



Sugar Research  
Australia



# SRA Strategic Plan

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2017/18 – 2021/22

## Australia's sugarcane industry fast facts

### 4,000

There are about **4,000** cane farming businesses supplying **24** mills owned by **8** milling companies



### 95%

Approximately **95%** of Australia's sugarcane production is in Queensland and the remainder in New South Wales



### 30%

Approximately **30%** of sugarcane businesses are greater than **125** hectares and account for about **70%** of total production



### 36.5Mt

The **2016** season yielded **4.8 million** tonnes of sugar from **36.5 million** tonnes of cane, across **372,000** hectares



### 3rd

Australia's sugar industry accounts for only **2.8%** of world sugar production but is the world's **3<sup>rd</sup>** largest exporter of sugar



### \$1.5B

Approximately **80%** of Australian sugar is exported, with a yearly export value of more than **\$1.5 billion**



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# 1. Foreword

**Sugar Research Australia Limited (SRA) is entering its fifth year of operation as the primary specialist research, development and adoption (RD&A) organisation for Australia's sugarcane industry.**

The first years of SRA have been focused on establishing strong foundations in terms of strategic and operational objectives, as well as systems and processes to address the needs, priorities and expectations of our industry and government investors, as guided by our inaugural 2013/14 – 2017/18 Strategic Plan.

The findings of the 2016 Independent Performance Review of SRA<sup>1</sup> provided a strong endorsement of SRA's governance, strategic management and research investment frameworks established since our inception and acknowledged the value provided to our investors to-date.

With the foundations as an outcomes and investor-focused organisation now firmly in place, SRA has brought forward the development and implementation of a new Strategic Plan so as to sharpen our focus on enhancing organisational performance and to set a targeted, innovative and impact-driven research agenda that will enable SRA to continue to deliver value for our investors.

This new Strategic Plan for 2017/18 – 2021/22 shapes the future direction of SRA's investment in RD&A activities for the Australian sugarcane industry. In setting this new direction, we have listened to our investors and key stakeholders and drawn on the learnings from our recent Independent Performance Review.

Our industry and government investors have made it very clear that they are looking to SRA to deliver a research portfolio that will have demonstrable and transformational impact on the profitability and resilience of the Australian sugarcane industry. The bottom line is our grower and miller investors want more dollars in their back pocket and our government investors want 'more bang for their buck'. This Strategic Plan responds to these needs and expectations accordingly.

Our Strategic Plan also aligns with the National Sugarcane Industry Research, Development and Extension (RD&E) Strategy, the Commonwealth Government's Science and Research Priorities and Rural Research, Development and Extension Priorities, and the Queensland Government's Strategic Objectives for investment in the sugarcane industry.

To ensure we never lose focus on our industry and government investor needs and expectations, we have introduced four overarching goals to drive our research agenda over the next five years. **These goals are listed below:**

## 1. Drive profitability

Through innovation-led productivity gains, step-change and value-adding

## 2. Improve sustainability

Through evidence-based research and sustainable production, biosecurity and environmental management

## 3. Enhance capability

Through strengthened research and industry partnerships, capability development programs and collaborative knowledge transfer and adoption mechanisms

## 4. Strengthen organisational excellence

Through enhanced RD&A investment management, best practice organisational governance and a positive performance-focused organisational culture

To support delivery of these goals we have redefined our key focus areas (KFAs) for RD&A and introduced an outcome-focused program structure to better align activities, resources and knowledge exchange within our RD&A portfolio. Our RD&A portfolio over the coming years clearly reflects what our investors have asked for and includes a diverse range of programs addressing the critical research needs for Australian sugarcane growers and millers. ***This includes particular attention and investment in the following RD&A activities:***

**Streamlining** of SRA's core breeding operations to improve efficiency of selection and the quality of new varieties, with new molecular marker selection and targeted introgression

**Enhancing** soil health, nutrient management and climate variability forecasting to improve industry decision support-tools and minimise environmental impacts

**Tackling** adoption and communication problems head-on, by working in unison with our growers, millers and the advisory sector to implement a new strategy to galvanise the promotion of research knowledge and actively encourage adoption of new technology and practices that make a real difference

**Quantifying and demonstrating** the impact of harvesting best practices to improve production efficiencies and profitability across the sugarcane industry value chain

**Continuing** effort to identify causal factor(s) and management strategies for yellow canopy syndrome (YCS) to limit impacts on productivity and profitability

**Identifying** new milling technology and processes to enhance cane quality, plant utilisation, sucrose recovery, energy optimisation and waste minimisation

**Collaborating** with other researchers, government and private sector organisations on transformative and disruptive technologies to drive industry profitability and sustainability

**Innovating** by facilitating novel long-term blue-sky research that may transform the future

In delivering on this Strategic Plan, SRA will balance the immediate needs of growers and millers against the need for long-term innovation and strategic basic research to deliver step-change for the industry. To do this, we will integrate and leverage both conventional and disruptive technologies, providing opportunities for more effective use of resources and inputs, increased profitability, improved decision-making and enhanced sustainability.

Over the course of the next five years, we will continue to consult with and listen to our investors, understand their needs and respond to these needs through innovative R&D solutions that are successfully adopted.

In doing so, we will add value to the Australian sugarcane industry, not just in terms of profitability but also in terms of contributing to economic growth, environmental stewardship and social prosperity in regional Australian communities.

We will review our Strategic Plan annually and amend it where necessary to reflect shifting challenges and research focus.

We will also report against the delivery of the Strategic Plan and Annual Operational Plans through our Annual Report and our Annual Performance Reports. Our reporting will focus on the impacts delivered through our RD&A investments, with our key performance indicators continually being revised as more robust impact data becomes available. We are progressing well with implementing monitoring and reporting processes to track adoption and practice change across the industry, and the associated impacts on growers and millers, and will incorporate this information in our reporting to investors.

We will also continue to strengthen our organisational capability and culture to deliver better outcomes for our investors and establish impact-oriented and partnership-driven enabling strategies to support innovation and enable SRA to better respond to emerging challenges and harness opportunities wherever possible. In simple terms, SRA's role in the years ahead is to lead, partner and invest in RD&A activities that will enable our growers and millers to remain profitable and our industry resilient over the long-term. This Strategic Plan provides the platform for us to fulfil this role.

<sup>1</sup> *Sugar Research Australia Independent Performance Review: Final Report*, October 2016, available at <https://sugarresearch.com.au/sra-information/investor-information/>.



**Dr Ron Swindells**  
Chairman, June 2017



## 2. Strategic Plan Summary

<b>Who we are</b>	SRA is Australia's specialist sugarcane research organisation			
<b>Why we exist</b>	Enabling Australia's sugarcane industry to be profitable, sustainable and resilient			
<b>What we do</b>	We invest in evidence-based research, development and adoption activities to meet industry challenges and opportunities			
<b>Our goals</b>	Drive profitability	Improve sustainability	Enhance capability	Strengthen organisational excellence
<b>Our key focus areas</b>	<b>Outcomes</b>	<b>Priorities (incorporated into programs)</b>		
1. Optimally-adapted varieties, plant breeding and release	Increased sugarcane yield and commercial cane sugar (CCS)	Restructure and modernise the breeding program and broaden the genetic base		
2. Soil health, nutrient management and environmental sustainability	Better soil health, reduced nutrient losses and improved water quality	Integrated and focused soil health program and enhanced SIX EASY STEPS guidelines and nitrogen management		
3. Pest, disease and weed management	Reduced or avoided yield losses and/or added input costs	New integrated precision technologies and activities on a cost/benefit basis		
4. Farming systems and harvesting	Improved farm input-output efficiencies and profitability	Economic analyses and demonstration of new or improved technology, farm management practices and analysis tools		
5. Milling efficiency and technology	Optimised production, improved capital utilisation and waste minimisation	Enhanced capability and new technology for improving processing and energy efficiency		
6. Product diversification and value addition	Diversified revenue streams and product innovation	Prioritised diversification opportunities for further R&D activity or market analysis		
7. Knowledge and technology transfer and adoption	Accelerated adoption of new technology and practice change	New strategy targeting industry needs, problems and solutions		
8. Collaboration and capability development	Enhanced industry and research capability and capacity	Leveraged industry, government and research partnerships and enhanced human capability programs		
9. Organisational effectiveness	Increased investor satisfaction and returns on investment	Embedded investor and performance-centric culture		
<b>Our enablers</b>	Mapping the future	Sustaining financial viability	Partnering for impact	
	Innovating our science	Optimising return on investment	Transforming our culture	
<b>Our measures of success</b>	Increased profitability per tonne of sugar produced	Improved industry sustainability	High-impact return on investment	
<b>Our values</b>	Innovation	Investor satisfaction	Accountability	Teamwork

## 3. Our role

SRA was established in 2013 as a sugarcane grower and miller owned company and the declared Industry Services Body for the Australian sugarcane industry under the *Sugar Research and Development Services Act 2013* (Cth). As the declared Industry Services Body, SRA is required to provide and manage RD&A activities, for the benefit of the sugarcane industry and for the wider public good.

**The core responsibilities of SRA are to:**

**Deliver** cost-effective research and development (R&D) services to the Australian sugarcane industry to enhance its viability, competitiveness and sustainability

**Carry-out, coordinate and provide** investment for R&D activities in relation to the Australian sugarcane industry

**Facilitate** the dissemination, extension, adoption and commercialisation of the results of R&D activities; and

**Support and develop** industry research capacity

Our activities are funded through statutory levy payments from sugarcane growers and millers, co-investment from both the Commonwealth and Queensland Governments and collaborative investment from other research providers and private sector partners, as well as through other commercial sources such as cane sales.

To fulfil our responsibilities, SRA operates a contestable investment program that encourages sugarcane researchers, and research organisations from the broader research community and other sectors, to investigate and create innovative solutions to address sugarcane industry challenges and opportunities.

