

AGRICULTURAL RESEARCH COUNCIL

PORTFOLIO COMMITTEE ON AGRICULTURE, LAND REFORM AND RURAL DEVELOPMENT

Annual Report 2020 - 2021

Intended for 11 November 2021 Portfolio Committee Engagement



ARC • LNR

Excellence in Research and Development



LEGISLATIVE MANDATES**POLICY MANDATES****OUR MANDATE**

To conduct agricultural research and development and drive technology development and dissemination in order to:

- Promote sustainability and equitable economic participation in the agricultural sector;
- Promote agriculture development and growth in related industries;
- Facilitate sector skills development and knowledge management;
- Facilitate and ensure natural resource conservation;
- Promote national food and nutrition security, and
- Contribute to improved health and better quality of life.

OUR VISION

Excellence in research and innovation for sustainable agricultural systems and socio-economic development

OUR MISSION

To conduct research, develop partnerships and human capital, and foster innovation for a sustainable agricultural sector

OUR VALUES

- I - Integrity
- C - Commitment
- A - Accountability
- I - Innovation
- R - Respect
- E - Excellence

OUR IMPACT

Sustainable agricultural systems for agrarian transformation, food and nutrition security

OUR OUTCOMES AND INTERVENTIONS

1. Increased agricultural production and productivity	2. Sustainable ecosystems and natural resources	3. Improved nutritional value, quality and safety of agricultural products	4. A skilled and capable agriculture sector	5. Enhanced resilience of agriculture	6. A high performing and sustainable organisation
<ul style="list-style-type: none"> - Crops with improved characteristics - Animal Improvement services - Diagnostic and analytical services 	<ul style="list-style-type: none"> - Biodiversity management - Soil health assessment - Weed biocontrol - Low carbon technologies 	<ul style="list-style-type: none"> - Product development - Broadening the foodbase - Processing, preservation, and storage methods 	<ul style="list-style-type: none"> - Skills development - Technology development and dissemination - Smallholder farmer supported - Farmer support - Knowledge generated 	<ul style="list-style-type: none"> - Climate resilient solutions - Vaccine production - Diagnostic and analytical services 	<ul style="list-style-type: none"> - Governance, financial management and internal controls - Revenue generation and financial sustainability - Asset utilisation - ICT Strategy Implementation - Effective human resources planning

MEDIUM TERM STRATEGIC FOCUS PRIORITIES FOR 2019 – 2024

MTSF PRIORITIES FOR ARC:

- a) Priority 1: A Capable, Ethical and Developmental State
- b) Priority 2: Economic Transformation and Job Creation
- c) Priority 3: Education, Skills and Health
- d) Priority 5: Spatial Integration, Human Settlements and Local Government
- e) Priority 7: A better Africa and World

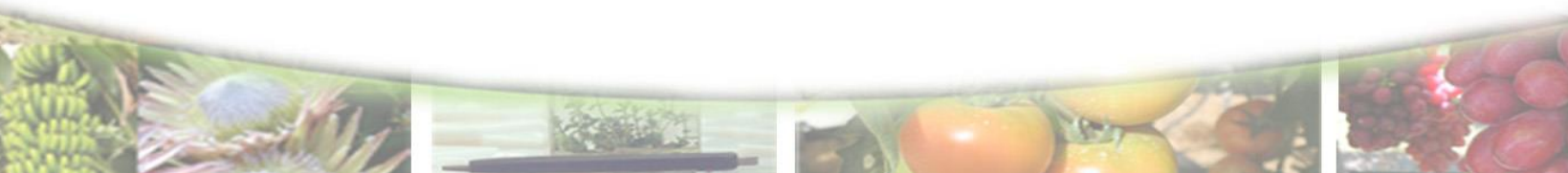
Cross Cutting Focus Areas:

- Women
- Youth
- People with Disabilities
- Climate Change



ARC ROLE/PURPOSE: ALIGNMENT TO MTSF PRIORITIES

1. Promote sustainability and equitable economic participation in the agricultural sector
2. Promote agricultural development and growth related industries
3. Facilitate sector skills development and knowledge management
4. Facilitate and ensure natural resource conservation
5. Promote national food and nutrition security; and,
6. Contribute to improved health and better quality of life



SCIENCE IN ARC FOR THE AGRICULTURE ECONOMY

SCIENCE COUNCIL

- Innovation in science
- Basic/fundamental research
- Applied research (technologies)
- Intellectual assets
- Skilled scientists & engineers
- Volume & quality publications
- Scientist ratings
- Number of PhDs
- Number of doctoral fellows
- Number of postdoc fellows
- Scientific awards

AGRICULTURE DEVELOPMENT

- Economic link to Innovation
- Applied research
- Technology Transfer/dissemination
- Intellectual Asset Use
- Agricultural Production & productivity
- Food Security – hunger
- Environmental Sustainability
- Import Substitution
- Export Promotion
- Agrarian Transformation
- New products (vaccines, cultivars etc.)

