-	-
<b>Net changes in Working Capital</b>	<b>(148,448)</b>	<b>(219,308)</b>
<b>Cash generated from/(used in) operations</b>	<b>639,201</b>	<b>125,273</b>

**38 Revaluation reserve**

	2020-2021 Kshs '000	2019-2020 Kshs '000
Balance Brought Forward as a 1st July	19,865,377	19,865,377
<b>Balance Carried Forward as at 30th June</b>	<b>19,865,377</b>	<b>19,865,377</b>

**39 Provisions for contingent liabilities**

(i) During the financial year under review, liability relating to actual deficit as per the report on actuarial valuation of the Kenya Agricultural and Livestock Research Organization Staff retirement benefits Scheme indicated a valuation figure of Kshs.274.653million as at 31st December 2020. It is worth noting that this figure keep on changing every year and could not be disclosed under trade payables as it would materially affect the working capital of the Institute.

**40 Events after the reporting period**

There were no material adjusting and non- adjusting events after the reporting period.

**41 Ultimate and holding entity**

KALRO is a Semi- Autonomous Government Agency under the Ministry of Agriculture ,Livestock,Fisheries and Co-operatives. Its ultimate parent is the Government of Kenya.

**42 Currency**

The financial statements are presented in Kenya Shillings (Kshs).

**APPENDIX I. PROGRESS ON FOLLOW UP OF AUDITOR RECOMMENDATIONS**

The following is the summary of issues raised by the external auditor, and management comments that were provided to the auditor. We have nominated focal persons to resolve the various issues as shown below with the associated time frame within which we expect the issues to be resolved.

Reference No. on the external audit Report	Issue / Observations from Auditor	Management comments	Focal Point person to resolve the issue	Status: (Resolved / Not Resolved)	Timeframe: (Put a date when you expect the issue to be resolved)
1.1	Inadequate Research funding	National Treasury engagement through the Parent Ministry for funding through the Medium Term Sector Framework process	H-Finance	Partly Resolved	Continuous
1.2	Ageing workforce and inadequate staffing	Obtained Board of Management resolution/approval to seek concurrence from the Parent Ministry to commence steady staff replacement	H-Human Resources & Administration	Not Resolved	Dec-21
2	Receivables from non-exchange Transactions	To seek authority for write off.	H-Finance	Partially Resolved	Dec-21
3	Receivables from exchange Transactions	To seek authority for write off.	H-Finance	Partially Resolved	Dec-21
4.1	Property Plant & Equipment without Title Deeds	Follow up on acquisition of ownership documents ongoing	H-Finance	Partially Resolved	Continuous
4.2	Work in Progress	Engaging National Treasury through the Parent Ministry for funding through the Medium Term Sector Framework process In addition, discussion with the Nyayo Tea Zones Development Corporation (NTZDC) on possible collaboration to equip the factor commenced	H-Finance	Partially Resolved	Continuous
5	Trade and Other Payables	The matter is still being followed up with a view of securing a waiver	H-Finance	Not Resolved	Dec-21
6	Investments	Proper disclosure done	H-Finance	Resolved	Resolved
7	Cash and cash equivalents	Matter under investigation by the EACC and National Police Service. Long outstanding unrepresented cheques matter resolved	DG	Not Resolved	Continuous

Reference No. on the external audit Report	Issue / Observations from Auditor	Management comments	Focal Point person to resolve the issue	Status: (Resolved / Not Resolved)	Timeframe:(Put a date when you expect the issue to be resolved)
8	Inventories	Corrected and adopted the provisions of the IPSEA 27 and the livestock and trees were treated/recognised as biological assets	H-Finance	Resolved	Resolved
9	Differed Income	Proper disclosure and recognition done	H-Finance	Resolved	Resolved
10	Statement of changes in net assets	Prior year adjustment entry explained	H-Finance	Resolved	Resolved
11	KALRO Act, 2013	The professional opinion from the Registrar of Companies is still being followed up	H-Legal	Not Resolved	Continuous

