

ARC Strategy (2012/13 to 2016/17) & Business Plan (April 2012 – March 2017)

**Dr Shadrack Ralekeno
Moephuli
President & CEO**



ARC TEAM

- **Council (Board)**
- **Mr. Jonathan Godden – Chairperson**
- **Prof. Michael Kahn – Chair of R & D**
- **Prof. Thoko Mayekiso – Deputy Chair: R & D**
- **Mr. Mzolisi Dyasi – member**
- **Dr. Joyce Chitja – member**
- **Management --- Dr. S. R. Moephuli: CEO**
- **Ms. Anati Canca – Technology Transfer**
- **Dr. Mohammed Jeenah – R & D**
- **Ms. Makgomo Umlaw – HR**
- **Mr. Frans Monkwe – Chief Information Officer**
- **Mr. Gabriel Maluleke**



OBJECTIVES OF THE ARC AS PER ACT

- To CONDUCT RESEARCH,
DEVELOPMENT & TECHNOLOGY
TRANSFER IN ORDER TO:
 - Promote agriculture & industry;
 - Contribute to better quality of life;
 - Facilitate/ensure natural resource
conservation



Policy Mandate Considerations

➤ Government's National Priority

- Medium Term Strategic Framework
- New Growth Path
 - Industrial Policy Action Plan
- DAFF Strategic Plan for Agriculture
 - Strategy for Small Holders
 - Zero Hunger Campaign
- Comprehensive Rural Development Programme
- Ten Year Plan for Science and Technology
- Bio – Economy Strategy

➤ African Agenda (NEPAD)

- Consolidated Science and Technology Plan of Action
- Comprehensive African Agricultural Development Plan



Institutional Reviews (2006)

- Management process to identify necessary changes in operations and to implement them;
- Consistency & interconnectedness of KPI with actual results achieved
- Poor record of disseminating results of own research
- Need to establish formal partnerships with HEIs
- Review effectiveness in planning and implement continuous improvement in strategic thinking
- Ensure alignment of design, structure and coordination of internal business units
- Conduct customer satisfaction reviews (e.g. CSIR & MINTEK models)



Institutional Review -- continued

➤ Transformation:

- HR,
- Culture,
- Research agenda

➤ Capacity development strategy

- Career paths for junior & middle ranking staff
- Rewards & incentives to encourage innovation, knowledge & technology generation
- **External communication strategy** integral to annual strategic plans & KPIs



COUNCIL STRATEGIC REVIEW

- Growth in agriculture – increased productivity
- Food Security (Zero Hunger Campaign)
- Bio – security
- Job Creation
- Optimal Technology Platform/s
- Support Government's Development Agenda
- SADC integration i.t.o. markets & resources
- Bio – economy (water, climate, carbon footprint, energy, sustainable & healthy production methods etc)
- Agrarian Reform Agenda
- Small – Holder Farmers
- R & D Across Value Chain



POTENTIAL IMPACTS ON ARC STRATEGY

➤ CLIMATE CHANGE

- Emergence and management of new pests & diseases
- Utilization of water resources & ability to replenish
- Energy sources and utilization
- Biodiversity conservation – preservation of genetic resources

➤ POPULATION NEEDS

- Increased demand for food -- **FOOD SECURITY**
- Reducing post – harvest losses
- Food distribution systems

➤ URBANIZATION

- Protein demands
- Changes in land use and impact on agricultural production & productivity

➤ SCIENCE AND TECHNOLOGY DEVELOPMENTS

➤ SUCCESSFUL AGRARIAN TRANSFORMATION

➤ ECONOMIC COSTS OF BUSINESS

➤ REGULATORY SYSTEMS



ARC SWOT ANALYSIS

STRENGTHS

- Specialised mandate
- Geographic spread
- Skilled scientific staff
- International recognition
- Areas of excellence
- Diverse research expertise
- Unique geographic location SA
- Experience with applied technologies
- Knowledge of agriculture in SA

WEAKNESSES

- Obsolescent infrastructure
- Ageing ICT infrastructure, unable to provide service needs
- Inadequate funding resources
- Lack of critical mass of scientists
- External communication lacking
- Marketing ARC is lacking
- Lack of experience with small holder farm production systems



ARC SWOT ANALYSIS

OPPORTUNITIES

- Presence of economically important diseases
- Favourable Government policy
- Interventions through value chain
- Potential of large small holder farmers & projects
- Intellectual Property with potential exploitation
- Ability to focus on Extension
- Unique organization lead agriculture
- Changing demographics & food demands

THREATS

- Continued inadequate funds
- Poor ICT infrastructure & systems
- Decline in external income
- Inability to recruit skilled scientists
- Poor perceptions about ARC
- Failure to perform scientifically
- Failure of land reform programme
- Lack of critical mass of scientists