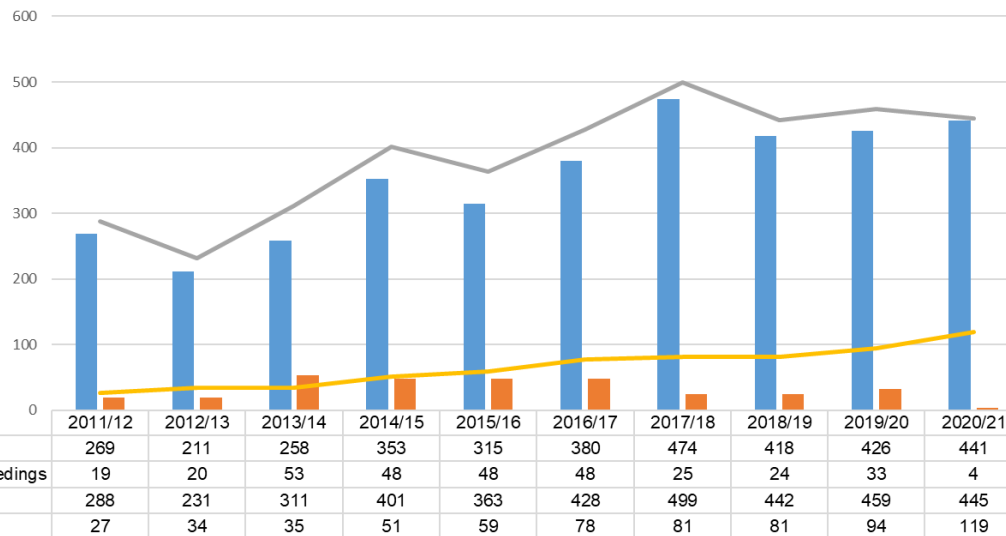


DESIRED IMPACT

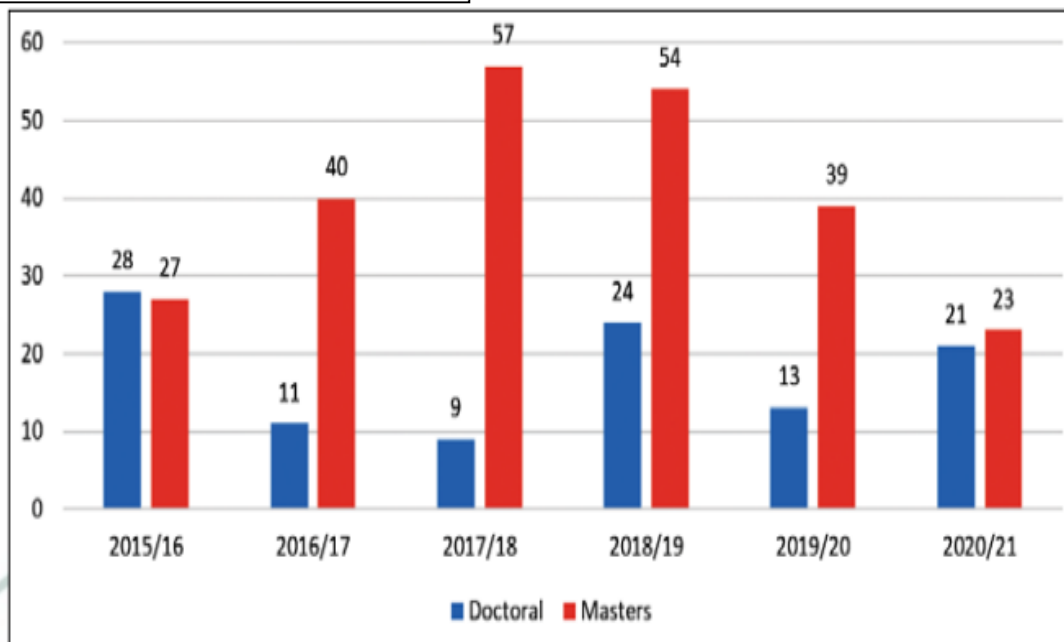
SUSTAINABLE AGRICULTURAL SYSTEM FOR AGRARIAN TRANSFORMATION, FOOD AND NUTRITION SECURITY

DESIRED OUTCOMES AND INTERVENTIONS

Outcome 1	Outcome 2	Outcome 3	Outcome 4	Outcome 5
Increased agricultural production and productivity	Sustainable ecosystems and natural resources	Improved nutritional value, quality and safety of agricultural products	A skilled and capable agriculture sector	Enhanced resilience of agriculture
Crops with improved characteristics	Biodiversity Management	Product Development	Skills Development	Climate Resilient Solutions
Diagnostic and Analytical Services	Soil Health Assessment	Broadening the Food Base	Technology Transfer	Diagnostic and Analytical Services
	Weed Control	Processing, preservation, and storage methods	Smallholder Farmer Support	
	Low carbon technologies		Knowledge Generated	



10 Year review of scientific publications



ARC Professional Development Programme (PDP) Graduations.



OUTCOME 1

INCREASED AGRICULTURAL PRODUCTION AND PRODUCTIVITY

OUTCOME FOCUS	OUTPUT
<ul style="list-style-type: none">• To generate knowledge and technologies (intellectual property and tools).• To improve the quality and increase the value of crop and animal based agricultural production and related processes and products.• Enhance productivity towards increased food security, commercial exports and income for the agricultural sector.• Enabling farmers and producers to maximise their efficiency and productivity.	Crop production technologies developed and information dissemination
	Animal improvement services



FRUIT BREEDING RESEARCH FOR A COMPETITIVE INDUSTRY

- 'Cape Blush' is a new, very early blush pear cultivar developed by the ARC as part of its strategy to supply South African fruit growers with new, competitive products suitable for overseas markets. The distinguishing trait of this cultivar is the fact that it ripens about two weeks earlier than the established early blush pear 'Rosemarie'. The blush on the skin of 'Cape Blush' pears is a striking bright red colour and the fruit has a classic pear shape, making it very attractive.
- Independent evaluation also signifies that this cultivar is suitable for commercialisation, having reasonable eating quality and good storage ability – which makes it appropriate for export markets. It is foreseen that 'Cape Blush' will play an important role in expanding the blush range of South African pear cultivars.
- A new cultivar, ARCCIT2007 was granted Plant Breeders' Rights owing to its markedly improved fruit quality characteristics. This new cultivar, a 'Cara Cara' navel, is sweeter, has improved internal colour and is also of a size preferred by the EU markets.
- The mango breeding programme focuses on meeting both export and local market requirements and three open-pollinated selections were identified for commercialisation over the last two years. The latest selection is an attractive late mid-season fruit with a pink blush and good shape, high yield, excellent external colour and a sweet taste. Commercialisation of PBR-registered cultivars earn significant income in the form of royalties.



1A "Cape Blush" pear cultivar developed by the ARC



1B 'ARCCIT2007 has improved external and internal colour and has a sweet flavour.



1C The latest mango selection bred by the ARC is an attractive late mid-season fruit with a pink blush, good shape and high yield..



1D Excellent internal and external colour as well as a sweet flavour are hallmarks of a quality mango selection..

GRAIN BREEDING RESEARCH FOR FOOD SECURITY

- ARC released two new irrigation wheat cultivars, Umgeni and Selons. These are set to surely develop into industry favourites Umgeni will without doubt be the new flagship cultivar for the ARC in the irrigation areas. Umgeni has a short growth period and exceptional yield, averaging 12.5 t/ha. Apart from its superb yield potential, Umgeni is also moderately resistant to leaf rust and resistant to stripe rust. A third line, Usutu, was approved in 2019 and therefore ARC has three new irrigation cultivars that are currently being multiplied for industry.



2B Selected wheat lines sprayed red for easy recognition.



ARC cultivars showcased during open day at Modderrivier in 2020.



OUTCOME 2

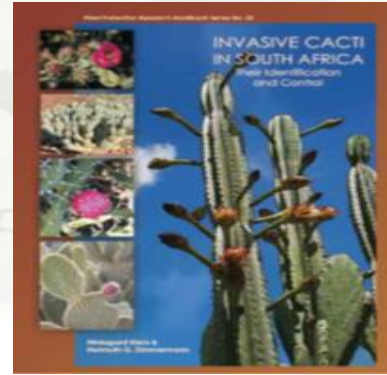
SUSTAINABLE ECOSYSTEMS AND NATURAL RESOURCES

OUTCOME FOCUS	OUTPUT
<ul style="list-style-type: none">• To generate knowledge and technologies (intellectual property and tools) that will conserve natural resources and sustain agriculture.	Natural Resource Management
<ul style="list-style-type: none">• Improving the productivity, competitiveness and sustainability of both commercial and smallholder based agriculture through research and technology in areas related to efficient energy utilisation water management and irrigation practices.	Soil and Water Science
<ul style="list-style-type: none">• The rehabilitation, utilisation, development and protection of natural agricultural resources.	Weed Science
<ul style="list-style-type: none">• New and improved conservation and climate smart agriculture systems.• Improved monitoring and characterisation systems for natural resources and genetic material;• Mechanised farming and irrigation practices, techniques, equipment and machinery.	Ecosystem Services



SUSTAINABLE ECOSYSTEMS AND NATURAL RESOURCES

- The ARC ensure technology transfer of the results and biocontrol techniques from the ARC's biocontrol research against Invasive Alien Plants to the research community, conservation, Government agriculture and environment officials, landholders and the general public through publication of a new book, 'Invasive Cacti in South Africa: their Identification and Control', (Plant Protection Research Handbook Series No.20).
- Irrigation water is a scarce resource, and agriculture has to compete with urban and industrial needs for water. On the other hand, many table grape vineyards are over-irrigated. Instruments currently used for irrigation scheduling of commercial vineyards can easily be calibrated against grapevine water status. The research showed that producers can apply less irrigation and achieve the same table grape berry size and quality using the pressure chamber technique. This information is now being used to develop guidelines for improved scheduling of table grape irrigation.
- The ARC has made significant progress in the development and delivery of integrated soil health solutions to commercial and smallholder farmers in South Africa. Collaborations with stakeholders, including the manufacturing of biological products, has enabled the screening of more than 50 nitrogen fixation strains for nodulation of leguminous crops under abiotic stress conditions anticipated as part of global climate changes currently being experienced.