SRA also undertakes core research activities that are crucial to the future of the Australian sugarcane industry, including activities in plant breeding and biosecurity.

We have a strong presence across the main sugarcane growing regions of New South Wales and Queensland, with approximately 170 employees based at nine research farms, laboratories and offices.



170

The number of **staff**  
SRA employs



## 4. Context

### 4.1. Operating environment

The Australian sugarcane industry operates in a dynamic world market with political, economic, social, technological, legislative and environmental factors continually evolving and impacting sugarcane production.

An assessment of these macro and micro factors and their associated current and potential influences on RD&A was undertaken in the development of this Strategic Plan, with the following key trends and drivers being identified.

#### World sugar market

- Australia ranks third largest exporter of sugar in the world producing only around three per cent of the world's sugar. Our strong export position is maintained by leveraging the Australian industry's competitive advantage in supplying consistent high quality sugar and close geographical proximity to Asian importers.
- Forward outlook for demand for Australian sugar exports remains positive with world consumption consistently growing at two per cent per annum, mainly driven by population growth and increasing affluence in emerging economies.
- Growing worldwide sugar and nutrition health debate and associated push for legislative intervention, such as taxes on sugar-based products, could potentially impact consumption in developed countries and increase competition from sugar substitutes.
- Sugar price volatility is expected to continue in future years.
- Lower Australian dollar makes sugar exports more cost competitive.
- Disruption in market access and Free Trade Agreements causing upheaval in global trading patterns and competitiveness.

#### Sugarcane production

- Steady increase in Australia's annual sugarcane production over recent years with a 10-year high of 36.5 million tonnes of sugarcane crushed in 2016. However production is expected to decline in 2017 to just under 34 million tonnes due to drought conditions in Queensland's southern region and the impact of Cyclone Debbie in the central region. RD&A to support production growth and mitigate impact from extreme weather events is critical for securing industry profitability and resilience.

#### Production costs

- Escalation of energy, water and materials' costs is impacting profit margins and driving improvements in efficiency and productivity.

#### Productivity

- Low growth in Australian yield over the last decade coupled with incremental gains in efficiency becoming harder to achieve is driving the need for transformational change in plant breeding and farm production systems.

#### Government co-investment

- Changing Commonwealth and Queensland Government investment requirements are driving increasing competitiveness for research funding and greater accountability, collaboration and demonstrated value from SRA's RD&A investment portfolio.



### Collaboration

- Growing pressure on available resources and investment funds is driving increased collaboration with industry, researchers, government and private sector to leverage multi-disciplinary and multi-institutional resources and capability and accelerate the rate of innovation.

### Climate

- Climatic variability and extreme weather events are driving increased R&D investment to better understand, forecast and use climatic information in sugarcane production and management of off-site movement of nutrients and chemicals.

### Environment

- Industry, government and community focus on reducing farming impact on water quality and nutrient run-off into the Great Barrier Reef catchment is driving growth in adoption of best practice sustainable farming systems and accountability in environmental management.
- Trend towards renewable energy, waste minimisation, carbon sequestration and environmentally friendly chemical usage is driving innovation in technology and production processes, on-farm and at-mill.
- Expansion of sugarcane production in marginal soils is driving development of soil health tools and farming practices to improve soil condition and productivity.

### Social license to operate

- Increasing worldwide public health consciousness and growing concern regarding nutritional impacts of sugar along with growing public scrutiny and expectations for sustainability improvement are driving accountability for delivering positive economic, social and environmental impacts.

### New scientific practices and disruptive technology

- Disruptive 'big data', sensors and smart connected technologies are driving innovation in data analysis and decision-support tools.
- 'Game changing' robotics, automation, drones, sensors and global positioning systems (GPS) are redefining production systems.
- Biotechnologies advancing application of genomics and gene technology are helping to improve sugarcane varieties.
- Increasing investment in strategic basic research is enhancing opportunities to solve fundamental issues and drive transformational change.
- Enhancing knowledge, skills and capacity to use advanced technology is critically important for accelerating uptake and optimising the potential of the technology.

### Diversification

- Increasing scope for the sugarcane industry to be a major source of sustainable feedstocks for animal nutrition, bioenergy, chemicals, polymers, pharmaceuticals and other value-add products.
- Major biorefinery and cogeneration infrastructure projects are expected to be developed and operational over the next few years in Queensland, including Renewable Developments Australia's biorefinery and cogeneration facility near Charters Towers and MSF Sugar's \$500 million investment in four green energy power plants near Mareeba, South Johnstone, Mulgrave and Maryborough.
- Industry support for broad-scale diversification is not however widespread with short to medium-term economic viability being the major concern.

### Extension and adoption

- Industry extension delivery is fragmented resulting in an urgent need for a cohesive industry-agreed adoption strategy and implementation mechanisms to improved transfer of technologies and practice change.

### Demographics

- Aging workforce, availability of industry and researcher expertise and a shift from lifestyle farming to commercial farming are necessitating targeted succession planning and capability development.

### Industry relations

- Modification of industry marketing arrangements and the influence of international ownership across the industry value chain are affecting the sugarcane industry dynamic. Whilst more investment has been injected into broad-scale application of best practice and farming and milling production infrastructure, relations between growers and millers have been strained in some regions due to protracted cane supply agreement negotiations.



## 4.2. Investor priorities

In developing this Strategic Plan, SRA undertook a comprehensive consultation program to hear directly from growers, millers, government investors, industry representative bodies and other stakeholders about regional and industry-wide opportunities and challenges, and to prioritise RD&A needs. A range of engagement activities were undertaken including regional forums, face-to-face meetings and an online survey.

Our investors and stakeholders were very clear on what they expected from us. It was clear that they see SRA as playing a pivotal role in helping sugarcane growers and millers maximise profitability through productivity efficiencies and value-add, whilst enhancing the industry's environmental sustainability practices. Furthermore, it is also clear that SRA needs to continue to improve the way we communicate with our investors and how we facilitate the adoption of new technology and practices.

The strategic agenda that underpins this Strategic Plan responds to the challenges and opportunities raised during consultation. Table 1 outlines the common RD&A themes and issues raised during the consultation process and where they are addressed in this plan. Whilst the industry challenges and RD&A needs broadly remain the same as those addressed in our inaugural Strategic Plan, there has been some shift in priority, particularly with respect to a growing focus on soil health and environmental management.

The goals, KFAs and associated RD&A deliverables in this Strategic Plan also align with the National Sugarcane Industry RD&E Strategy, the Commonwealth's National Science and Research Priorities and the Rural Research, Development and Extension Priorities, as well as the Queensland Government's objectives for investment in sugarcane research. There is strong alignment across these priorities, particularly with respect to: delivering value for money; increasing profitability and productivity; enhancing environmental sustainability; advancing innovation; and improving adoption of R&D.

A matrix detailing the alignment between the research programs under each of SRA's KFAs and the key industry and government priorities is provided in Attachment 1.

In responding to the industry and government priorities, SRA has embedded the priorities in all aspects of our operations, including: determining the direction of a project call; forming the primary criteria for investment decisions; and providing targeted areas for measuring SRA's performance and delivery of valued return on investment.

This Strategic Plan is part of an iterative planning process. SRA will continue to consult regularly with investors and industry representative bodies to identify changing priorities and new challenges and opportunities as they arise and to ensure SRA is meeting investor needs and expectations. SRA will also report on the level of research investment against the National Science and Research Priorities and the Rural RD&E priorities in our Annual Operational Plans and Annual Reports.





Table 1: Response to issues raised during consultation

Challenge or opportunity raised by industry	SRA Response <sup>2</sup>
<p><b>Productivity and profitability:</b></p> <ul style="list-style-type: none"> <li>• New technology and innovation needed to increase efficiencies and reduce operating costs</li> <li>• Demonstrate returns from RD&amp;A with a shift in focus from tonnes per hectare to \$ per hectare.</li> </ul>	<p>SRA has introduced an overarching Profitability goal that is supported by a suite of deliverables across our KFAs targeting improved input-output efficiencies, value-add and economic returns. For example:</p> <ul style="list-style-type: none"> <li>• KFA 1 – Improved plant breeding systems to increase the rate of genetic gain and delivery of new varieties. (Refer page 24)</li> <li>• KFA 2 – Decision-support tools for the use of enhanced efficiency fertilisers. (Refer page 25)</li> <li>• KFA 3 – Monitoring and decision-support systems that allow precision chemical application. (Refer page 26)</li> <li>• KFA 4 – Demonstrated economic and productivity results of investment in improved irrigation systems. (Refer page 27)</li> <li>• KFA 5 – Measurement and monitoring systems, including enhance Near Infrared (NIR) technology, to improve crop monitoring and in-mill cane analysis. (Refer page 28)</li> <li>• KFA 6 – Assessment of technologies for the conversion of sugarcane biomass into value-added fuels, chemicals and feedstocks. (Refer page 29)</li> <li>• KFA 7 – Regionally-targeted adoption and communication strategies and activities to accelerate adoption of new technology and innovative practices. (Refer page 30)</li> <li>• KFA 8 – Collaborative partnerships to leverage research investment. (Refer page 31)</li> <li>• KFA 9 – Innovation Catalyst program to foster scientific exploration and innovation to drive transformational change in industry. (Refer page 32)</li> </ul>
<p><b>Varieties:</b></p> <ul style="list-style-type: none"> <li>• Low or declining commercial cane sugar (CCS), particularly in northern regions, needs to be addressed.</li> <li>• More local-specific varieties required.</li> </ul>	<p>KFA1 – SRA is overhauling its plant breeding program with new technology and systems being introduced to improve genomic selection for targeted and regionally-specific traits (including CCS) and to increase the rate of genetic gain. (Refer page 24)</p> <p>The research programs under KFA1 are highlighted in SRA’s RD&amp;A Plan as critical investment areas for addressing current industry challenges and opportunities. (Refer page 23)</p>
<p><b>Soil health, environmental sustainability and social license to farm:</b></p> <ul style="list-style-type: none"> <li>• Greater focus required on production constraints through an emphasis on soil health, nutrient management, climate variability and environmental impacts</li> <li>• Research and decision-support tools needed for dealing with marginal soils.</li> </ul>	<p>SRA has introduced an overarching Sustainability goal that is supported by a suite of deliverables under KFAs 2, 4, 7 and 8. For example:</p> <ul style="list-style-type: none"> <li>• KFA 2 – Enhanced nutrient management and climate variability forecasting for improved on-farm decision making and minimisation of off-farm impacts. (Refer page 25)</li> <li>• KFA 2 – Investigation of organic and other amendments on marginal soils. (Refer page 25)</li> <li>• KFA 2 – Regional and industry-wide measurement of relevant economic and environmental indicators to demonstrate positive impact of improved farming systems. (Refer page 25)</li> <li>• KFA 4 – Improved irrigation scheduling and automation tools that are more water and energy efficient. (Refer page 27)</li> <li>• KFA 7 – Enhanced capability and strategies to manage and utilise milling waste streams and energy by-products for improved profitability and environmental sustainability. (Refer page 30)</li> <li>• KFA 8 – Collaborative participation in cross-sectoral research programs covering: soils; nitrogen-use efficiency; novel fertilisers and feed; pesticide applications; climate change and managing climate variability; water use in agriculture; seasonal forecasting; irrigation; and biofuels, energy and biorefineries. (Refer page 31)</li> </ul> <p>The research programs under KFA2 are highlighted in SRA’s RD&amp;A Plan as critical investment areas for addressing current industry challenges and opportunities. (Refer page 23)</p>