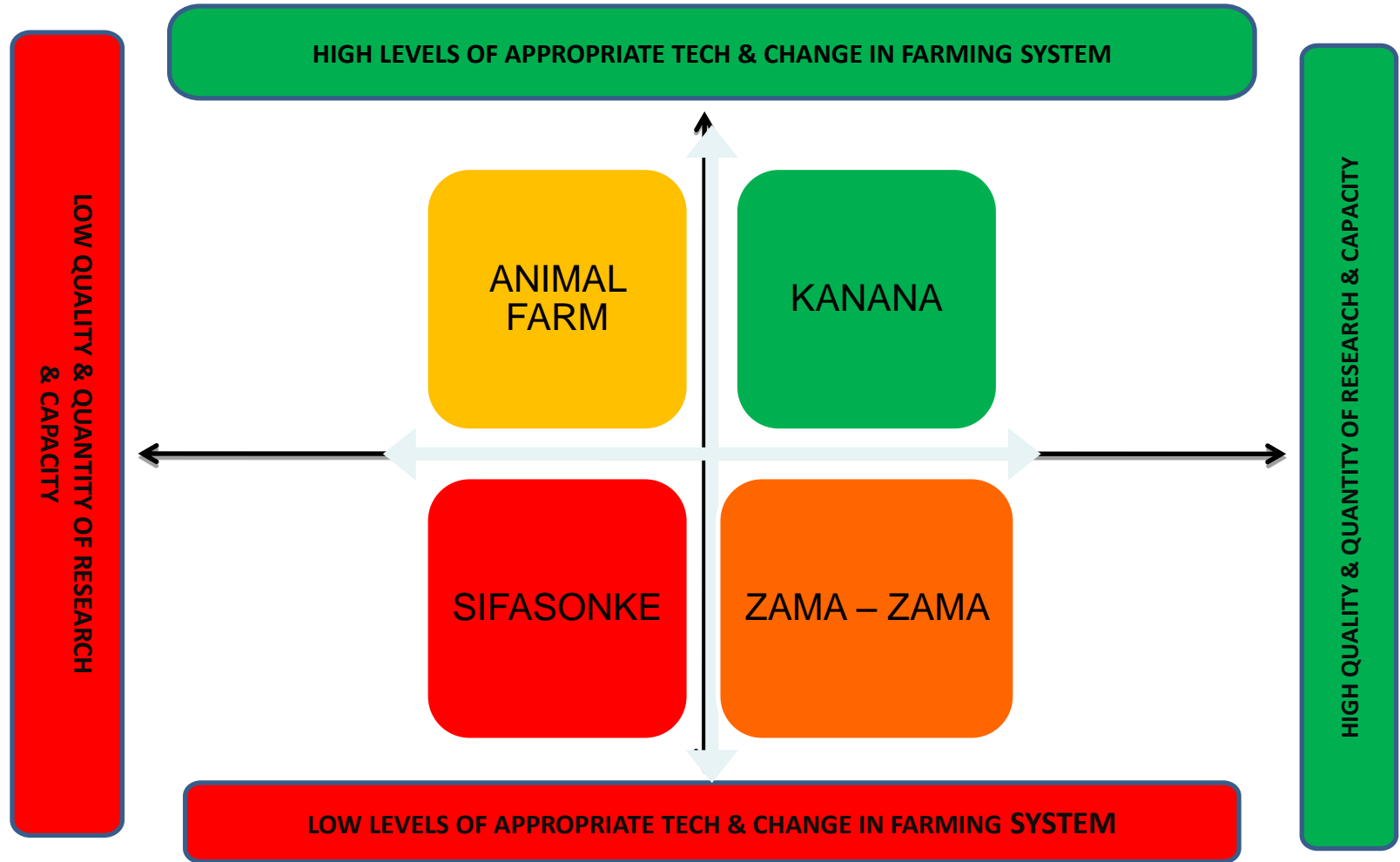


UNDERSTANDING UNCERTAINTIES & POTENTIAL IMPACTS ON ARC STRATEGY

- Funding
- Scientific and Technical capacity
- Policy and legislative changes
- Regional Food Security
- Nature and form of competition for resources (funds, expertise etc)
- Changes in farming systems and players
- Impact of international players on agricultural systems
- Changing education and training landscapes
- Social and economic changes in SA and Region
- Cost of business for ARC (e.g. exchange rate, other input costs)



ARC SCENARIO'S



PROPOSED STRATEGIC OBJECTIVES

- 1. To ensure sustainable use & mgt of natural resources**
- 2. To enhance nutrition & food security**
- 3. To improve ability of the sector to manage & mitigate agricultural risks**
- 4. To improve efficiency and competitiveness of the sector**
- 5. To ensure support for a transformed agrarian landscape**
- 6. To improve operational & organizational efficiency & effectiveness**



ARC ALIGNMENT TO DAFF STRATEGIC GOALS

ARC OBJECTIVES

- Sustainable use of natural resources
- Enhance nutrition, food security & safety
- Enhance ability of sector to manage & mitigate risks
- Technology Transfer
- Organisational growth & sustainability

DAFF GOALS

- ❖ Sustainable use of natural resources
- ❖ Increase profitable production of food, fibre & timber products
- ❖ Increased contribution ...
- ❖ National regulatory & risk management systems
- ❖ A transformed & united sector
- ❖ Effective Governance

PROPOSED PROGRAMMES

- 1. Crop production, improvement & protection**
- 2. Animal production, Improvement & health**
- 3. Natural Resource Management**
- 4. Agriculture Engineering**
- 5. Agro – processing, food technology & safety**
- 6. Small – holder agricultural development**
- 7. Agricultural economics, business development & commercialization**
- 8. Training & Extension**
- 9. Administration & corporate affairs**



EXAMPLE SUB – PROGRAMMES

➤ NATURAL RESOURCE MANAGEMENT

- Renewable Energy
- Conservation Agriculture
- Prediction & management of risks & disasters (drought, floods, pests etc)
- Water management and irrigation
- Monitoring & Characterization of natural resources & eco – systems
- Maintenance & use of National Public Good Assets

➤ SMALL – HOLDER AGRICULTURAL DEVELOPMENT

- Production systems (farming systems) (including aquaculture)
- Land use planning and management
- Impact assessment for continuous learning & improvement
- SMME development & Incubators
- Agricultural Development Centres (market access, production & processing, training centres etc)



EXAMPLE SUB – PROGRAMMES & INDICATORS

PROGRAMME

- Broadening food base
- Breeding, physiology etc
- Plant health
- Forage production

INDICATORS

- Publications
- IP registered
- Cultivars
- Increased yields
- No. of farmers using cultivars
- Licensing of IP
- Information disseminated
- Agricultural productivity (tn/Ha)



INDICATORS FOR ARC

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

AGRIC. 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)



KEY ISSUES TO CONSIDER

- Emphasis on Research & Development
- **Delivering on Value Chain**
- **Multi-sectoral across value chain**
- **Leadership on Agricultural Research**
 - **Partnerships**
 - **Funding arrangements**
 - **Coordination**
 - **Clear link to national priorities**
 - **Food Security**
 - **Job Creation and Competitiveness**
 - **Skills development**



NEW FOCUS ON RESEARCH AND TECHNOLOGY TRANSFER FOR DEVELOPMENT

- Small Holder Farmers
- Agro-processing
- Nat Resources and Economic Support
 - Conservation Agriculture
 - Climate Change
 - Renewable Energy
 - Water Resource management
- Linking Research with Extension



Smallholder Agriculture Development

- Two areas of focus
 - Support to smallholder farmers in respect of
 - Establishment of agri-enterprise incubators
 - Smallholder enterprise support to provide services related to land-use and farm enterprise planning
 - Impact assessment studies on ARC interventions in support of smallholder farmers
 - R&D focused on smallholder farming
 - Farming Systems research
 - Needs based research
 - Technical and information support