3A New book on invasive cacti in South Africa.



3B A pressure chamber is used to measure grapevine water status.

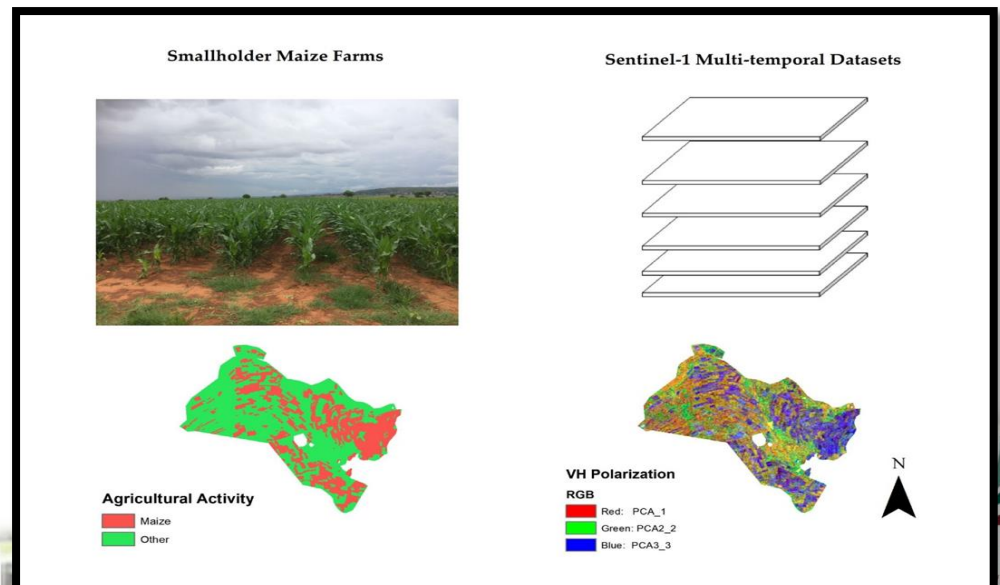


3C Rhizobium screening trial with *Bradyrhizobium* strains from the rhizobium collection for nodulation and nitrogen fixation in soybean.

MAPPING SMALLHOLDER MAIZE FARMS USING REMOTE SENSING TECHNIQUES



Smallholder farms are notoriously difficult to identify using coarse spatial resolution satellite imagery. This is mainly due to their small size (≤ 2 ha) and inter-cropping practices. The spectral signatures from satellite sensors contain reflections from different features (or crop types). As a result, it is very difficult to differentiate these crops from coarse spatial resolution satellite imagery.



OUTCOME 3

IMPROVED NUTRITIONAL VALUE, QUALITY AND SAFETY OF AGRICULTURAL PRODUCTS

OUTCOME FOCUS	OUTPUT
<ul style="list-style-type: none"> • To generate knowledge, solutions and technologies for food safety, • Quality and improved efficiencies in the agriculture value chain, with particular focus on agro-processing, pre- and post-harvest processing biotechnology and informatics. • Cross-cutting across different areas of the agricultural value chain. • Intended to be applied to the full value chain of crops, animals and agricultural system research. 	Broadening the food base
	Post-harvest handling and agro-processing



POSTHARVEST PROCESSING OF MACADAMIA NUTS: A SOLUTION FOR ISOLATED FARMERS IN THE VHEMBE DISTRICT, LIMPOPO PROVINCE

- The project aim was to address macadamia nut processing challenges faced by the smallholder farmers through the provision of facilities for on-farm drying and storage. The overall objective was to bring viable on-farm postharvest processing practices that increase productivity and sustainable livelihoods.
- A solar drying and storage unit, 1 dehusking machine and 100 crates were provided to Thulamela municipality in Mukula, to serve 10 farmers. One dehusking machine and 50 crates were provided to Thulamela municipality in Phiphidi, to serve about 11 farmers. Another dehusking machine and 50 crates were provided to Makhado municipality in Elim, to serve 6 farmers.



IMPROVED NUTRITIONAL VALUE, QUALITY AND SAFETY OF AGRICULTURAL PRODUCTS

- A grading scorecard for honeybush tea for use by industry to differentiate product quality was developed. This scorecard has also been converted into an electronic format (the app Quest running on a Windows platform) for capturing of scores for appearance, aroma and palate attributes, automatic calculation of the quality grade of production batches and record-keeping.
- Other tools that were also developed to assist industry quality control (QC) personnel include a colour reference card and a manual.
- The ARC has a reputation as a leader in sweet potato research and development. In this regard, four (4) Material Transfer Agreements (MTA's) were signed towards royalty earnings for the ARC and five more are in progress. Three (3) licensing agreements are also in progress for the use of ARC varieties in agro-processing.
- The ARC also participated in a virtual orange-fleshed sweet potato (OFSP) stakeholder workshop hosted jointly with the International Potato Centre (CIP) the Southern Africa Network for Biosciences (SANBio), and McCain. The workshop promoted shelf-stable OFSP puree and also served to highlight the ARC's significant contribution to research and development on sweet potato.



4A The Honeybush manual gives directions for using the quality grading scorecard and colour reference card.



4B New ARC sweet potato lines 2014-14-5 and 2014-7-3 producing a large percentage of marketable roots per plant.

OUTCOME 4

A SKILLED AND CAPABLE AGRICULTURE SECTOR

OUTCOME FOCUS	OUTPUT
<ul style="list-style-type: none">• To provide strategies, analysis and information to develop and grow a competitive, productive, and diverse agricultural sector.• Provide a support service to identify and develop the commercial potential of agricultural research and development to address smallholder and commercial farmer constraints.• Implementation of initiatives to address smallholder farmer constraints in terms of access to resources (technology, information, etc.).• Packaging, exploitation and licensing of ARC research and development outcomes.• Enhance the capacity and skills of farmers, extension personnel, processors, and enterprise through facilitating the utilisation of ARC intellectual property.	Skills development
	Technology Transfer
	Smallholder farmer supported
	Farmer Support
	Knowledge generated and dissemination



AGRICULTURE SECTOR SKILLS DEVELOPMENT

- The ARC is participating in the skills development of youth (18-35 years of age) in vegetable production and agro processing as part of a broader contract that the ARC has with the National Rural Youth Service Corps (NARYSEC) programme of the Department of Agriculture Land Reform and Rural Development (DALRRD). Rural youth are recruited to equip them with agricultural skills needed for enterprise development.



- The ARC contributed to the successful launch of the Imvelo Urban Farms Food Systems project, established by the Department of Family Medicine, University of Pretoria, to assist in the fight against hidden hunger and malnutrition in the most vulnerable communities of South Africa.



SMALLHOLDER LIVESTOCK FARMER SUPPORT



Animals ready for the sale at Kwafuduka during an auction held on the 29 May 2020.

Technical support provided to smallholder farmers

- ARC provided a much-needed technical support to smallholder farmers through the Kaonafatso Ya Dikgomo (KyD) National Animal Improvement Scheme in order to enhance active participation in the mainstream agri-value chains
- More than **4800 livestock farmers** received scientific support from the KyD scheme during the 2020/2021 financial year despite the unfavorable operational environment imposed by the Covid-19 pandemic.

Improved market access to livestock farmers

- KyD held a record-breaking auction involving **121 farmers** in 29 May 2020. The 121 farmers comprising 45% women sold **295 head of cattle** to the tune of **R2,3 million**.