<sup>2</sup> Refer Attachment 2 for details on planned RD&A priorities, programs and outputs.



Table 1 (continued): Response to issues raised during consultation

Challenge or opportunity raised by industry	SRA Response
<p><b>Extension and adoption:</b></p> <ul style="list-style-type: none"> <li>• Extension is not working as needed for industry</li> <li>• Better integration required between SRA and extension providers.</li> </ul>	<p>KFA 7 – SRA will work collaboratively with industry and extension providers to develop regionally tailored strategies and processes to accelerate the transfer of research knowledge and technology, and accelerate adoption across industry. (Refer page 30)</p> <p>The ‘Knowledge transfer and adoption’ program under KFA7 is highlighted in SRA’s RD&amp;A Plan as a critical investment area for addressing current industry challenges and opportunities. (Refer page 23)</p>
<p><b>Harvesting:</b></p> <ul style="list-style-type: none"> <li>• Demonstration of impact of harvest best practices at local level should be expanded</li> <li>• Harvester design improvements required.</li> </ul>	<p>KFA 4 – SRA has established a program of activities targeted at improving harvesting efficiency, including: expansion of regional demonstrations and quantification of value loss under different harvesting procedures; promotion of harvesting best practice; and improved harvester designs and cane-cleaning systems. (Refer page 27)</p> <p>The ‘Harvesting systems and cane cleaning’ program under KFA4 is highlighted in SRA’s RD&amp;A Plan as a critical investment area for addressing current industry challenges and opportunities. (Refer page 23)</p>
<p><b>Pest and disease management:</b></p> <ul style="list-style-type: none"> <li>• Ongoing pest and disease management strategies and tools required – Pachymetra, soldier fly, rats, pigs, ratoon stunting disease and canegrubs highlighted in some regions</li> <li>• YCS was not raised as a significant issue but some concern YCS may be impacting CCS.</li> </ul>	<p>KFA 3 – SRA will enhance biosecurity prevention and pest and disease management strategies and technologies to enable sustainable and cost-effective management of biotic threats impacting sugarcane production. (Refer page 26)</p> <p>KFAs 1-4 – Continued investigation of the impact, causal factor(s) and management options for YCS. (Refer page 26)</p>
<p><b>Milling efficiency:</b></p> <ul style="list-style-type: none"> <li>• Capacity and infrastructure utilisation improvement to increase milling efficiency</li> <li>• Capability building and extension services required.</li> </ul>	<p>KFA 5 – SRA will undertake a suite of activities targeted at: optimising transport and quality of cane delivered to mills; improving sugar quality; improving mill processing efficiency and capacity utilisation; energy efficiency; and enhancing milling capability, knowledge transfer and adoption. (Refer page 28)</p>
<p><b>Product diversification:</b></p> <ul style="list-style-type: none"> <li>• Value-add through use of the whole sugarcane plant</li> <li>• Economic viability assessments required.</li> </ul>	<p>KFA 6 – SRA will seek to enhance industry value through the identification and market viability analysis of new opportunities for new products or uses for sugarcane. (Refer page 29)</p>
<p><b>Capability development:</b></p> <ul style="list-style-type: none"> <li>• Succession planning needed for industry and SRA</li> <li>• Leverage collaborative partnerships where appropriate.</li> </ul>	<p>SRA has introduced an overarching Capability goal that is supported by a suite of deliverables under KFA 8, including: annual researcher and industry scholarships and awards; industry workforce development strategy, systems and processes; and enhanced industry and research collaborations. (Refer page 31)</p>
<p><b>SRA communication:</b></p> <ul style="list-style-type: none"> <li>• Diverging views on communication products and activities – either too much information, not the information needed or happy with the information.</li> <li>• Overlap with extension issue – more face-to-face communication required.</li> </ul>	<p>KFA 7 – SRA will enhance and develop appropriate and tailored communication tools and mechanisms that synchronise with research and adoption activities and inform industry on research projects, research outputs and benefits from completed research.</p> <p>SRA will also monitor grower and miller satisfaction with our communication products and services through annual surveys so that our communication remains relevant and useful. (Refer page 30)</p>

# 5. Our strategy

## 5.1. Strategic agenda

SRA has established a strategic agenda that responds to the challenges, opportunities and investor priorities identified during the development of this plan. Our strategy has been reframed to more clearly articulate that our primary function is to invest in impactful evidence-based RD&A to underpin the profitability and resilience of Australia's sugarcane industry.

We have introduced four overarching goals and refined our KFAs with RD&A programs to provide further clarity in purpose and alignment with investor priorities. The goals reflect SRA's strong contribution to outcomes sought by industry.

### Our goals



## Our key focus areas and RD&A programs

Key focus areas	RD&A programs
1. Optimally-adapted varieties, plant breeding and release	<ul style="list-style-type: none"> <li>Plant genetics/selection: improve breeding systems for genetic gain and delivery of new varieties through use of new molecular marker technology and introgression pipeline.</li> <li>Physiology and trait development: improve understanding of plant physiology and improve varieties for specific traits.</li> <li>Diagnostics: improve or develop diagnostics technologies for genetic screening.</li> <li>Fundamental research for gene characterisation and editing.</li> </ul>
2. Soil health, nutrient management and environmental sustainability	<ul style="list-style-type: none"> <li>Soil health: improve understanding of soil fertility, soil biology and chemical and physical attributes, including soil compaction.</li> <li>Nutrient management: improve management of soil resources, nutrients and chemical inputs to reduce nutrient losses and decrease environmental footprint.</li> <li>Climate variability and forecasting: improve capability to predict and adapt to variable climatic conditions.</li> <li>Environmental sustainability and social license to operate.<sup>3</sup></li> </ul>
3. Pest, disease and weed management	<ul style="list-style-type: none"> <li>Biosecurity: enhance capacity to manage biosecurity risks.</li> <li>Pest control: enhance capability to deal with pests.</li> <li>Disease management: improve disease management strategies and technologies.</li> <li>Weed management: improve weed management strategies and technologies.</li> <li>Yellow canopy syndrome (YCS): investigate causal factor(s) and develop management strategies.<sup>4</sup></li> </ul>
4. Farming systems and harvesting	<ul style="list-style-type: none"> <li>Precision agriculture (PA): improve understanding and uptake of PA technologies.</li> <li>Water management: improve irrigation and water management.</li> <li>Farming systems: improve planting systems; crop performance; crop rotations; and on-farm energy efficiency.</li> <li>Harvesting systems and cane cleaning: improve technology and identify and demonstrate harvesting best practice.</li> </ul>
5. Milling efficiency and technology	<ul style="list-style-type: none"> <li>Cane quality and transport: optimise mill transport and improve cane quality to mills.</li> <li>Sugar quality: improve sugar quality.</li> <li>Mill operations: improve mill processing efficiency and mill capacity utilisation.</li> <li>Step-changing projects: development of new mill processes and technology.</li> <li>Energy efficiency: improve cost-efficiency in the use of energy.</li> <li>Knowledge transfer and adoption: improve extension, communication and information, and technology transfer and adoption.</li> </ul>
6. Product diversification and value addition	<ul style="list-style-type: none"> <li>Enhancing value: identification and implementation of new opportunities for new products or uses for sugarcane.</li> </ul>
7. Knowledge and technology transfer and adoption	<ul style="list-style-type: none"> <li>Knowledge transfer and adoption: establish a contemporary strategy and regionally-based partnerships to promote awareness and uptake of new research knowledge and technology.</li> <li>Business performance: improve farm business and risk management decision making.</li> </ul>
8. Collaboration and capability development	<ul style="list-style-type: none"> <li>Sectoral and cross-sectoral collaboration.</li> <li>Scholarships: enhance research capacity through recognised training.</li> <li>Sugarcane Industry Travel and Learning Awards (STLA): travel and learning to enhance innovation capacity.</li> <li>Training to enhance qualifications and skills: workshops; Early Career Researcher (ECR)/Mid-Career Researcher (MCR) Awards; and leadership.</li> </ul>
9. Organisational effectiveness	<ul style="list-style-type: none"> <li>Culture: embed values and culture across SRA.</li> <li>People: attract, retain and develop a first-class workforce.</li> <li>Workplace: optimise facilities, systems and processes to support leading-edge RD&amp;A.</li> </ul>



## Our RD&A Plan

Our detailed RD&A Plan to deliver on our goals and KFAs is provided in Attachment 2. The RD&A Plan maps out for each KFA the key RD&A priorities, programs, outputs, short- and longer-term outcomes, key performance indicators (KPIs) and impacts contributing to our goals. Our Annual Operational Plans will further outline the key deliverables, project portfolio and financial forecasts for delivering on our Strategic Plan.