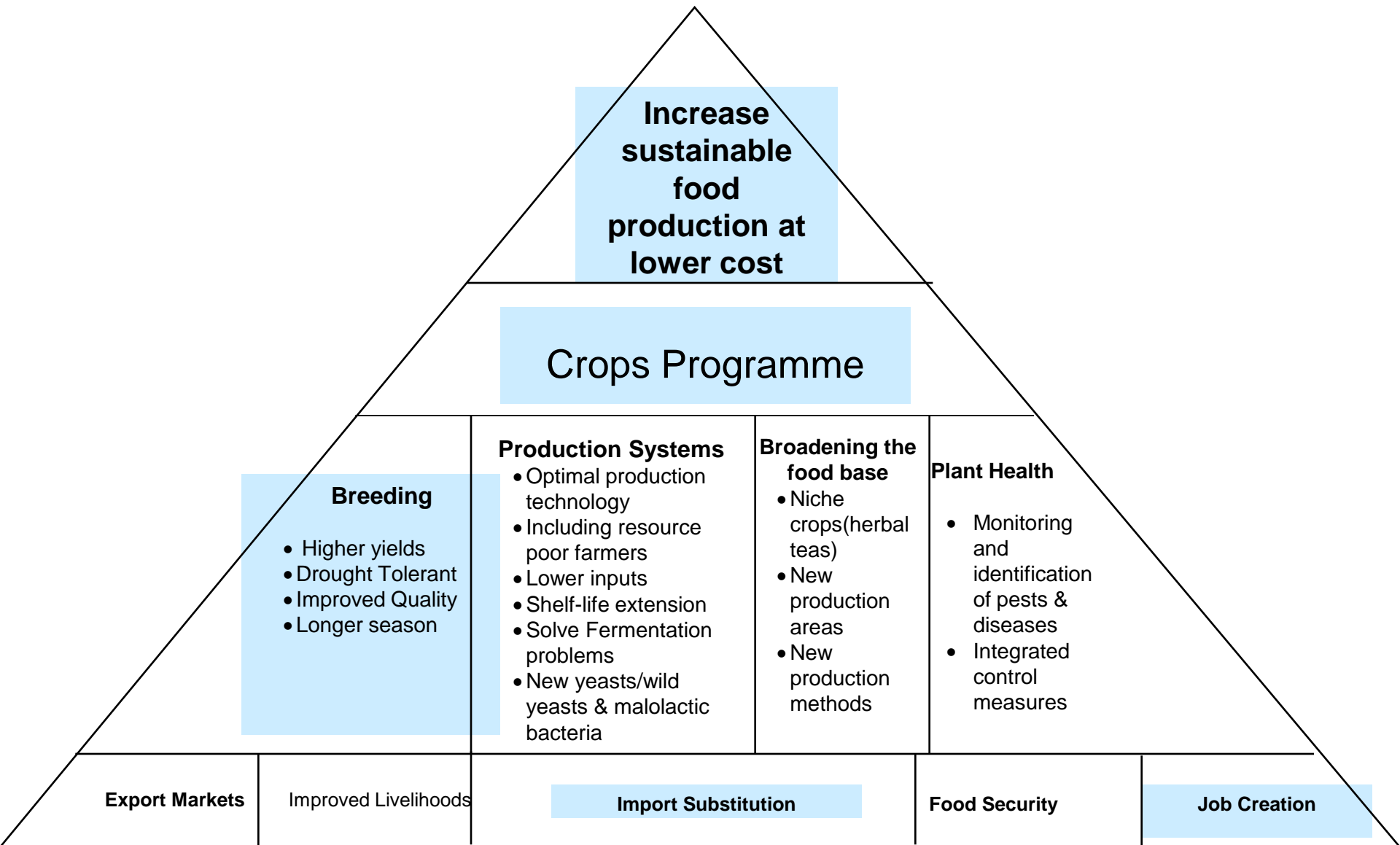


Training and Extension

- 2 pronged approach
 - a. Intensification of training delivery to farmers and extension officers – ongoing
 - Includes train-the-trainer, accreditation of skills programmes and qualifications and capacity building in agricultural colleges
 - b. Coordination of the public extension service, leading to review of the system with possible management changes
 - Includes policy review and the development of new models



Crop Production Improvement and Protection



Improving Nutrition and Food Security

➤ Sweet Potato

- Resource poor in Elsenburg, Fort Cox & Roodeplaat
- Improved yield up to 10 tons /hectare
- Plants distributed to 50 schools in N West province
- Cotlands in Eastern Cape have added it in their nutrition and health plan
- Negotiate with DoE introduce sweet potato in feeding scheme

➤ Drip irrigation,

- Mukondeni village,
- Vhembe for 100 families –
- Increase in vegetable production



Ag Economics and Commercialization

- IP management addressing protection and commercialisation
 - Use licensing, with specific attention paid to Smallholder farmers
- Ag economics
 - Economic Impact assessments on R & D
 - Decision support to the ARC remains a core function
 - Developing capacity for advice on policy and decision making
- Service provision
 - Scientific expert advice and biometry services



Growing Our Fruit Exports

- Access to ARC technologies & information to all farmers, especially resource poor
- Early Blush Pears- **Cheeky™**
 - Estimate to cover 37% of blush peers in 2012
 - Potential to add R354m/yr to economy
 - Secure 3611 farm jobs
- Nectarine – **Colorburst™**
 - has potential for R16 million profit per year,
 - increase of 120 jobs on the farms



Agro – processing for Value Addition

- Food and Non – Food Processing
 - Breeding cultivars for optimized processing
 - Processing methods
 - Food based approaches
- Animal Product Development
 - Food safety
 - Animal product processing methods
 - Equipment design
- Post – Harvest Processing
 - Post – harvest pathology and physiology
 - Biological control of post – harvest diseases
 - Cold chain technologies
- Analytical & Diagnostic Services
 - Residue testing