PROMOTING NEW AGRICULTURE VALUE CHAINS

Determination of slaughter conditions to optimise chevon visual and eating quality

- Goat production remains generally informal with no formal value chains
- There general lack of information about the visual and eating quality of indigenous goats
- This research compared carcass characteristics of young wethers and bucks of Boer Goat (BG) and large frame **Indigenous Veld Goats (IVG)**
- Results showed that under the similar production conditions, Indigenous Veld Goats could have a similar potential for meat production as the Bore Goat
- Development of the formal commercial market for goat meat would offer economic incentive for smallholder farmers who typically produce most of the goats in the world



The left side of a goat carcass subdivided into retail cuts



A group of typical Indigenous Veld Goats

COLLABORATION IN COVID 19 TESTING

- In response to the Global pandemic, a “One Health” collaboration has been established between the NHLS (as a public health service provider) and the ARC-OVR (as a Veterinary Centre of excellence). Over 30 staff members from both ARC-OVR and ARC-Biotechnology Platform (ARC-BTP) volunteered to assist with the testing of COVID-19 samples. To date the ARC has assisted the NHLS in testing over 5000 samples.
- A study to identify plant extracts from the ARC collection of selected plant species with antiviral properties and the potential to treat COVID-19 disease. Three medicinal plant species are currently being tested.



CAPACITY BUILDING IN GENOMICS FOR SMALLHOLDER AND COMMERCIAL FARMERS

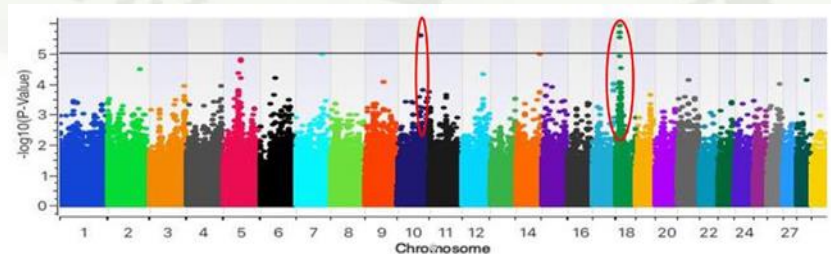
- The ARC, through the Biotechnology Platform, initiated community based improvement programs to ensure that farmers benefit directly from research and technology advances in genomics.
 - Focus is on the development, optimization and dissemination of genomics tools relevant to smallholder and commercial farmers.
 - Human resource capacity building through postgraduate training in genomics.



CAPACITY BUILDING IN GENOMICS FOR SMALLHOLDER AND COMMERCIAL FARMERS

- **Case study 1: Genome-wide Association Study for Nguni coat colour pattern**

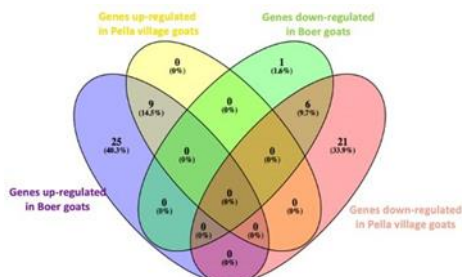
- Ms. Kunene's MSc study highlights the significant association of the *MC1R* gene with base coat colors (black, brown and red).
- These findings can be used in breeding for coat colour patterns in Nguni cattle.



Manhattan plot showing chromosomal regions significantly associated with base coat colour in Nguni cattle

- **Case study 2: Genomic profile**

- Dr. Ncube, during her PhD, worked with village goats farmers in Pella village in the North West Province and applied genomics to investigate the genetic potential and the role of animal management in growth performance and meat quality.
- The study identified genes that has potential to be used in breeding programs.



Genes up- and down regulated in Boer and Pella village goats



Post-graduate student assisting in animal tagging



OUTCOME 5

ENHANCED RESILIENCE OF AGRICULTURE

OUTCOME FOCUS	OUTPUT
<ul style="list-style-type: none">• Enhance the resilience of the Agriculture sector to factors such as Climate Change.• Climate monitoring of agriculture and the effective maintenance of an operational national agro-climate weather station network for effective provision of weather and climate related services.• Effective and efficient diagnostic and analytical services.• A wide range of applied research and consultancy services on livestock diseases at local, provincial, national, and regional levels.• Development and improvement of diagnostic and analytical services and applying the latest biological techniques.• Development of vaccines to improve the health of the national herd.	Climate resilient solutions
	Vaccine production
	Laboratory services



USING METAGENOMIC APPROACHES TO PROFILE MICROBIAL COMMUNITIES OF MEAT AND MEAT PRODUCTS

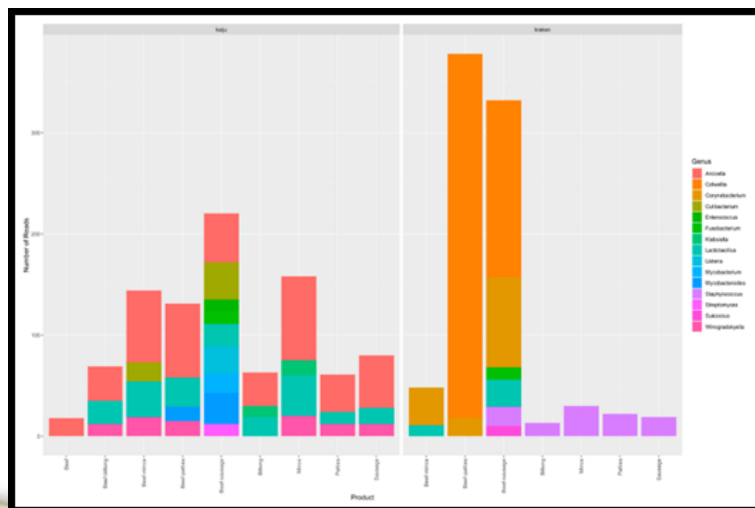
AN EXPLORATORY ANALYSIS OF PRODUCT QUALITY AND SAFETY AT SELECTED ENTERPRISES IN SA

 **microorganisms** 

Article
Microbial Communities of Meat and Meat Products: An Exploratory Analysis of the Product Quality and Safety at Selected Enterprises in South Africa

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- Consumption of food that is contaminated by microorganisms, chemicals, and toxins may lead to significant morbidity and mortality, which has negative socioeconomic and public health implications
- Monitoring and surveillance of microbial diversity along the food value chain is a key component for hazard identification and evaluation of potential pathogen risks from farm to the consumer
- Of the 2,017 samples analysed, microbial ecology was assessed for selected subsamples where next generation sequencing had been conducted, followed by the application of computational methods to reconstruct individual genomes from the respective sample (metagenomics)
- The data from metagenomics analysis revealed the presence of diverse bacteria, viruses, and fungi
- The analyses provide evidence of diverse and highly variable microbial communities in products of animal origin, which is important for food safety, food labelling, biosecurity, and shelf life limiting spoilage by microorganisms