SRA recognises that we cannot deliver on our strategic agenda by ourselves – we require the continuing cooperation and collaboration of the sugarcane industry and our RD&A partners. Our role is to create value by bringing innovative technology and practices to the industry and facilitating the uptake of these innovations. It is up to the sugarcane growers, harvesters, millers, advisers and other stakeholders in the industry value chain to embrace and adopt research innovation so that the industry as a whole can deliver the step-change improvements necessary to secure industry profitability growth and resilience.

### 5.2. Enabling strategies

Delivery of our Strategic Plan will be supported through a suite of enabling strategies that will ensure we get the greatest impact from our RD&A investment. Consideration of the following critical success areas will be taken in to account when developing and implementing our enabling strategies:

- Mapping the future – working with industry representative bodies to convene a Futures Forum to undertake long-range scenario planning, vision setting and strategic targets;
- Sustaining financial viability – leveraging co-investment, commercialisation opportunities and accelerating returns from investment;
- Partnering for impact – collaborating with others to optimise RD&A outcomes;
- Innovating the way we conduct science – application of new ‘game-changing’ scientific tools and techniques;
- Getting the best return out of our RD&A investment – reviewing our risk profile to accommodate higher-risk activities, such as strategic basic research, and improving investment evaluation processes to characterise industry gains as a result; and
- Continuing our cultural transformation – fostering and promoting a productive organisational culture that is built around our shared values of Innovation, Investor Satisfaction, Accountability and Teamwork.

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<sup>3</sup> KFAs 1 to 9 also contain projects that contribute to environmental sustainability and social license to operate.

<sup>4</sup> Until the cause of YCS is known, the YCS program will be managed by SRA under KFA3 but addressed through KFAs 1 to 4. YCS is not however classified as a pest or disease.

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## 6. Our approach

### 6.1 Investment process and balanced portfolio

SRA is committed to ensuring it invests in, manages and participates in a balanced portfolio of RD&A activities that is appropriate to meeting investor needs and providing an attractive return on investment.

To achieve an optimally-balanced investment portfolio, SRA will undertake to:

- Align RD&A investment with industry and government investor priorities;
- Invest in short, medium and long-term projects across the research pipeline;
- Appropriately manage RD&A risk-profile, with a combination of low-risk projects targeting incremental improvements and higher-risk transformational projects;
- Leverage investment through collaboration; and
- Maximise return for our investors.

SRA's RD&A portfolio comprises both core and contestable RD&A projects. The core projects are undertaken internally by SRA and include plant breeding, biosecurity and adoption activities. The contestable projects are undertaken by both SRA and external providers and cover the gamut of SRA's KFAs.

SRA's independent skills-based Research Funding Panel (RFP) and Research Funding Unit (RFU) manage the contestable research investment process and associated review and evaluation of investment projects. The primary objective of the RFP is to ensure transparent, independent and robust review of all RD&A project investment from SRA's contestable pool of industry and government investment funds.

Research projects are ranked by the RFP using an Attractiveness/Feasibility process which has been designed to assess the magnitude of potential benefits, taking into account the likely adoption of the project outcomes or innovations (Attractiveness) and the prospects of the project delivering them (Feasibility).

Attractiveness is assessed using an input-output-outcome-impact analysis of the project proposals, whilst Feasibility is assessed by considering research risk and quality, using peer assessment and RFP expertise.



## 6.2. Collaboration

SRA recognises the importance of collaborating with a range of partners to improve the efficiency, coordination and leveraging of research investment in areas of mutual interest and where beneficial for the Australian sugarcane industry and the broader public good.

SRA works in partnership with leading Australian organisations such as the Commonwealth Scientific and Industrial Research Organisation (CSIRO), universities, government and other industry groups such as regional productivity services, growers, millers, harvesting contractors and manufacturers, and natural resource management organisations. We also partner with the private sector (both within Australia and internationally) and international sugarcane breeding and research organisations to create collaborative research opportunities and variety exchange programs that will benefit the Australian sugarcane industry.

SRA also partners with other research and development corporations (RDCs) and industry-owned research companies to invest in and/or support mutually-beneficial collaborative research, including participation in cross-sectoral strategy areas under the National Primary Industries RD&E Framework and a suite of projects under the Commonwealth Government's Rural R&D for Profit Programme. In addition, SRA actively participates in the Council of Rural R&D Corporations (CRRDC) projects, working groups and other activities. Details on SRA's planned cross-sectoral activities are provided in Attachment 2 under KFA8 outputs.

Strategic partnerships and joint investment in advanced technologies and agricultural practices will continue to be an important part of our investment strategy going forward. In particular, SRA will seek to expand and strengthen relationships and collaborative alliances with:

- sugarcane research counterparts overseas, especially with research institutes in India, China and Brazil;
- private sector partnerships to catalyse the development and commercialisation of cutting-edge technology and research outputs;
- productivity services organisations to accelerate up-take of research outcomes and new technology; and
- other RDCs both in terms of knowledge sharing and learning and in co-investment in cross-sectoral research program.

A further priority in this planning period will be collaborating with industry and research providers on the implementation of the National Sugarcane Industry RD&E Strategy, which SRA co-leads with the Queensland Department of Agriculture and Fisheries. SRA will continue to play a leading role in the governance, development and management of the Strategy.



## 7. Our performance

### 7.1. Monitoring and Evaluation Framework

SRA has established an “impact pathway” framework to support performance monitoring and evaluation across its RD&A portfolio. This program logic-based model traces research inputs through to outputs, outcomes and ultimately, industry impacts. Such line-of-sight allows SRA to improve the monitoring, evaluation and reporting of SRA’s RD&A portfolio under its Monitoring and Evaluation (M&E) Framework and provides pathways towards quantifying attributable impact and return on investment for our industry and government investors.

SRA’s M&E Framework has been further strengthened with the development and implementation of a new suite of KPIs and tangible targets that will be progressed and monitored through annual operational planning and reporting mechanisms. Attachment 3 details SRA’s KPIs and targets.

*The core measures of success for SRA are:*

1. Increased profitability for growers and millers
2. Improved industry sustainability
3. High-impact return on investment

SRA is currently implementing data collection and monitoring processes and tools to specifically measure and track (over the short, medium and long-term) adoption of new technology, practice change and the impact and/or economic value created through the application of our research. As this performance data becomes available, it will be incorporated into SRA’s KPIs and reporting.

The primary monitoring, evaluation and reporting mechanisms within SRA’s M&E Framework include:

- Project milestone reporting to the RFU;
- Regular traffic light reporting to the Board on output delivery and achievement against KPIs;
- Operational (financial, workplace health and safety, and risk management) and strategic reporting to the Board’s Audit and Risk Committee;
- Six-monthly exception reporting to the Board on progress against the Strategic Plan;

- Reports on performance to the Department of Agriculture and Water Resources via six-monthly meetings;
- Project and program evaluations, including impact and cost-benefit analyses;
- Annual grower and miller surveys, including practice change and satisfaction with SRA;
- Annual Reports and Annual Performance Reports published to demonstrate the performance of SRA's RD&A portfolio and return on investment provided to SRA's industry and government investors; and
- Independent Performance Reviews, as required under the Statutory Funding Agreement.

SRA will continue to regularly communicate with our investors and other stakeholders on our strategic and operational performance and use feedback on our performance to enhance the quality of our research and investment processes, programs and activities.

## 7.2. Independent Performance Review

As prescribed under both SRA's Constitution and the Statutory Funding Agreement (SFA) 2013-2017 with the Commonwealth Government, SRA is required to engage an independent organisation to undertake a comprehensive review of performance every four years. The Independent Performance Review focuses on reviewing SRA's performance against the provisions of the SFA and the extent to which the company is delivering benefits to its investors. The review includes consideration of SRA's role as both a research investor and research provider and an assessment of SRA's corporate governance; operations; planning, monitoring, evaluation and reporting; and interaction with investors and broader stakeholders.

SRA's inaugural Independent Performance Review was completed in late 2016 by independent reviewers Scott Williams Consulting in association with Miracle Dog and Harrison Business Strategies. The review findings detailed in the Independent Performance Review Report<sup>5</sup> provided a strong endorsement of SRA's governance, strategic management, and research investment programs. The Report also provided recommendations for enhancing SRA's operational and strategic management in the areas of: culture; planning and reporting; RD&E management; adoption processes; and communication and reporting.

The SRA Board endorsed the review findings, accepted all of the recommendations and implemented a response plan to put the review recommendations into action. The Report is available on SRA's website along with the SRA Board's response to the review findings and recommendations. The next Independent Performance Review will be undertaken in 2020.

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<sup>5</sup> *Sugar Research Australia Independent Performance Review: Final Report*, October 2016, available at <https://sugarresearch.com.au/sra-information/investor-information/>.