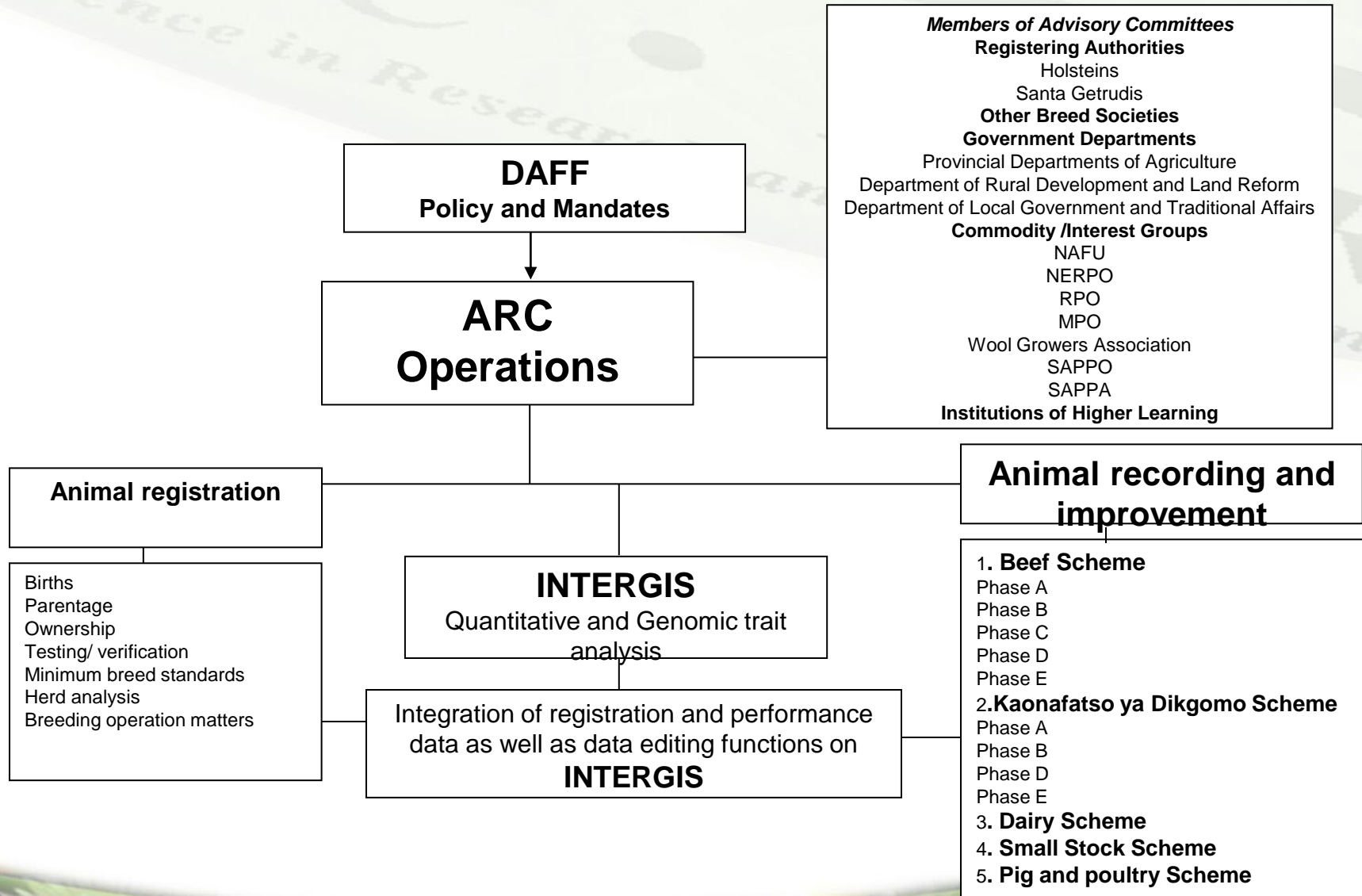


National Animal Recording Improvement Scheme (NARIS)

- Customer service is central to the improvement of the NARIS. The third ARC strategy is to improve customer service and continue to regard its clients as a priority:
 - Currently, the ARC communicates directly with breed societies and indirectly with other farmers through regional advisory committees of the NARIS.
 - The ARC will extend its coordination to include provincial representatives from the departments of agriculture, representatives of resource poor farmers as well as commercial farmers who are not represented. The ARC will develop a monitoring and evaluation (M & E) framework to manage the NARIS.
 - Furthermore, the ARC will extend the NARIS to new farmers including commercial and resource poor producers.
 - The initiatives such as **Kaonafatso ya Dikgomo** will be strengthened with the empowerment of extension officers and farmers organisation to collect data for the NARIS.
 - The inclusion of commercial producers is viewed as market expansion for the NARIS and will assist in improving productivity countrywide.