INNOAFRICA PROJECT

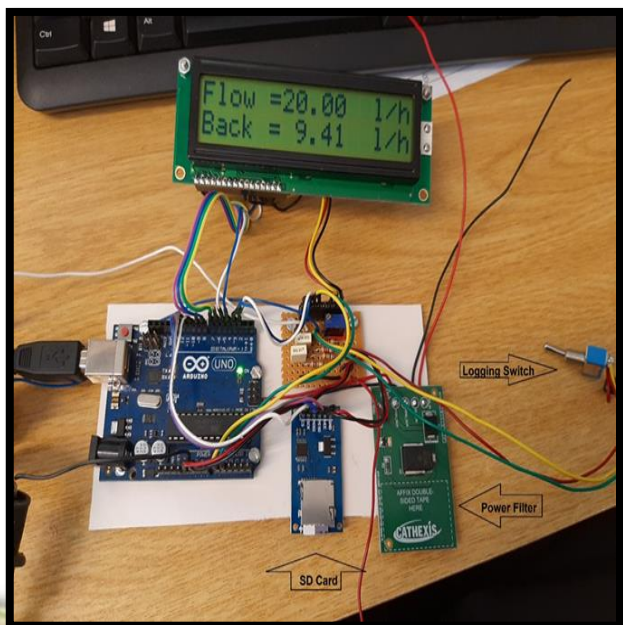
- The goal of this 4-year project was to improve the food and nutritional security of smallholders across six African countries (viz. Ethiopia, Kenya, Malawi, Rwanda, South Africa and Tanzania).
- The farmer-led trials were established in five villages of Maluti A Phofung municipality for three planting seasons (2017/18 to 2019/20).
- These trials aimed to demonstrate, validate and upscale the best sustainable agricultural intensification practices along with improved seed varieties of maize-beans for improved food and nutrition security.
- Seventy (70) smallholder farmers (including women and youth) have been given seeds and fertilizers to carry out farmer-led trials.
- Farmers were trained on different sustainable agricultural practices as well as good farm management practices such as soil testing, land preparations, fertilization, selection of cultivars, planting, spraying of herbicides and pesticides, monitoring, harvesting and keeping recordings.



PROTOTYPE DESIGN AND DEVELOPMENT OF AN IN-FIELD FUEL CONSUMPTION METER

The prototype fuel consumption metre developed provides a reliable, compact, easy-to-use tool for farmers, implement manufacturers and other stakeholders to measure real time fuel consumption in order to monitor fuel efficiency and to evaluate tractor-implement performance.

The potential fuel savings and reduction in mechanization costs will help to build more sustainable agricultural production systems for agrarian transformation, food and nutrition security.



OUTCOME 6

A HIGH PERFORMING & SUSTAINABLE ORGANISATION

OUTCOME FOCUS	OUTPUT
<ul style="list-style-type: none"> • Addressing the current working capital gap and financial position through the implementation of the targeted and robust Sustainability and Turnaround Plan. • Ensuring excellence in scientific research and development through enhanced capacity, capabilities and appropriate organisational technology and infrastructure. • Improving organisational effectiveness and efficiency towards a sustainable ARC. • Promoting public accountability, achieving high standards of corporate governance and efficient resource utilisation. • Strengthened revenue generation and productivity. • Good stakeholder engagement to ensure optimal organisational performance, visibility and service delivery. 	Infrastructure Management
	ICT Strategy Implementation
	Human Resources Management
	Performance Management
	Human Resource Development
	Commercialisation of ARC solutions
	Exhibition and sponsorships
	International partnerships
	Governance
	Funding and revenue generation
Cost efficiencies	



a) Information Systems & Infrastructure

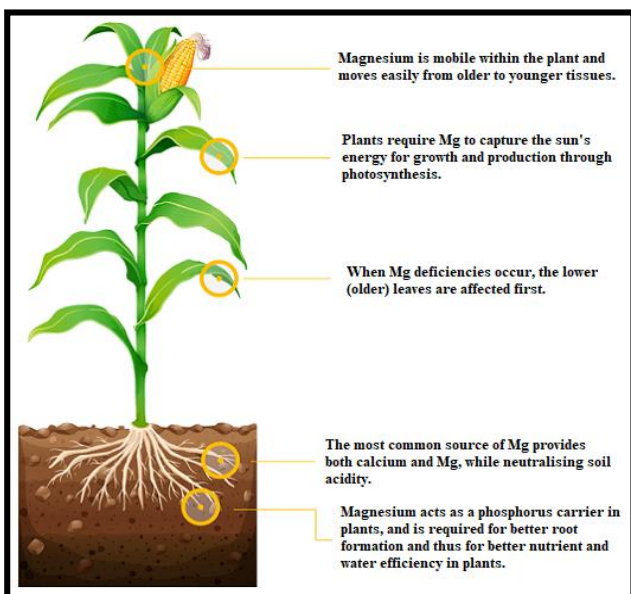


RESEARCH AND DEVELOPMENT APPLICATIONS FOR FARMERS

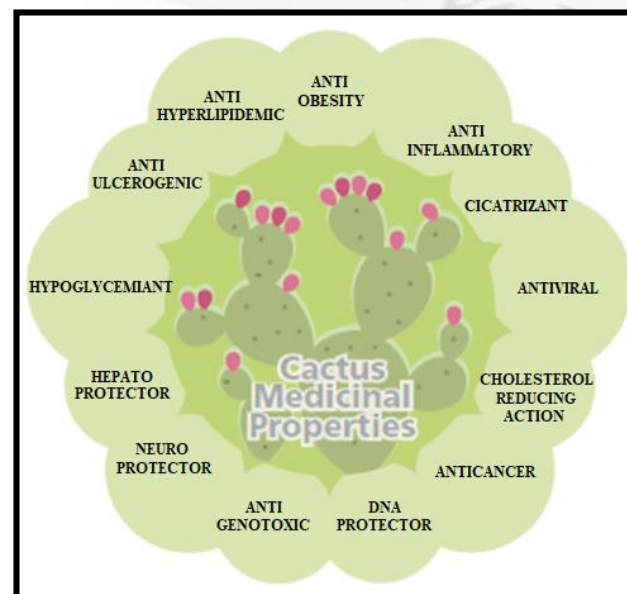
The ARC developed various applications to support farmers. These applications includes, Dairy Dash Board Mobile APP, ARCHER mobile application, PLAS Toolkit, Maize Information Guide, and Cactus Pear Application (CactiGrow).

The use of these applications is essential to the sustainability of farmers. For instance, Cacti Pear application assists farmers with the information needed to manage the entire life cycle of the Cactus Pear. These includes information on planting, establishment, sanitation, irrigation, pruning, and selection of a good quality cultivar that is suitable for fruit or feed production

To prevent hampered maize plant growth, the ARC developed an application to assist farmers to identify and diagnose nutrient deficiencies in maize and gives information on how to control or correct the deficiency.



Maize Information Guide



Cactus Pear Application (CactiGrow).



NATIONAL KEY POINT DECLARATION OF AN ARC CAMPUS

ARC is required to comply with international treaty on biological weapons by ensuring safety and security of material – DTI monitors compliance.

In accordance with National Key Points Act 102 of 1980, the ARC-Onderstepoort Veterinary Research (OVR) Campus and the Transboundary Animal Diseases (ARC-TAD) facility were designated as National Key Point (NKPs). The Act establishes and protects sites of national strategic importance from sabotage, terrorism, or subversion.