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## 8. Financial forecast

	2017/18	2018/19	2019/20	2020/21	2021/22
<b>Operating income</b>	<b>\$k</b>	<b>\$k</b>	<b>\$k</b>	<b>\$k</b>	<b>\$k</b>
Industry contribution (statutory levy)	23,800	23,800	23,800	23,800	23,800
Commonwealth Government co-investment <sup>6</sup>	7,200	6,640	6,640	6,640	6,640
Queensland Government co-investment	3,309	2,850	2,850	2,850	2,850
Collaboration/Service Fee income <sup>7</sup>	4,500	4,500	4,500	4,500	4,500
Interest	992	992	992	992	992
Other	1,330	1,070	1,070	1,070	1,070
<b>Operating income total</b>	<b>41,132</b>	<b>39,853</b>	<b>39,853</b>	<b>39,853</b>	<b>39,853</b>
<b>Operating expenditure<sup>8</sup></b>					
<b>R&amp;D</b>					
External contestable	11,023	10,088	8,060	6,782	7,150
Internal contestable	9,952	9,952	9,952	9,952	9,952
Internal core <sup>9</sup>	11,744	11,979	12,218	12,463	12,712
Industrial contract research	3,342	2,116	2,116	1,116	616
Research adoption <sup>10</sup>	2,692	2,745	2,800	2,856	2,914
R&D centrally managed <sup>11</sup>	4,875	4,961	5,049	5,139	5,231
<b>R&amp;D total</b>	<b>43,628</b>	<b>41,842</b>	<b>40,197</b>	<b>38,309</b>	<b>38,575</b>
<b>Corporate</b>					
Board and investor relations	1,160	1,184	1,207	1,231	1,256
Corporate support <sup>12</sup>	2,115	2,157	2,200	2,244	2,289
<b>Corporate total</b>	<b>3,275</b>	<b>3,340</b>	<b>3,407</b>	<b>3,475</b>	<b>3,545</b>
<b>Operating expenditure total</b>	<b>46,903</b>	<b>45,183</b>	<b>43,604</b>	<b>41,784</b>	<b>42,120</b>
<b>SRA operating result for the year</b>	<b>(5,771)</b>	<b>(5,330)</b>	<b>(3,752)</b>	<b>(1,931)</b>	<b>(2,267)</b>

SRA's investment portfolio is primarily funded through the statutory sugarcane levy of 70c per tonne of cane, with growers and millers each contributing 35c per tonne of cane. This is supported by co-investment from the Commonwealth and Queensland Governments and strategically-leveraged collaborative investments, as well as minor income from other sources, such as interest and royalties from the use of intellectual property. To deliver on our research portfolio and optimise value for our investors, SRA is currently forecasting an operating deficit for the next five years. While SRA is currently committed to maintaining our current investment levels and research focus, as per this Strategic Plan, the forecast debt will be reviewed annually. This current forecast deficit can be covered by SRA's accumulated financial reserves.

<sup>6</sup> Commonwealth co-investment made under the 2017-2022 Statutory Funding Contract between SRA and the Commonwealth Government, administered by the Department of Agriculture and Water Resources.

<sup>7</sup> Includes collaborative income from Rural R&D for Profit Programme.

<sup>8</sup> Non-external expenditure reflects post-overhead allocations.

<sup>9</sup> Internal core includes plant breeding, biosecurity, plant health.

<sup>10</sup> Research adoption includes adoption and communications.

<sup>11</sup> Includes research funding management, research stations and resources and research KFA management.

<sup>12</sup> Includes Finance, IT, HR, Library and IP.



# Attachment 1: Alignment of SRA's KFAs to Government priorities

Stakeholder priorities	SRA key focus area								
	1. Optimally-adapted varieties, plant breeding and release	2. Soil health, nutrient management & environmental sustainability	3. Pest, disease and weed management	4. Farming systems and harvesting	5. Milling efficiency and technology	6. Product diversification and value addition	7. Knowledge and technology transfer and adoption	8. Collaboration and capability development	9. Organisational effectiveness
<i>National Sugarcane Industry RD&amp;E Strategy – Themes<sup>13</sup></i>									
<b>1. Products</b> Expanding uses for sugarcane									
<b>2. Productivity</b> Achieving significant productivity gains and increasing adoption									
<b>3. Stewardship</b> Improving environmental performance and industry's social license									
<b>4. People</b> Building the capability of industry and research									
<i>National Science and Research Priorities<sup>14</sup></i>									
<b>1. Food</b>									
<b>2. Soil and water</b>									
<b>3. Transport</b>									
<b>4. Cybersecurity</b>									
<b>5. Energy</b>									
<b>6. Resources</b>									
<b>7. Advanced manufacturing</b>									
<b>8. Environmental change</b>									
<b>9. Health</b>									

<sup>13</sup> National Sugarcane Industry RD&E Strategy, 2017.

<sup>14</sup> National Science and Research Priorities, Australian Government, 2015.

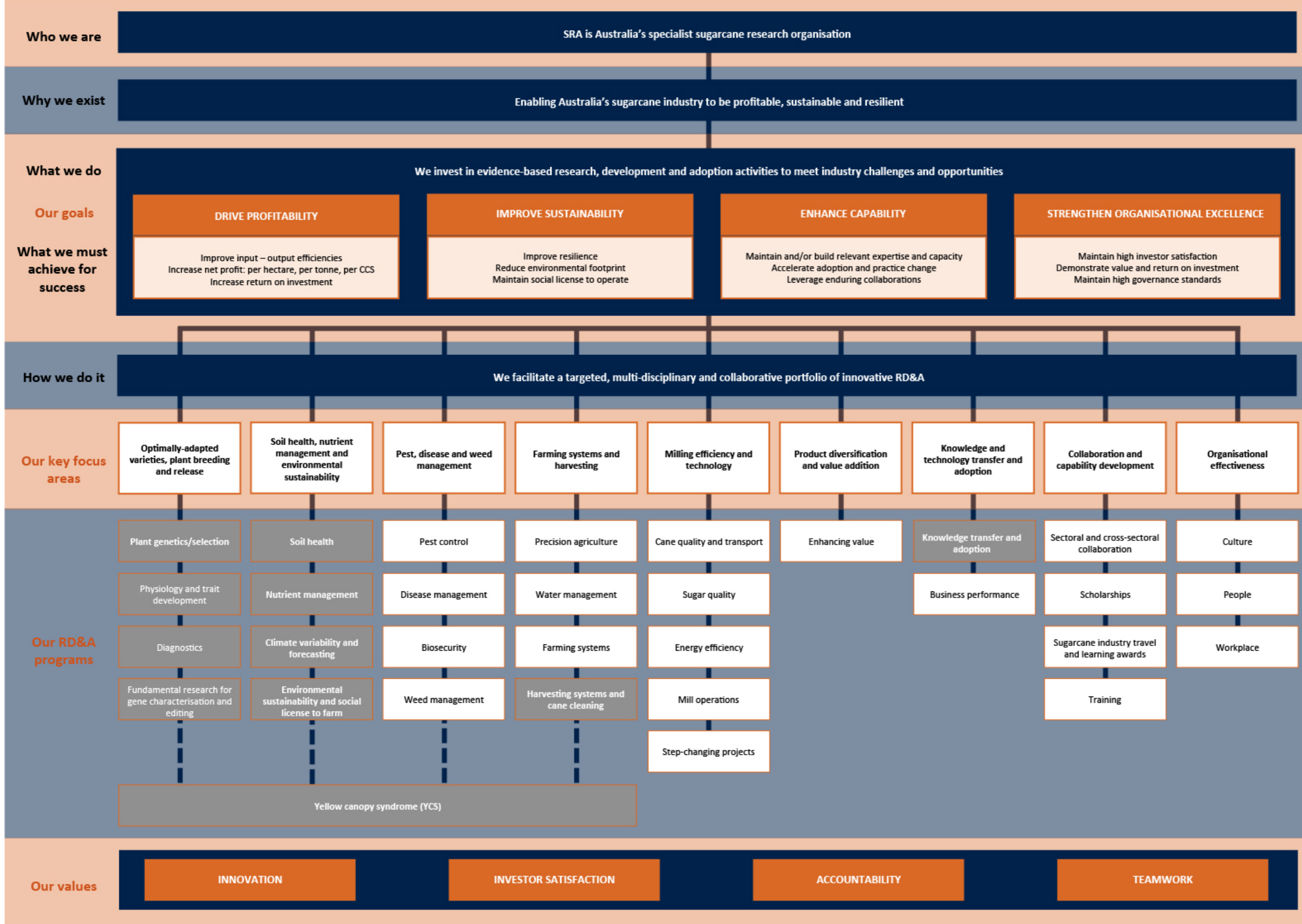
## Attachment 1 (continued)

Stakeholder priorities	SRA key focus area								
	1. Optimally-adapted varieties, plant breeding and release	2. Soil health, nutrient management & environmental sustainability	3. Pest, disease and weed management	4. Farming systems and harvesting	5. Milling efficiency and technology	6. Product diversification and value addition	7. Knowledge and technology transfer and adoption	8. Collaboration and capability development	9. Organisational effectiveness
<b>Rural RD&amp;E Priorities<sup>15</sup></b>									
1. Advanced technology									
2. Biosecurity									
3. Soil, water and managing natural resources									
4. Adoption of R&D									
<b>Queensland Department of Agriculture and Fisheries – Theme Areas for Sugarcane Research Investment<sup>16</sup></b>									
1. Sugarcane improvement – to improve productivity, quality and production efficiency									
2. Sugarcane plant protection									
3. Farming Systems broad acre dry land and irrigated, and mixed crop farming systems in Queensland									
4. Soil health									
5. New market opportunities and processes									
6. Agri-intelligent systems									
7. Breaking barriers to adoption									

<sup>15</sup> Rural RD&E Priorities, Agricultural Competitiveness White Paper, Australian Government, 2015.

<sup>16</sup> Department Strategic Objectives for funding projects for SUGARCANE, Queensland Department of Agriculture and Fisheries, 2017.