*WCF*

Mr. Wilfred Chacha Rotich  
Chairman, KALRO BoM

Date: ..... 28/09/2021

*[Signature]*

Dr. Eliud K. Kiregei, OGW  
Director General

Date: ..... 28/09/2021

**APPENDIX II: PROJECTS IMPLEMENTED BY KALRO**

**Projects**

Major projects implemented by KALRO and funded by development partners

Project title	Project Number	Donor	Period/ duration	Donor commitment (Kshs'000')	Separate donor reporting required as per the donor agreement (Yes/No)	Consolidated in these financial statements(Yes/No)
1 Kenya Climate-Smart Agriculture Project (KCSAP)	Project I.D. P154794	World Bank	60months	3,866,786	YES	YES
2 Support to improvement of added value to coffee	CKE 1060.01 E	Agence Française de Développement (AFD)	60months	140,000	YES	YES
3 AGRIF- Climate Smart Agricultural Productivity Project (CS-APP)	FED/2018/398-876	EU	60months	567,780	YES	YES

**Status of Projects completion**

Project	Total project Cost <sup>1</sup> (kshs'000')	Total expended to date (kshs'000')	Completion % to date	Budget (Kshs'000')	Actual (kshs'000')	Sources of funds
1 Kenya Climate-Smart Agriculture Project (KCSAP)	3,866,786	1,422,586	37%	1,200,000	1,342,586	WORLD BANK
2 Support to improvement of added value to coffee	140,000	6,293	4%	-	-	Agence Française de Développement (AFD)
3 AGRIF- Climate Smart Agricultural Productivity Project (CS-APP)	738,115	229,531	31%	250,000	45,683	EU

1. The project total cost is the total financing for both the Donor and counterpart(GoK)

**APPENDIX III: INTER-ENTITY TRANSFERS (Ksh'000')**

<b>ENTITY NAME:</b>		<b>KALRO</b>		
<b>Break down of transfers from the State Department for Agricultural Research and State Department for Livestock</b>				
<b>FY 2020/21</b>				
<b>a. Recurrent Grants</b>				
		<b>Bank Statement Date</b>	<b>Amount (Kshs'000')</b>	<b>FY to which the amounts relate</b>
		Aug-20	1,078,750	2020/21
		Nov-20	1,078,750	2020/21
		Feb-21	1,078,750	2020/21
		May-21	1,242,750	2020/21
		Jun-21	5,643	2020/21
		<b>Total</b>	<b>4,484,643</b>	
<b>b. Development Grants</b>				
		Sep-20	6,000	2020/21
		Sep-20	30,000	2020/21
		Sep-20	14,000	2020/21
		<b>Total</b>	<b>50,000</b>	
<b>c. Other Grants</b>				
		Jul-20	11,300	2020/21
		Jul-20	30,000	2020/21
		<b>Total</b>	<b>41,300</b>	

The above amounts have been communicated to and reconciled with the Parent Ministry

**APPENDIX IV: RECORDING OF TRANSFERS FROM OTHER GOVERNMENT ENTITIES (Ksh'000')**

Name of the MDA Transferring the funds	Date received as per bank statement	Nature	Total Amount	Statement of Financial Performance	Where Recorded/recognized					
					Capital Fund	Deferred Income	Receivables	Others	Total Transfers during the Year	
Ministry of Agriculture, Livestock, Fisheries and Cooperatives	Appendix III	Recurrent	4,484,643	4,484,643	-	-	-	-	-	4,484,643
	Appendix III	Development	50,000	50,000	-	-	-	-	-	50,000
	Appendix III	Other Grants	41,300	41,300	-	-	-	-	-	41,300
Ministry of Education, Science and Technology - National Research Fund(NRF)	Nov-20	Research Funds	3,000	3,000	-	-	-	-	-	3,000
	Feb-21	Research Funds	3,136	3,136	-	-	-	-	-	3,136
Agricultural Development Corporation(ADC)	Apr-21	Research Funds	2,038	2,038	-	-	-	-	-	2,038
	Jun-21	Royalties	500	500	-	-	-	-	-	500
	Mar-21	Royalties	750	750	-	-	-	-	-	750
KCSAP (NPCU)	Mar-21	Royalties	750	750	-	-	-	-	-	750
	Jul-20	Research Funds	219,983	219,983	-	-	-	-	-	219,983
	Sep-20	Research Funds	674,453	674,453	-	-	-	-	-	674,453
	Dec-20	Research Funds	159,815	159,815	-	-	-	-	-	159,815
	Apr-21	Research Funds	288,335	288,335	-	-	-	-	-	288,335
	May-21	Research Funds	223,962	223,962	-	223,962	-	-	-	223,962
<b>Total</b>	Jun-21	Research Funds	450,000	450,000	-	450,000	-	-	-	450,000
			<b>6,602,665</b>	<b>5,928,703</b>	<b>-</b>	<b>673,962</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>6,602,665</b>