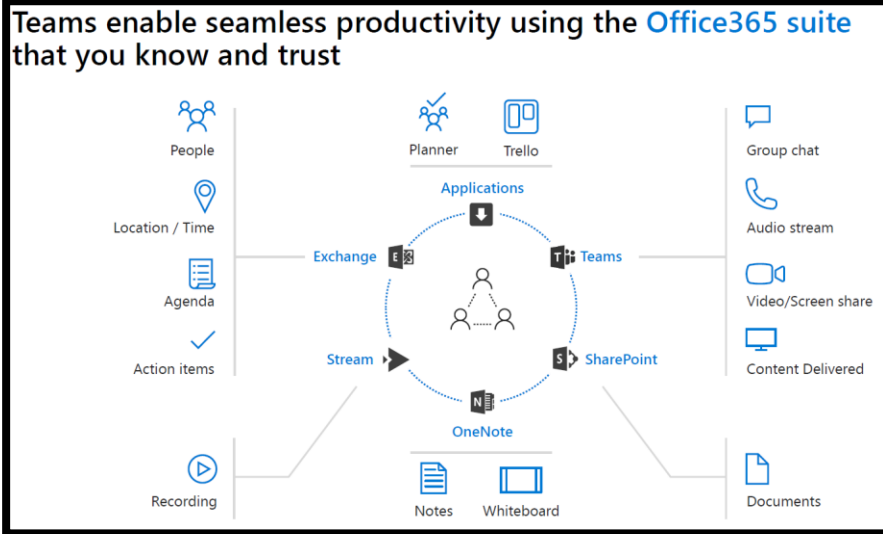
The NKP applications was based on the nature of the research activities that take place at both sites, as well as crime incidents that pose a threat to the safe storage of these biological materials and research activities. This is to safeguard the biological material and mitigate any potential national disaster.



COVID-19 AND REMOTE WORKING

With the Covid-19 pandemic, the ARC implemented Microsoft Teams to provide effective communication, collaboration, and meetings solution to enable employees to continue performing their duties from home. Microsoft Teams empowered the ARC employees to collaborate inside and outside the ARC by protecting sensitive information such as emails and documents.

To increase efficiency, the ARC introduced SigningHub solution for electronic and digital processing and signing of documents. The SigningHub application has since enabled ARC employees and management to work flexibly while allowing them to manage document approvals more efficiently. The introduction of SigningHub reduced the approval process by approximately eighty percent.