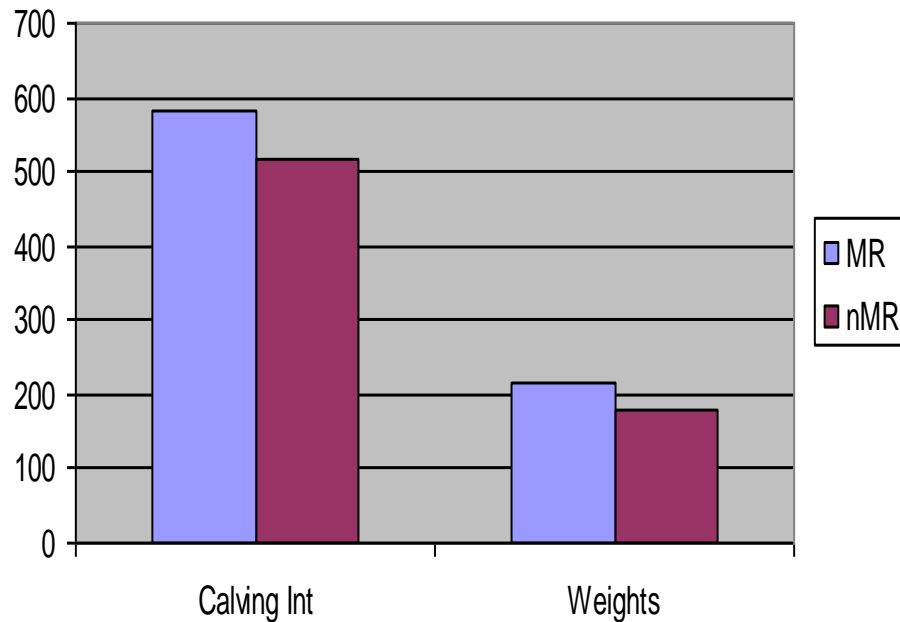


ARC ANIMAL IMPROVEMENT



Animal Performance Recording economic impact of R4.7bil/yr

Beef Industry



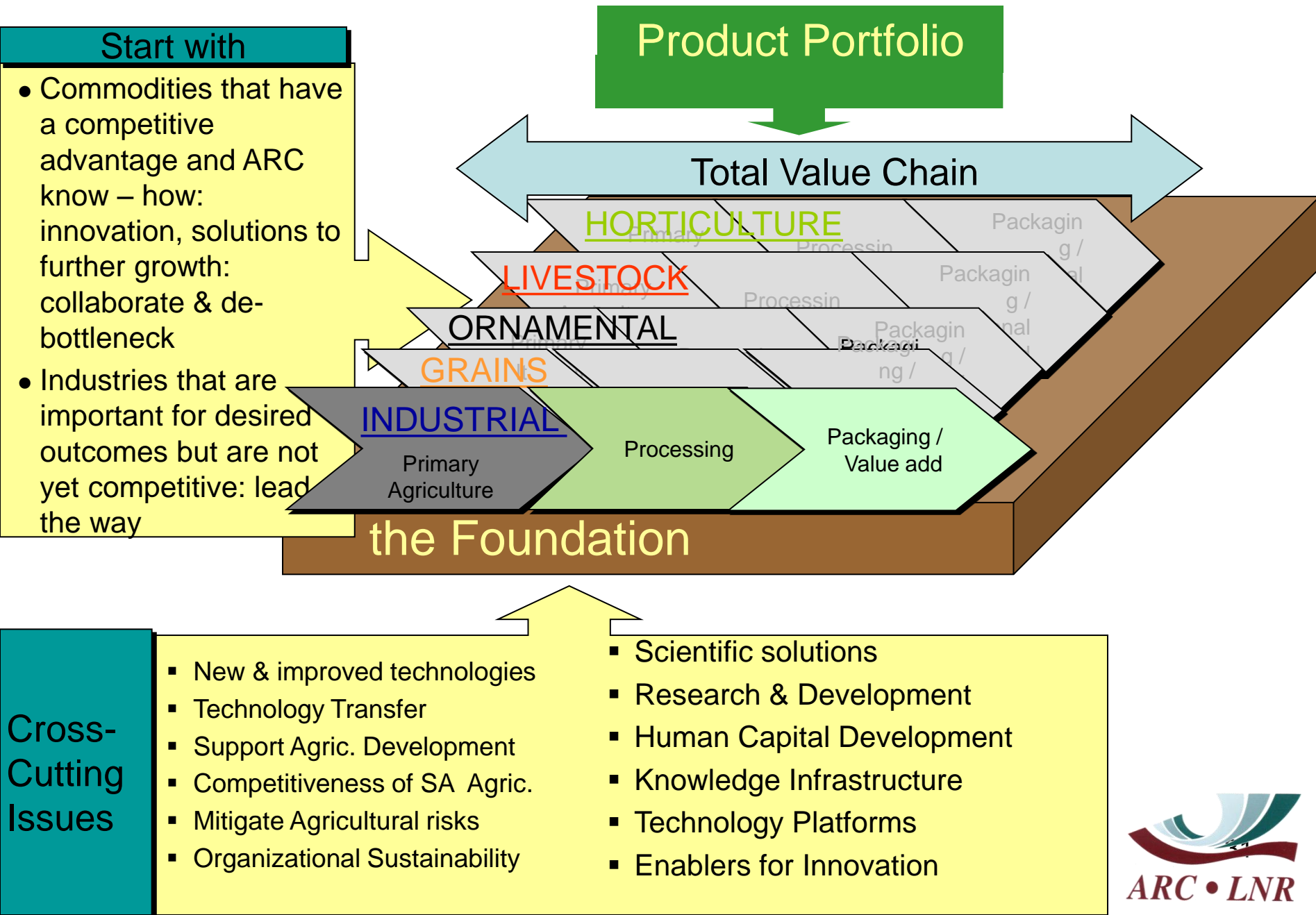
R3.32bn

Dairy Industry



R1.36bn

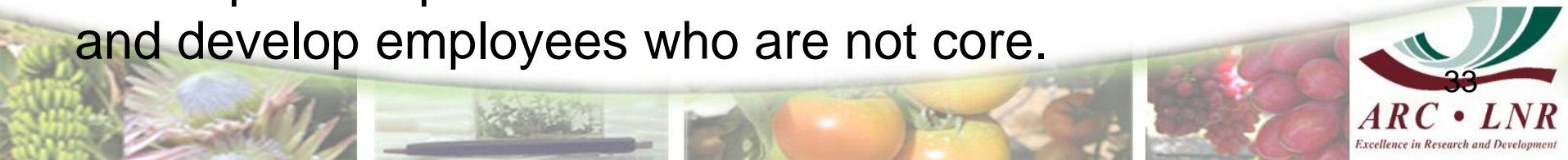
ARC AREAS OF PRIORITY INDUSTRIES



ARC HUMAN RESOURCES

STRENGTHENING HUMAN RESOURCES

- **Research and science leadership:** identify training initiatives in research and science leadership skills, research career management, innovation, Intellectual Property management and commercialisation management.
- **Pipeline development:** introduce higher numbers of students into the research and science career through bursaries, internships, postdoctoral fellowships and professional development programmes.
- **Operations support:** streamline HR processes such recruitment, performance management, retention and remuneration to deliver objectives.
- **Non core skills:** Identify a range of training and development options both formal and informal that will benefit and develop employees who are not core.