# Attachment 2: RD&A Plan

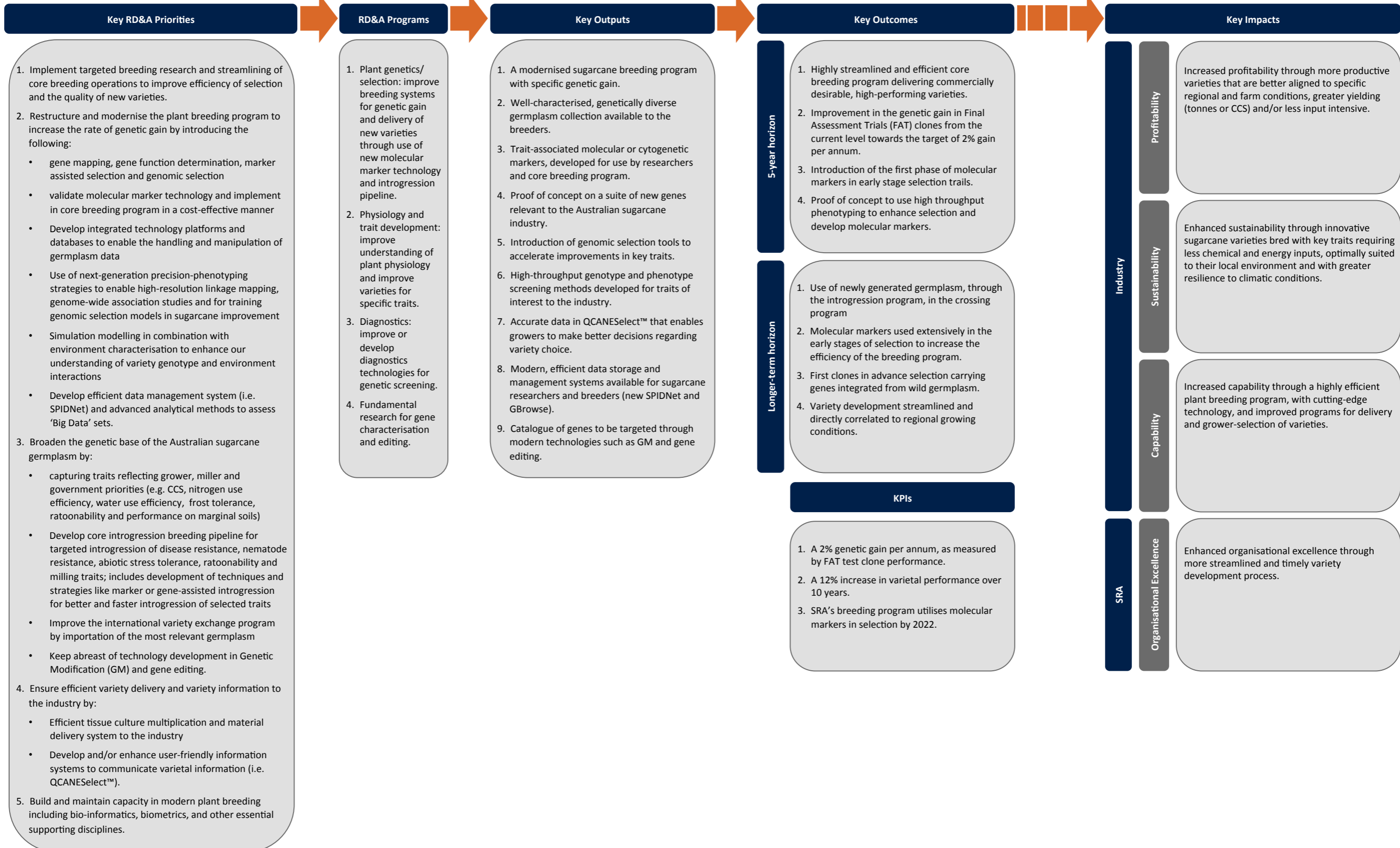


Denotes critical RD&A investment areas for addressing current industry challenges and opportunities.



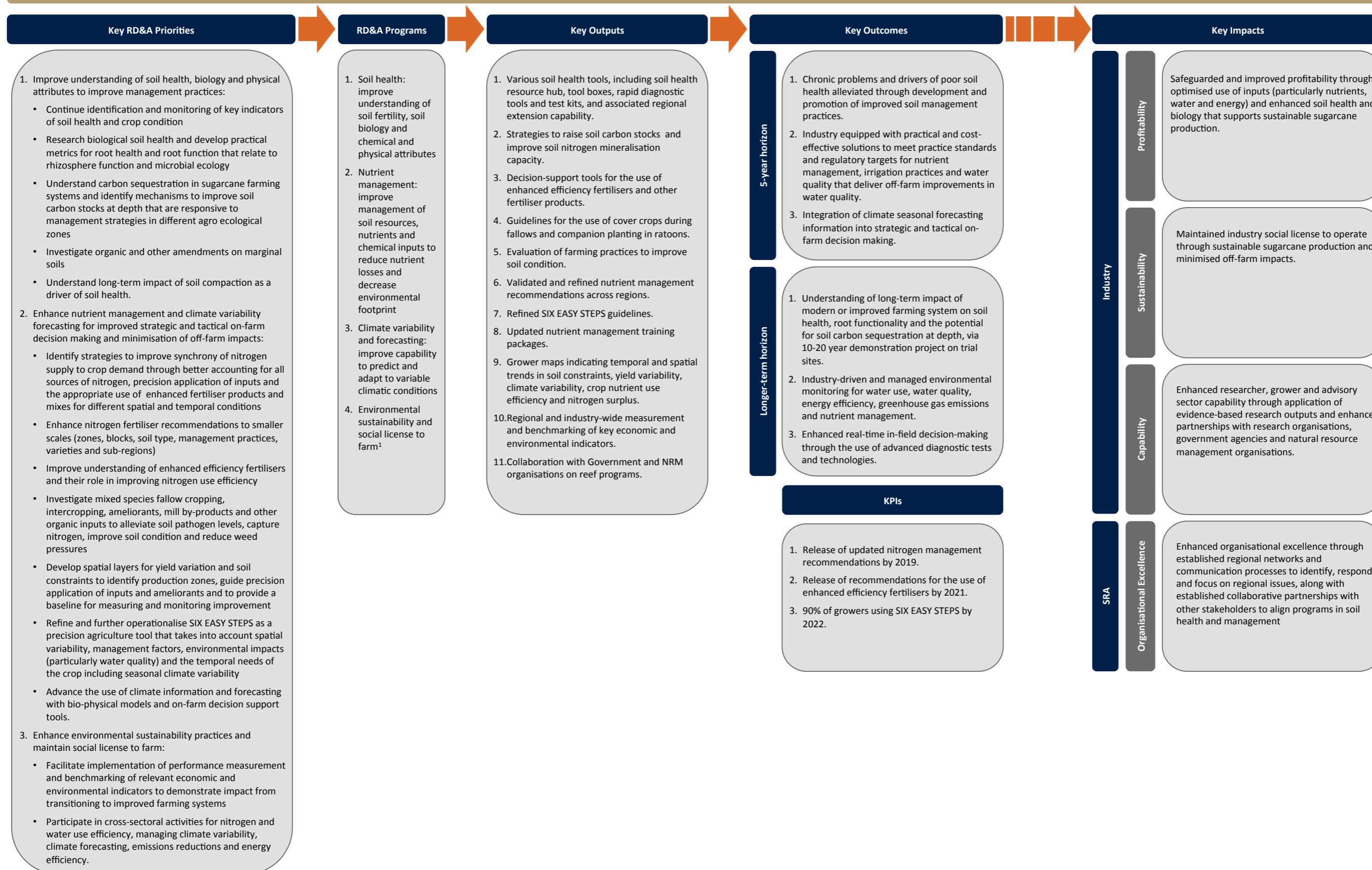
# Attachment 2 (continued)

**KFA 1: Optimally-adapted varieties, plant breeding and release**



# Attachment 2 (continued)

KFA 2: Soil health, nutrient management and environmental sustainability



<sup>1</sup> KFAs 1 to 9 also contain projects that contribute to environmental sustainability and social license to operate.