c) Human Resources



ARC • LNR

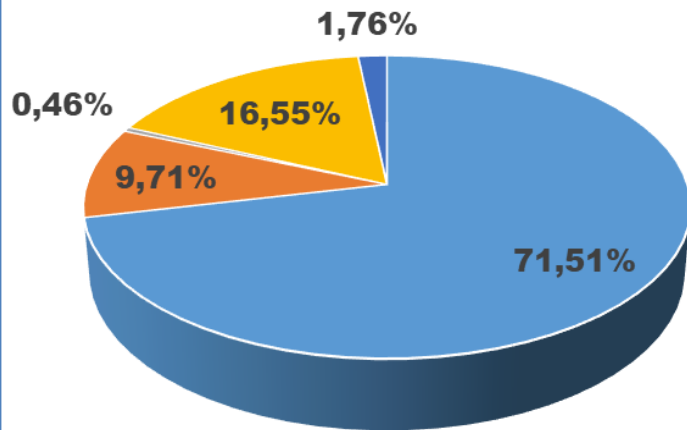
Excellence in Research and Development



ARC DEMOGRAPHICS – PERMANENT EMPLOYEES

ARC CAPACITY PER RACE

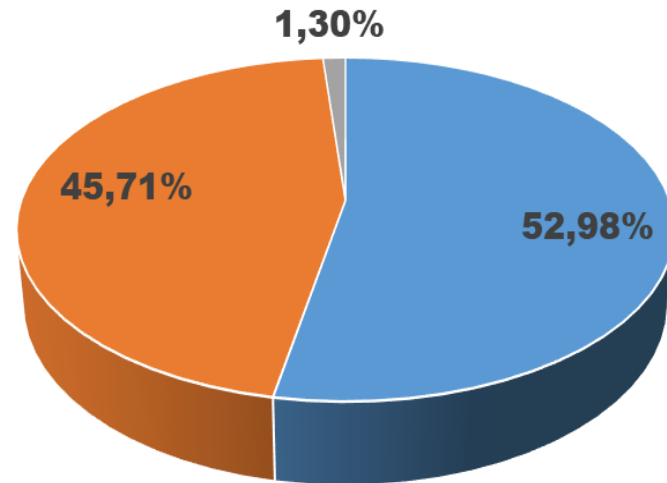
ARC Capacity per Race:
31 March 2021



- African
- Coloured
- Indian
- White
- Foreigners

ARC CAPACITY PER GENDER

ARC Capacity per Gender:
31 March 2021

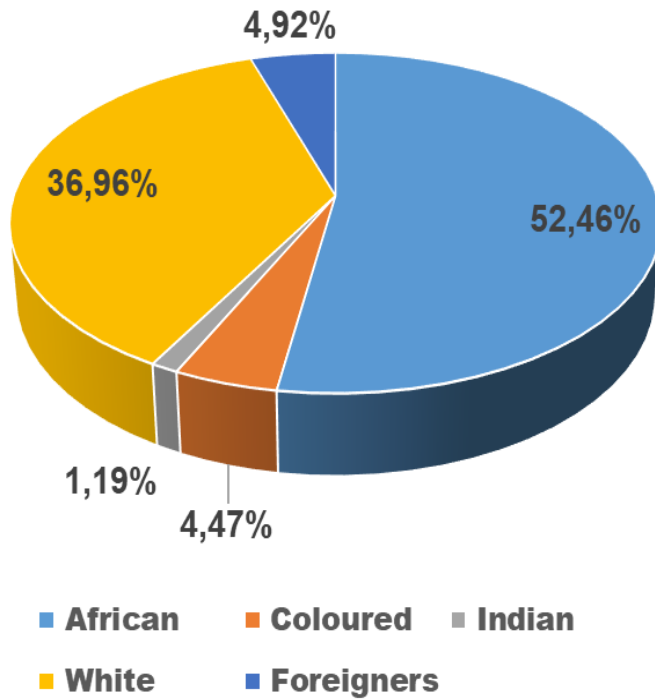


- Male
- Female including Female Foreigners
- Male Foreigners

ARC DEMOGRAPHICS – PERMANENT EMPLOYEES

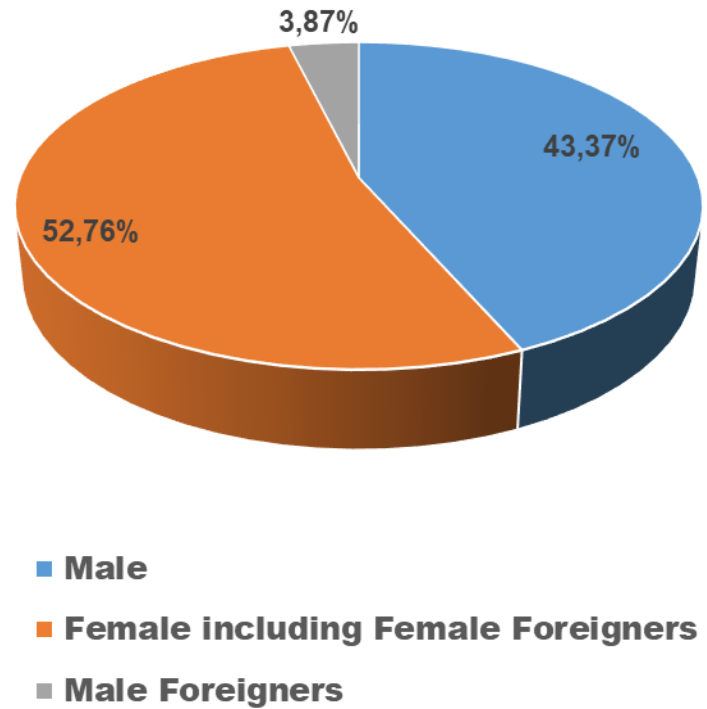
ARC SCIENTIFIC CAPACITY PER RACE

ARC Scientific Capacity per Race –
31 March 2021



ARC SCIENTIFIC CAPACITY PER GENDER

ARC Scientific Capacity per Gender –
31 March 2021



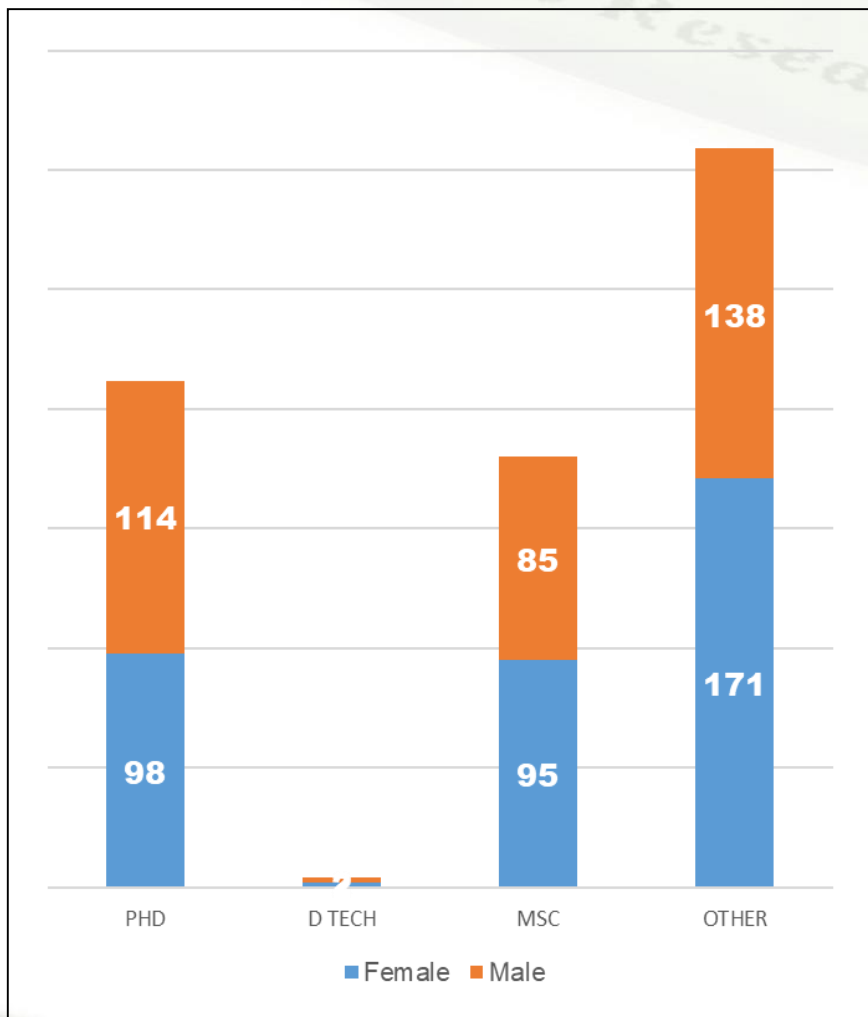
ARC VACANCY RATE: 31 MARCH 2021

227 vacancies of which 100 vacancies identified as priority. 77 still vacant at year end. Cost = R36.4 million

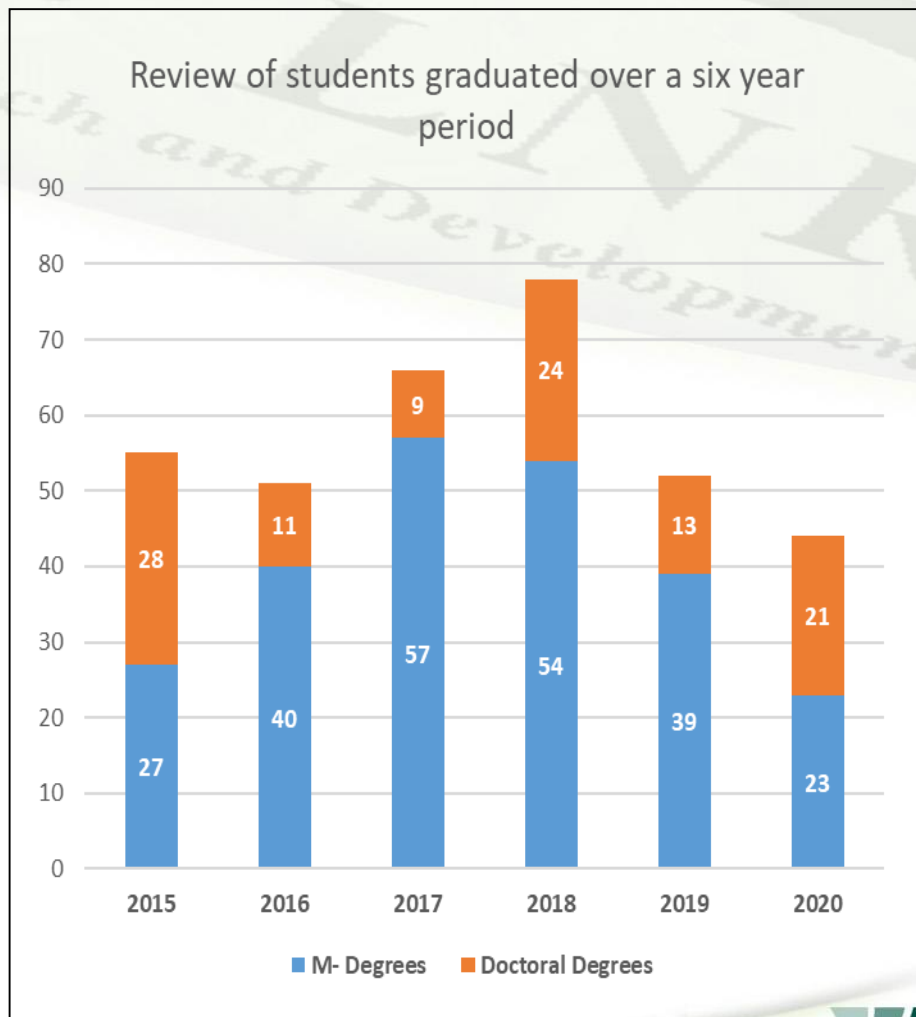


HUMAN RESOURCE DEVELOPMENT

PERMANENT EMPLOYEES



PROFESSIONAL DEVELOPMENT PROGRAMME (STUDENTS)



COVID-19 PANDEMIC

The following table below provides a summary of the COVID-19 incidents in the ARC, since the inception of the COVID-19 pandemic in March 2020 the ARC until 31 March 2021.