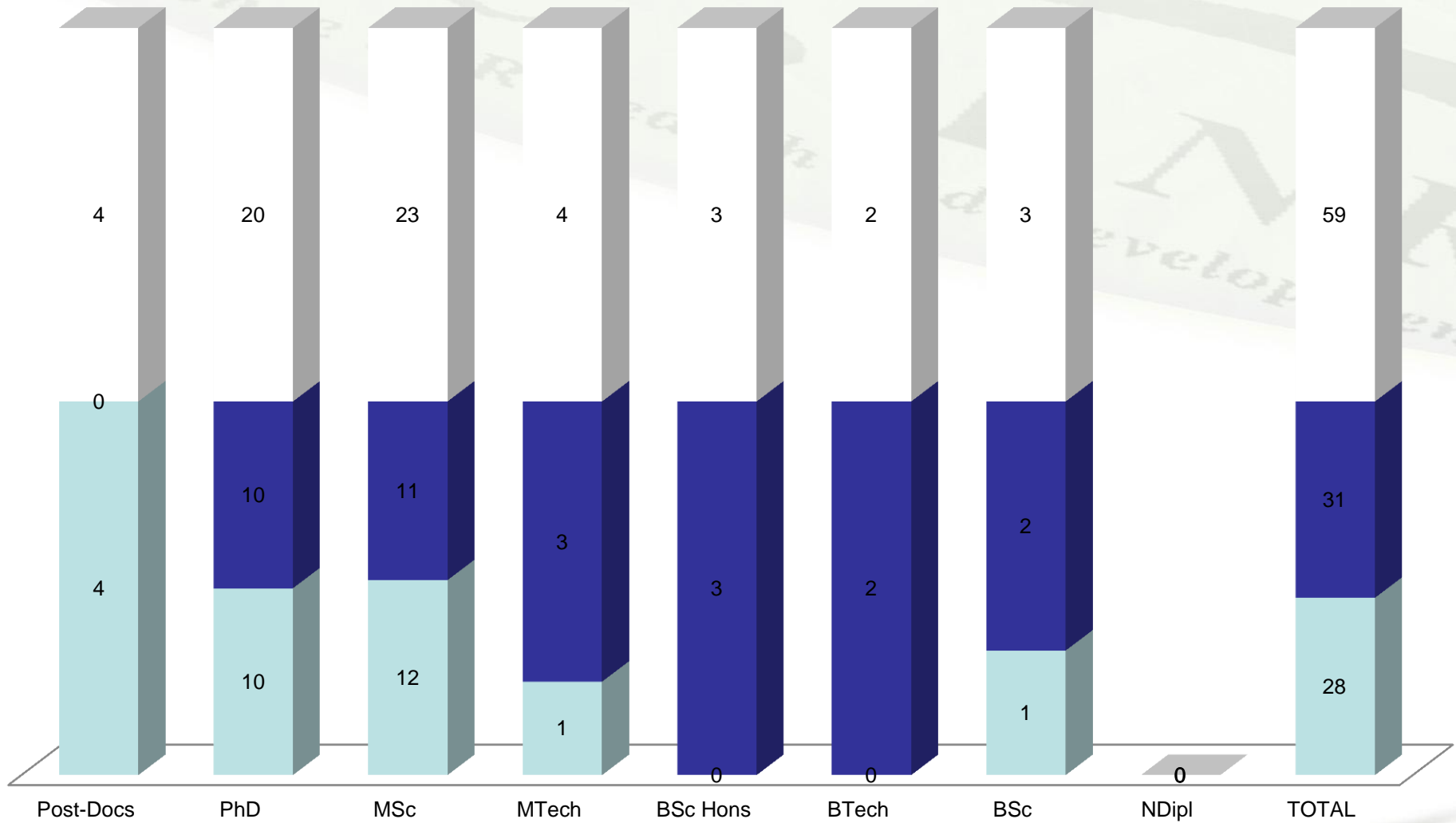


Employee Qualifications

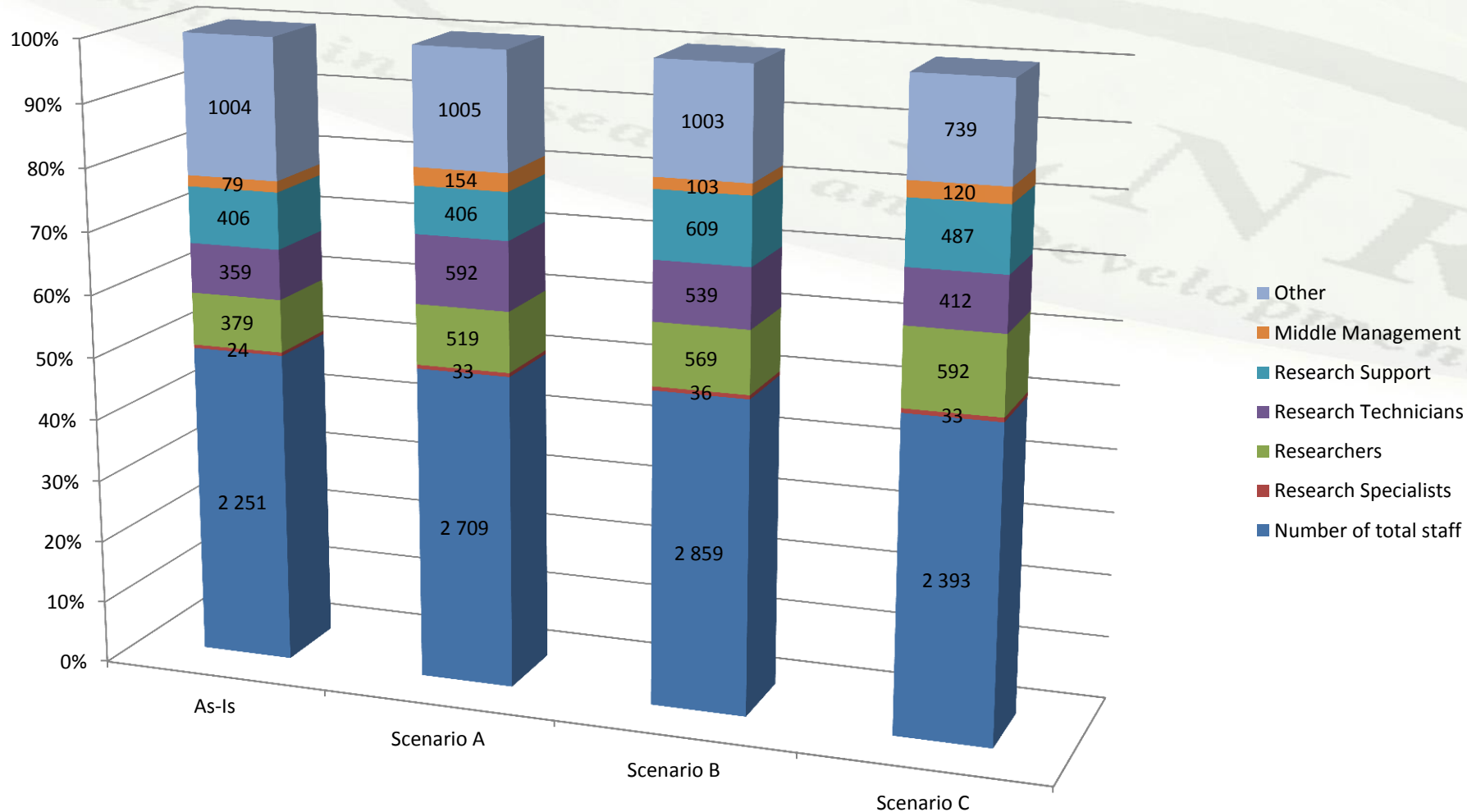


PDP PROGRAM

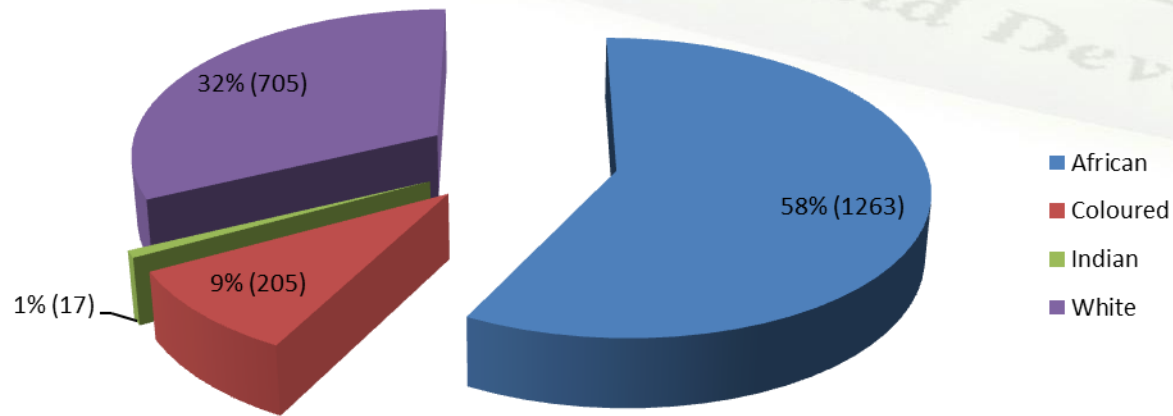
Male Female TOTAL



ARC CATEGORIES OF STAFF FOR CAPACITY DEVELOPMENT



TRANSFORMATION INITIATIVES



CRITICAL SUCCESS FACTORS

- Successful funding strategy/models
- Ability to attract & retain high quality researchers and create critical mass
- Performance & monitoring system
- Knowledge & Information management system
- Effective & efficient use of resources (Asset Plan)
- Support from Government (policy & resources)
- Realignment of organizational structure to strategy
- Successful stakeholder interaction/management
- Effective communication
- Effective & efficient technology transfer



Finance Strategy



Key Finance Considerations

- Trend Analysis
- Key Budget Assumptions
- Budget 2012/13
- Key strategic issues
- Challenges
- Key Focus Areas