# Attachment 2 (continued)

**KFA 3: Pest, disease and weed management**

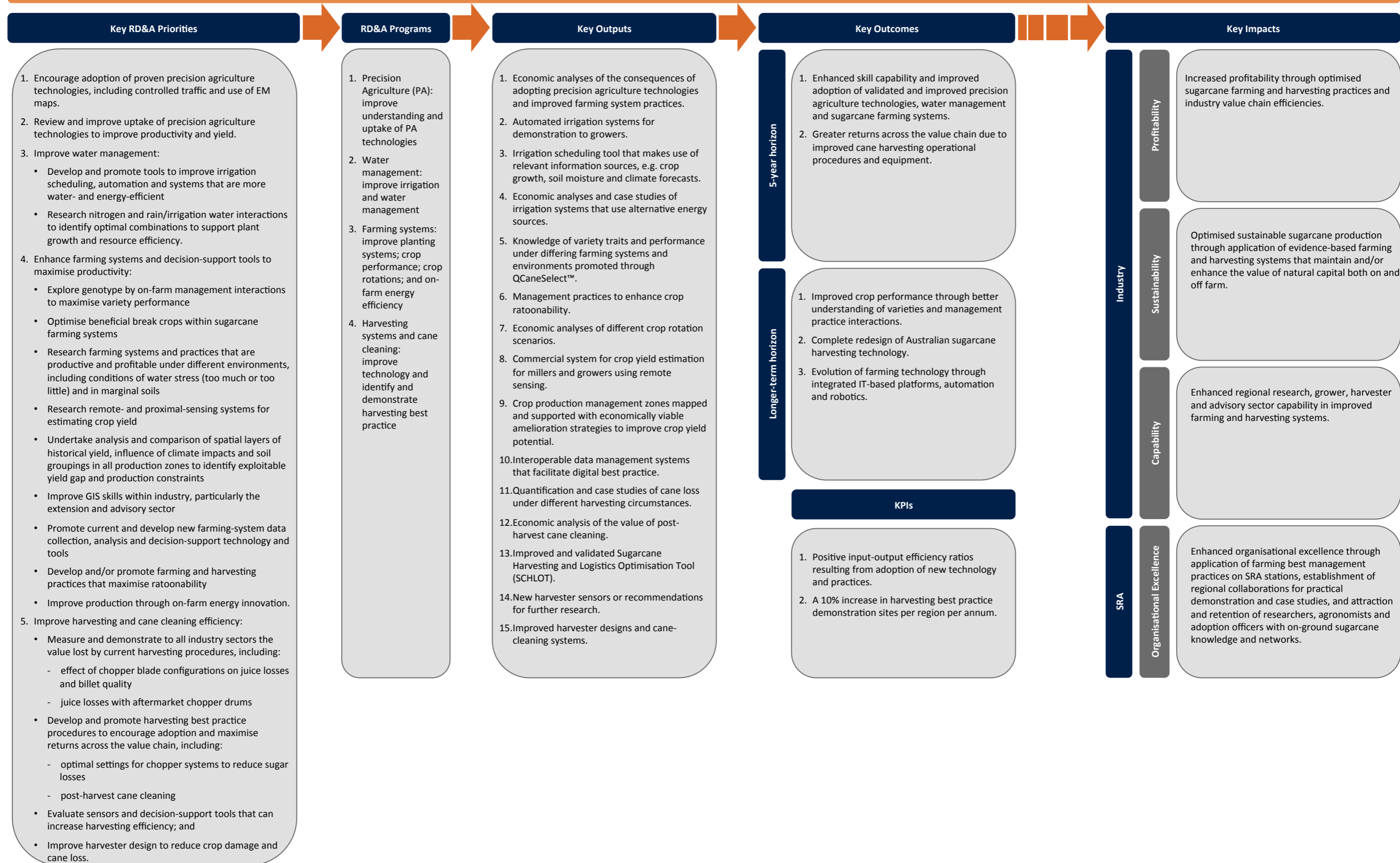


<sup>1</sup> Until the cause of YCS is known, the YCS program will be managed by SRA under this KFA but addressed through KFAs 1 to 4. YCS is not however classified as a pest or disease.



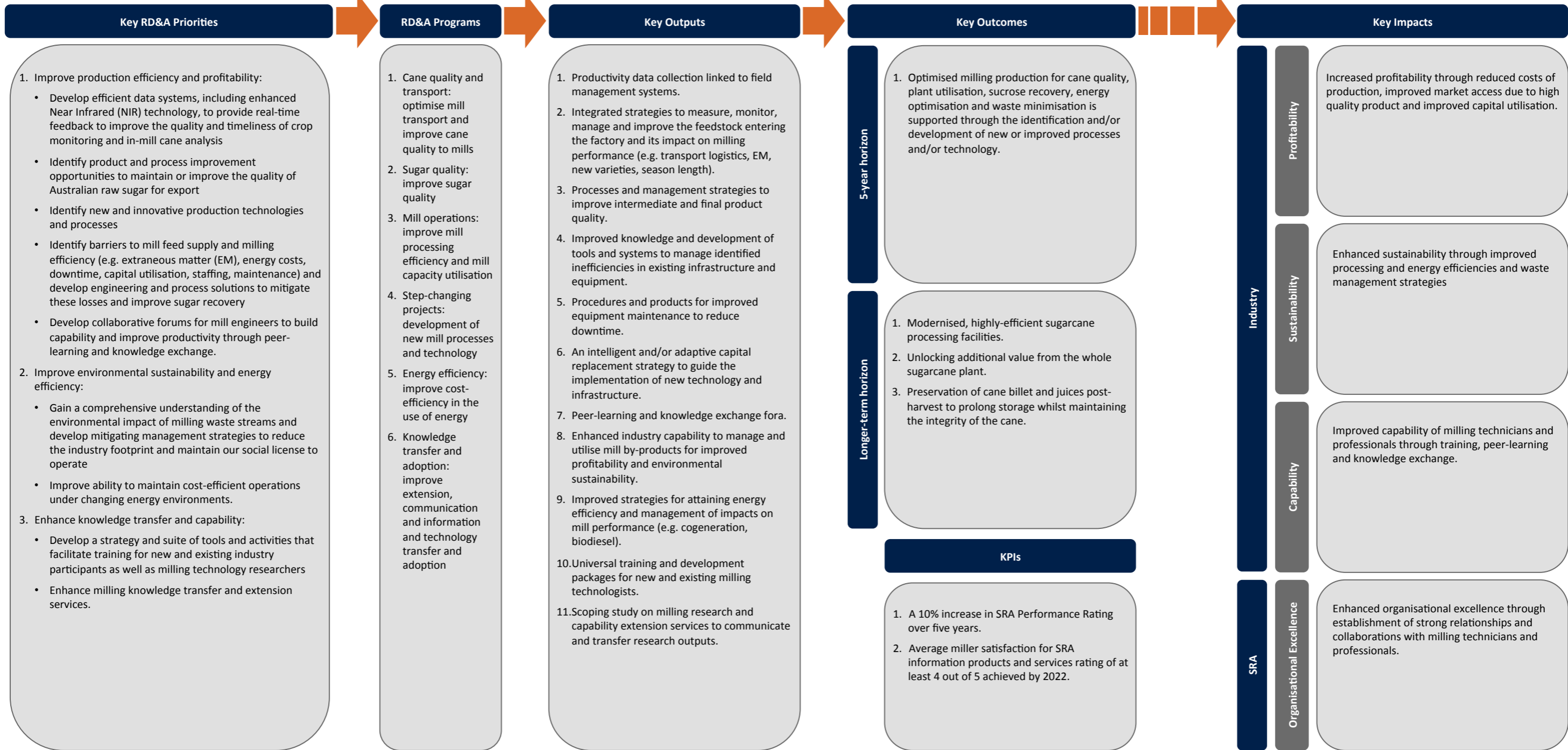
# Attachment 2 (continued)

## KFA 4: Farming systems and harvesting



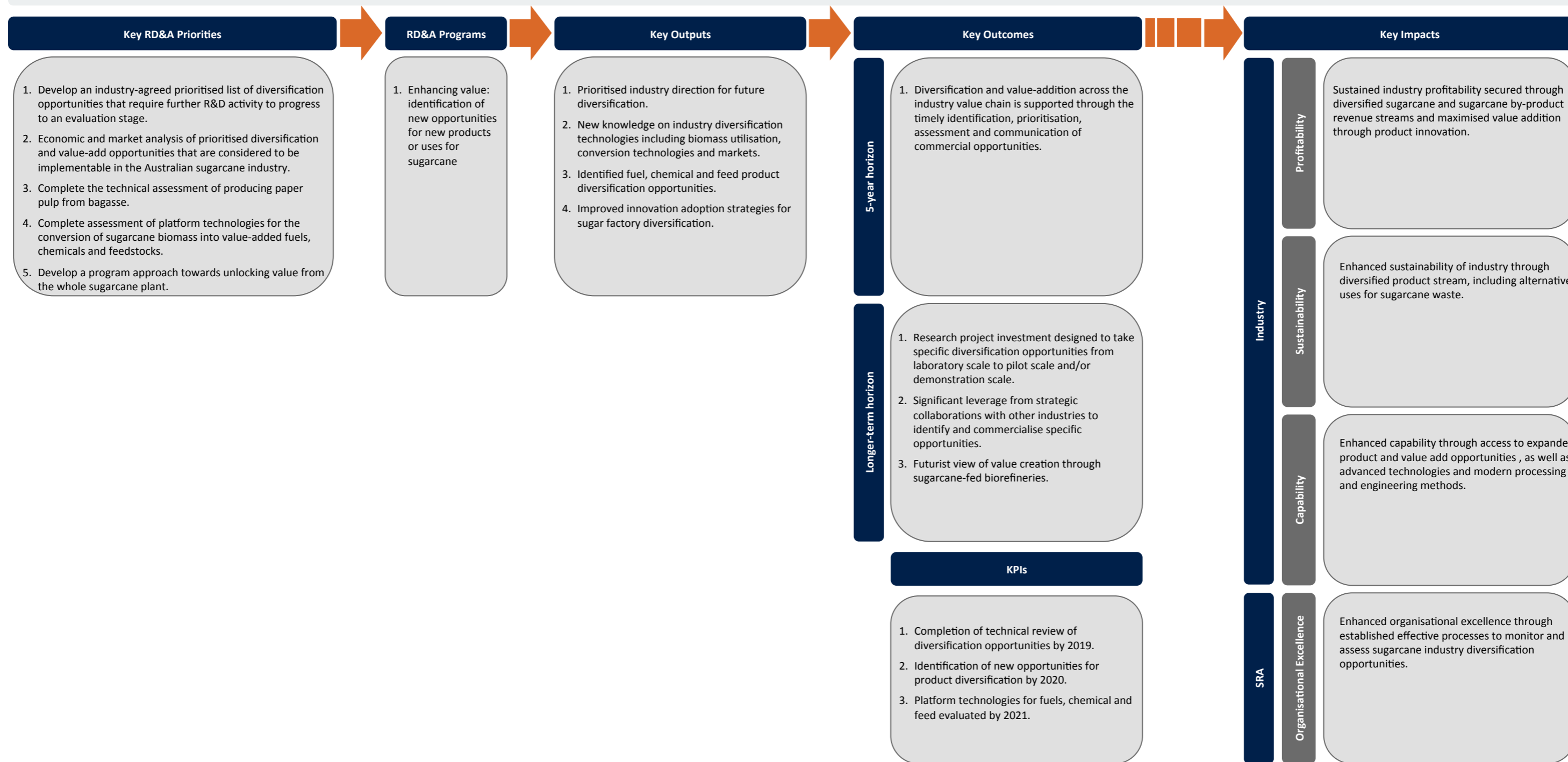
# Attachment 2 (continued)