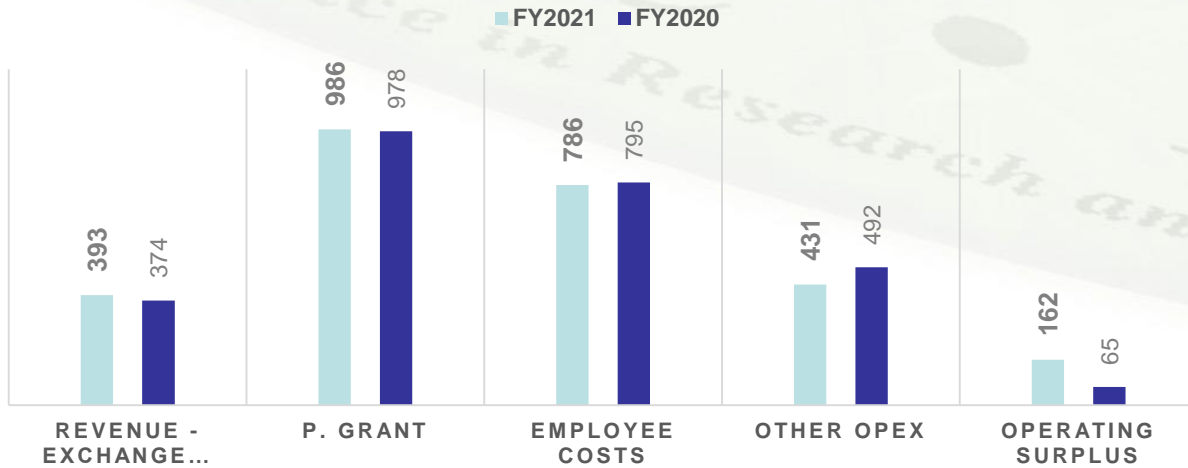
	STATUS	IMPACT
TOTAL	Number of employees tested positive	103
	Number of Employees Recovered	98
	Number of Employees Deceased	4

d) Financial Performance Overview



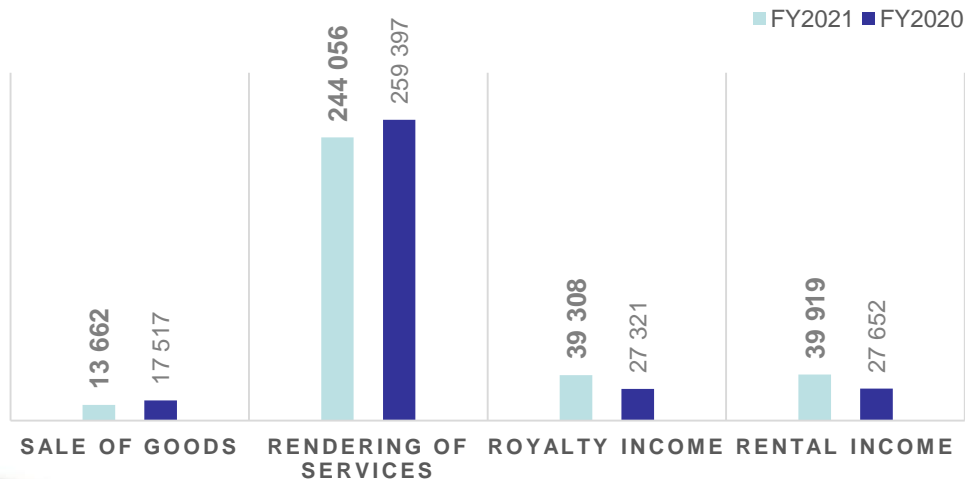
FINANCIAL PERFORMANCE OVERVIEW

FINANCIAL PERFORMANCE OVERVIEW



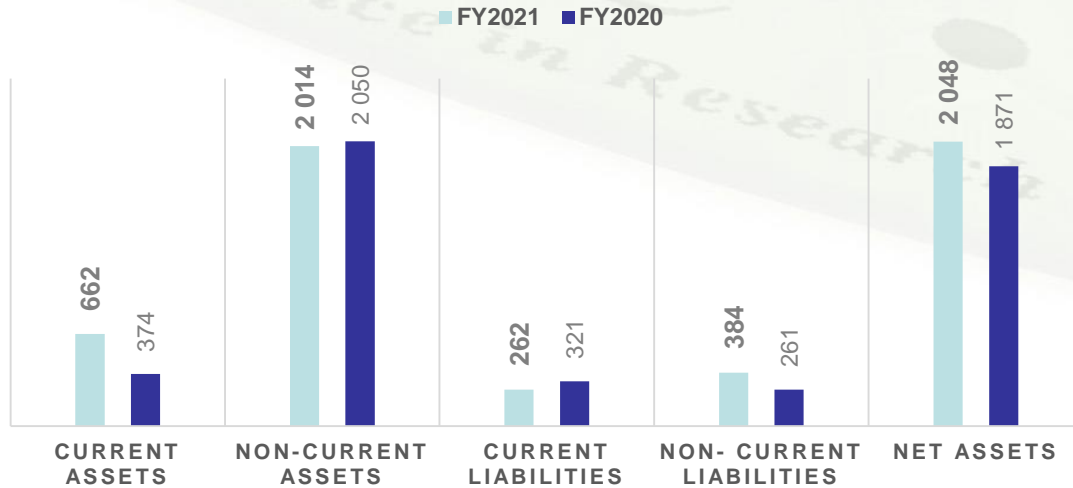
- Operating Surplus reported, > 100% YoY growth
- Revenue from exchange transactions 5% YoY growth
- Parliamentary grants remained flat
- Employee Costs remained flat with a 1% saving
- Operating expenses reported a 10% growth
- Repairs and Maintenance 8% YoY growth

TOP REVENUE DRIVERS (R' 000)



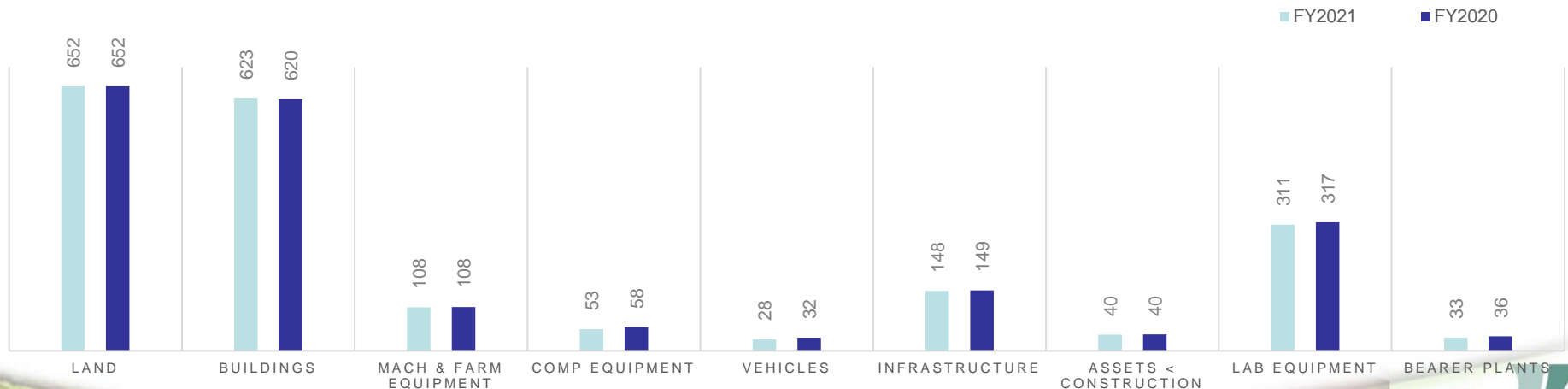
FINANCIAL POSITION OVERVIEW

FINANCIAL POSITION OVERVIEW



- Strong Balance Sheet, with Net Asset of R2bn
- CAPEX spend of R42m
- FMD funds (R372m) continues to be reinvested
- R16.9m received immediately after year –end towards old Rural Development Debt
- ARC is a going concern, liquidity and solvency assessment is satisfactory

KEY ASSET CLASSES (R' MILLION)



CASH FLOW STATEMENT OVERVIEW

Cash Flow Statement- FY2021



- The significant cash received is from the PG (R1.1bn) followed by the Sale of goods / Services (R363m)
- The leading payments are to Employees (R779m) which is followed by Suppliers Payments of R393m
- Only R43m has been spent on Capital Expenditure
- The overall Cash increased by more than 100% to R502m

ARC • LNR
Excellence in Research and Development

Thank You