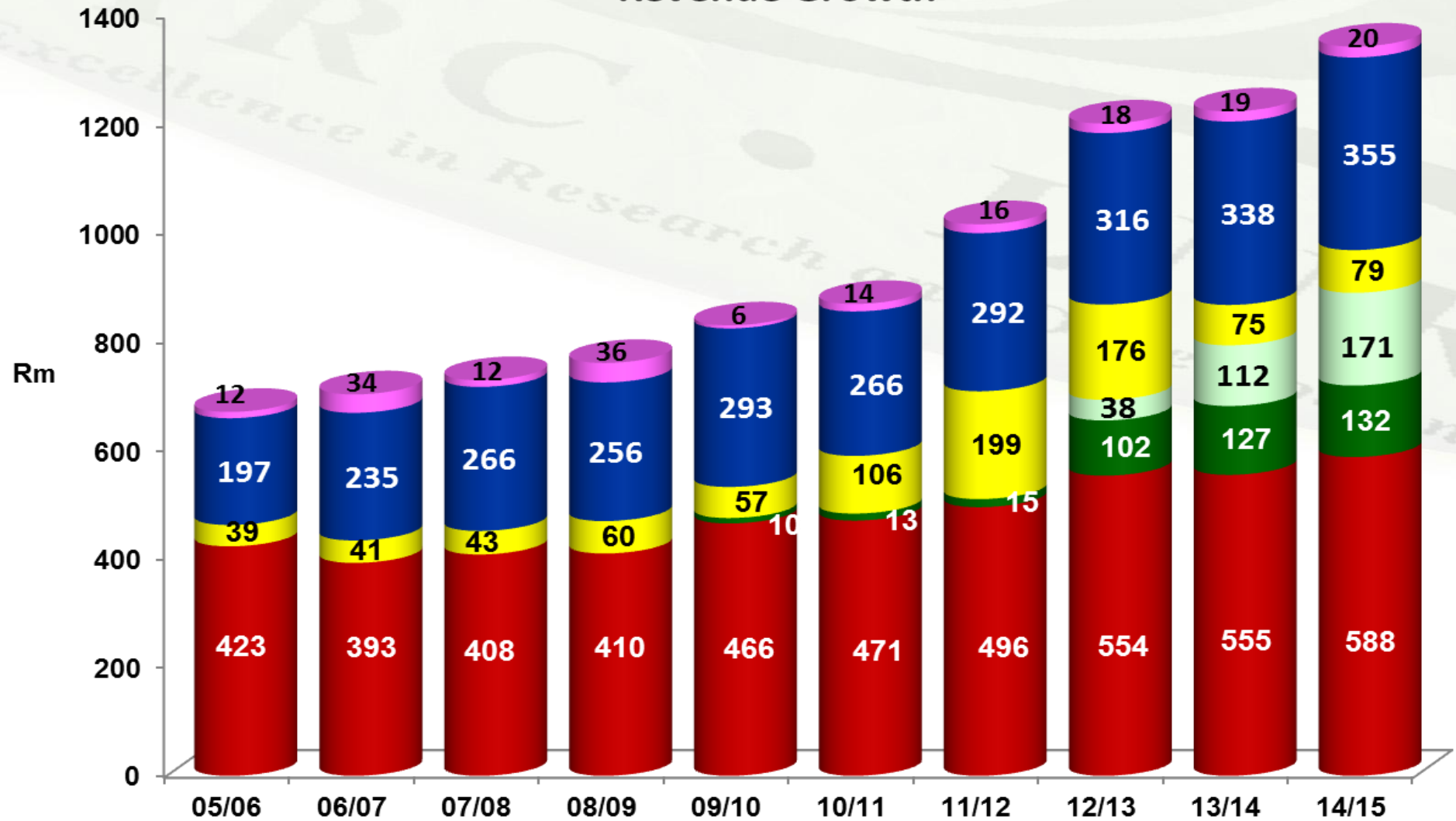


PURPOSE

To ensure that the ARC's business is maintained and sustained and that the ARC makes effective use of all financial resources at its disposal to achieve its strategic objective.



Revenue Growth

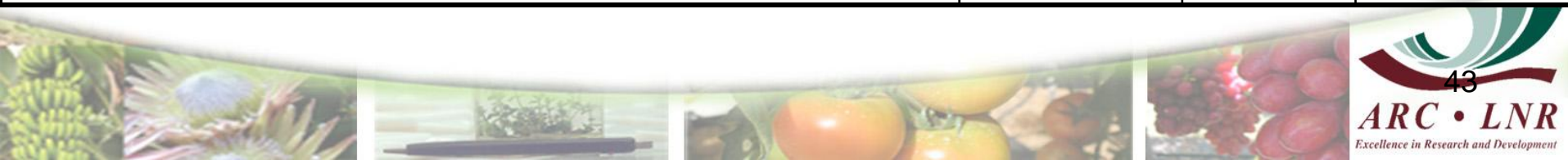


■ Other Income
■ Parliamentary Grant-Capital
■ Parliamentary Grant-Operational-Adj

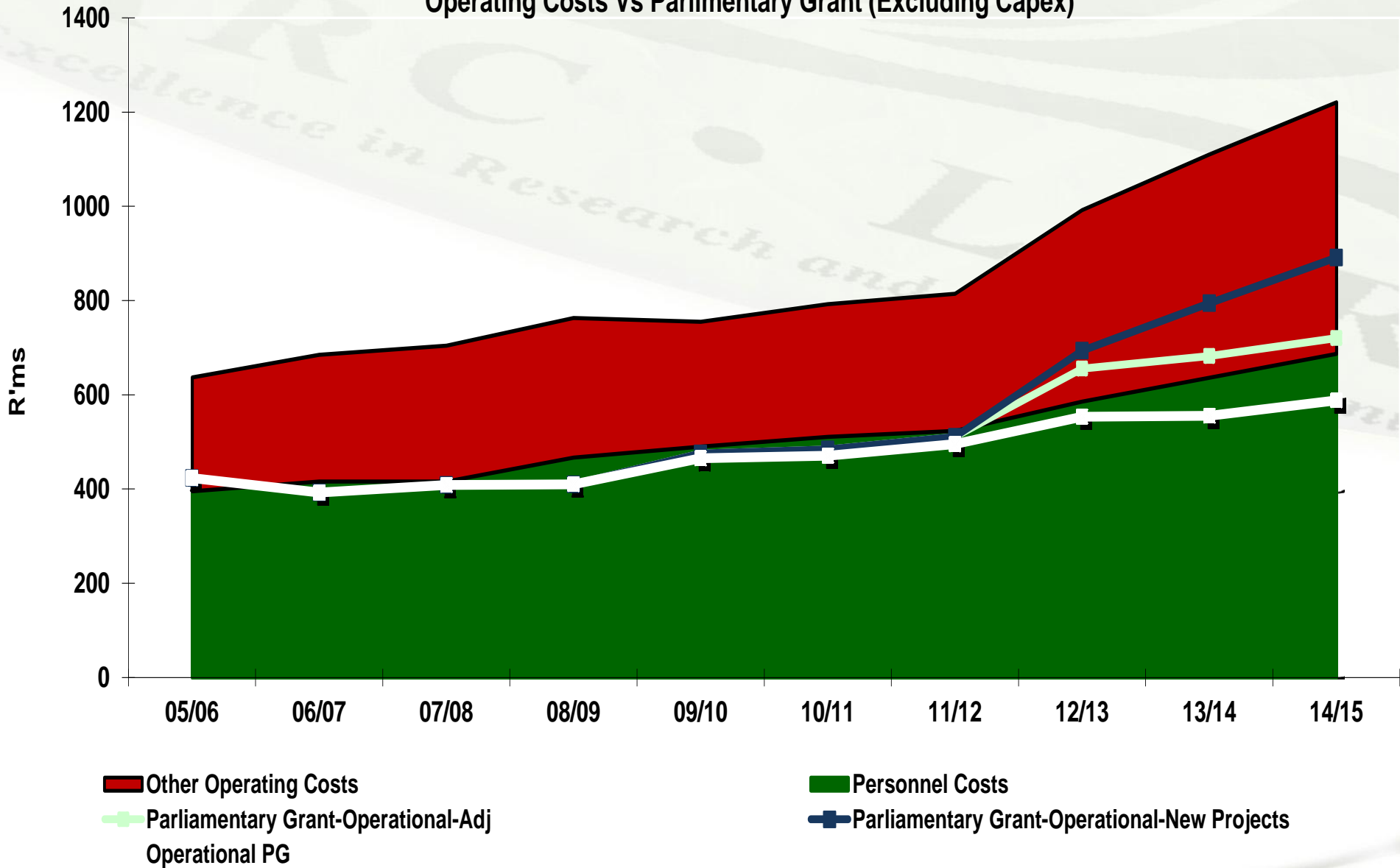
■ External Income
■ Parliamentary Grant-Operational-New Projects
■ Parliamentary Grant-Operational

KEY BUDGET ASSUMPTIONS

Budget Item	Forecast 2011/12 R'm	Growth	Budget 2012/13 R'm
Baseline PG growth	466	6%	475
- PG adjustment	15	563%	102
- Economic Competitiveness Support	0	100%	68
Operational PG funding	511	36%	694
Baseline- Capex	155	(55%)	71
FMD-Capex	44	140%	105
Total Funding 2012/13	709	23%	870
Personnel Costs	523	12%	586
Other Operating Costs	291	40%	406



Operating Costs Vs Parliamentary Grant (Excluding Capex)



ARC Parliamentary Grant Trends

	08/09	% Inc	09/10	% Inc	10/11	% Inc	11/12	% Inc	12/13	% Inc	13/14	% Inc	14/15
	R'm		R'm		R'm		R'm		R'm		R'm		R'm
Baseline-DAFF	334	12%	373	6%	397	6%	419	27%	530	10%	580	6%	613
Current	334	9%	363	6%	384	5%	403	6%	428	6%	453	6%	480
Adjustment			10	26%	13	19%	15	563%	102	24%	127	4%	132
Ringfenced Projects-DAFF	36	12%	40	6%	43	6%	45	5%	47	6%	50	6%	53
Climate Monitoring	1	7%	1	6%	1	6%	1	5%	1	6%	2	6%	2
SADC activities (ringfenced)	3	0%	3	0%	3	0%	3	5%	3	5%	3	6%	4
National public goods assets	11	7%	12	6%	12	6%	13	5%	14	6%	15	6%	15
Intergis	2	7%	2	6%	2	6%	2	5%	2	5%	2	6%	2
Crop forecasting	5	55%	8	6%	8	6%	9	5%	9	8%	10	6%	11
Diagnostic Services (OVI)	14	3%	15	6%	16	6%	16	5%	17	6%	18	6%	19
New Funded Projects-DAFF									68	66%	112	52%	171
Animal vaccine development									19	36%	26	60%	42
Crop production and agro-processing									9	220%	28	81%	51
Kaonafatso ya dikgomo									12	7%	13	40%	18
Extension services to smallholder farmers									9	100%	18	0%	18
Research co-ordination									10	45%	14	44%	20
National assets									9	50%	13	67%	22
DST Funding	38	11%	42	6%	45	5%	47	5%	49	5%	51	5%	54
TOTAL OPERATIONAL FUNDING	408	12%	456	6%	484	5%	511	36%	694	14%	794	12%	891
Baseline Capital-DAFF	81	(29%)	57	86%	106	87%	199	(12%)	176	(58%)	75	6%	79
Current	60	(8%)	55	14%	63	8%	67	5%	71	5%	75	6%	79
Adjustment		100%	2	1760%	44	100%	88	(100%)					
FMD Facility	21	(100%)				100%	44	140%	105	(100%)			
TOTAL ARC FUNDING	489	5%	513	15%	590	20%	709	23%	870	0%	869	12%	970



ARC CONSOLIDATED BUDGET 2012/13

Revenue	
PG:	R870m
External:	R316m
Other:	R 18m
Total	R1 203m

ADD	
Depreciation:	R25m
WC Movement:	(R80m)
Total	R55m

Cash at Beginning Of Year	
Total	R197m

Surplus
R 186m

Cash Ex Ops
R131

Net Cash for Year
R11m

Cash end of Year
R218m

Expenditure	
Personnel:	(R586m)
Operating Costs:	(R406m)
Depreciation	(R25m)
Total	(R1 017m)

Capex	(R110m)
Total	(R110m)

Includes:
Income received in advance;
Deferred capex



AGRICULTURAL RESEARCH COUNCIL -MTEF FINANCIAL PROJECTIONS

		MTEF			
	2010/11	2011/12	2012/13	2013/14	2014/15
	R'm	R'm	R'm	R'm	R'm

STATEMENT OF FINANCIAL PERFORMANCE

Total Income	871	1 017	1 203	1 226	1 345
Parliamentary Grant	590	709	870	869	970
Baseline-Operational	484	511	694	794	891
Baseline-Capital	106	199	176	75	79
External Income	266	292	316	338	355
Investment Income	14	16	18	19	20
Other Income	0	-	-	-	-
Total Expenditure	811	838	1 017	1 137	1 252
Personnel Costs	511	524	586	636	687
Operating Expenditure	282	291	406	474	534
Depreciation	19	23	25	27	31
Impairment of fixed property	-	-	-	-	-
Net Surplus\ (Deficit)	59	180	186	89	93



AGRICULTURAL RESEARCH COUNCIL -MTEF FINANCIAL PROJECTIONS

		MTEF			
	2010/11	2011/12	2012/13	2013/14	2014/15
	R'm	R'm	R'm	R'm	R'm

STATEMENT OF FINANCIAL POSITION

Property, plant and equipment	666	775	908	1 116	1 281
Investments	2	2	2	2	2
Current assets (excluding cash)	76	83	91	100	109
Cash resources (net of bank overdraft)	163	197	218	128	58
Total Assets	908	1 058	1 218	1 346	1 449
Capital and Reserves	618	798	984	1 073	1 166
Non Current Liabilities	72	71	72	74	76
Current Liabilities	217	189	162	199	207
Total Equity and Liabilities	908	1 058	1 218	1 346	1 449

CASH FLOWS

Net cash flow from operating activities	129	130	131	132	133
Net cash flow from investing activities	(39)	(96)	(110)	(222)	(203)
Cash and cash equivalents at beginning of year	73	163	197	218	128
Cash and cash equivalents at end of year	163	197	218	128	58



IMPROVEMENTS PAST 5 YEARS

- Financial discipline
- Cash Management
- Unqualified audits
- New competent Staff members
- Supply chain policies and procedures



Key Strategic Issues (Financial)

- 1. External Income Growth**
- 2. Cost Containment (Other Operating Costs)**
 - improvement and standardization of costing and pricing**
 - improvement in project management**
- 3. Replacement and upgrading of infrastructure**
- 4. Improving organizational processes to eliminate adverse audit findings.**



Key Challenges for ARC

- External Income growth.
- Limited funding for capex.
- Limited funding to fill the required number of critical vacancies.
- ARC competitiveness for skills



COMMENTS/QUESTIONS

- Engage each other for innovation
 - Thinking out of the box
 - Work within current Govt & other stakeholder planning cycles
 - Need to continually reassess plan
 - Critical Success Factors yearly for 5 yrs
-
- **MAKING OUR STRATEGY SUSTAINABLE**

THANK YOU