KFA 5: Milling efficiency and technology



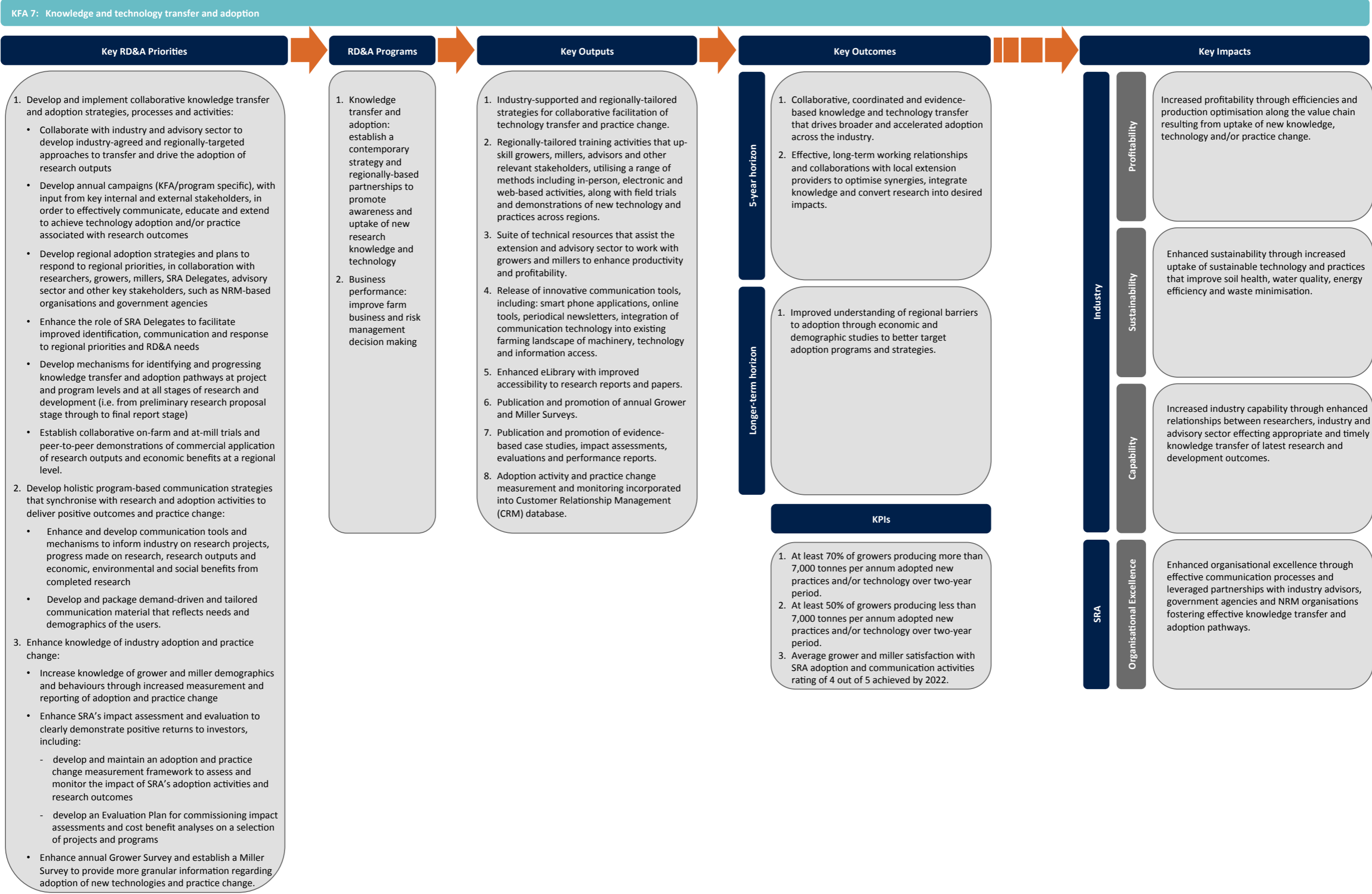
# Attachment 2 (continued)

## KFA 6: Product diversification and value addition





# Attachment 2 (continued)



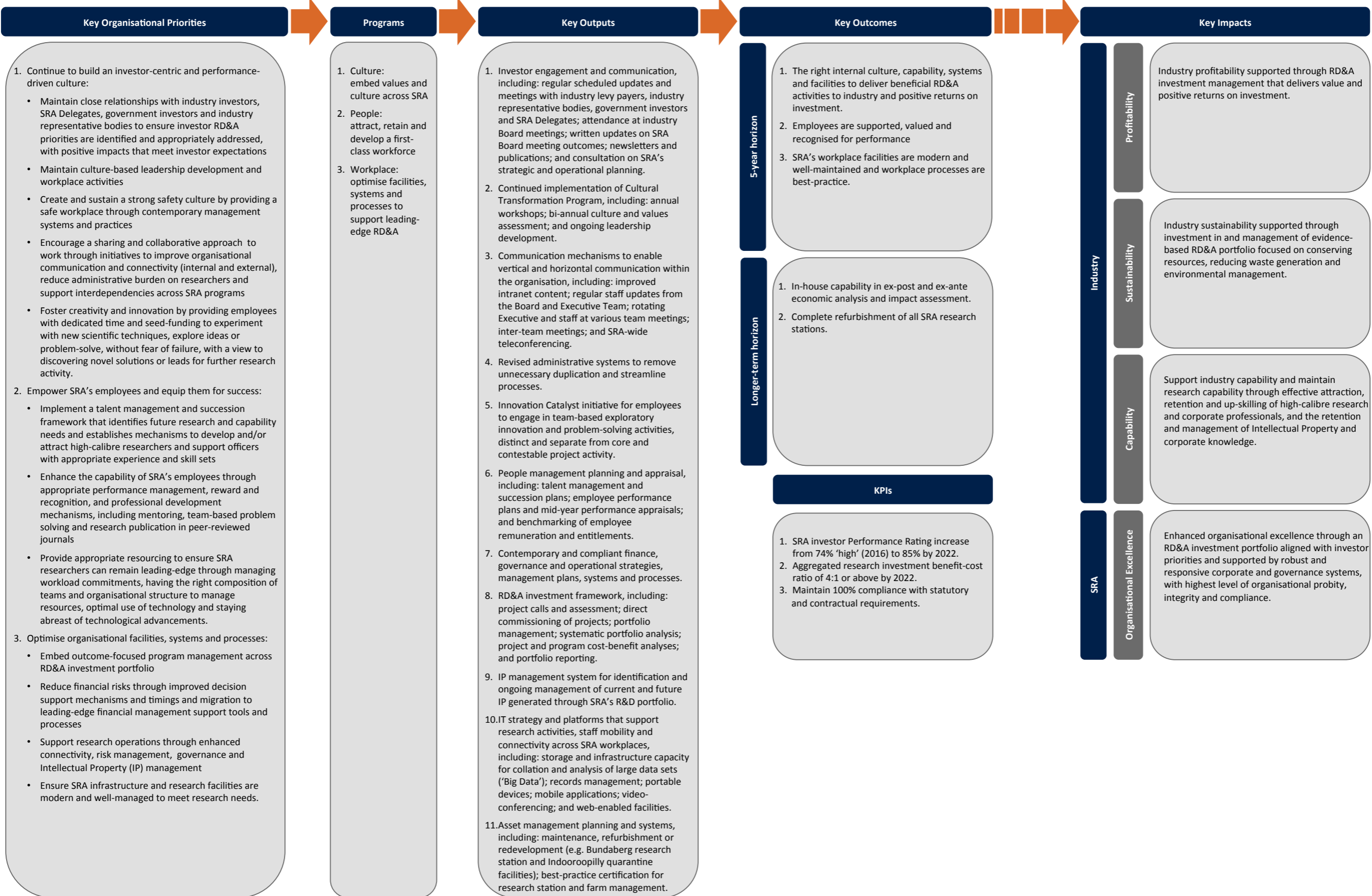
# Attachment 2 (continued)

## KFA 8: Collaboration and capability development



# Attachment 2 (continued)

**KFA 9: Organisational effectiveness**





## Attachment 3: Measures of success

### Core measures of success for SRA

SRA's core measures are used to demonstrate the contribution of SRA RD&A activities to industry profitability and sustainability, and the return on investment these activities deliver to our industry and government investors.

Core measure	Key performance indicators
<b>1. Increase profitability</b>	Net profit per tonne of sugar produced.
<b>2. Improved industry sustainability</b>	<p>Economic:</p> <ul style="list-style-type: none"> <li>Yield (tonnes, CCS).</li> <li>Profit (per hectare, per tonne and per CCS).</li> </ul> <p>Environmental:</p> <ul style="list-style-type: none"> <li>Nutrient use and water quality benchmarks.</li> <li>Adoption of Best Management Practices.</li> </ul> <p>Social:</p> <ul style="list-style-type: none"> <li>Workforce capability.</li> </ul>
<b>3. High-impact return on investment</b>	Economic, environmental and social impact assessments, including cost-benefit analyses.

### KFA measures

Key focus areas	Key performance indicators	Targets
<b>1. Optimally-adapted varieties, plant breeding and release</b>	Rate of genetic gain.	2% genetic gain per annum, as measured by Final Assessment Trial test clone performance.
	Varietal performance.	12% increase in varietal performance over 10 years.
	Use of molecular markers.	SRA's breeding program utilises molecular markers in selection by 2022.
<b>2. Soil health, nutrient management and environmental sustainability</b>	Updated nitrogen management recommendations.	Released by 2019.
	Recommendations for the use of enhanced efficiency fertilisers.	Released by 2021.
	Grower adoption of SIX EASY STEPS.	90% of growers using SIX EASY STEPS by 2022.
<b>3. Pest, disease and weed management</b>	Up-to-date dossiers reflecting current knowledge for high-risk exotic threats.	Reviewed annually.
	Adoption of new and/or improved pest management strategies.	At least 20% of growers adopted new and/or improved pest management strategies within last five years.
	Pest and disease screening of clones from various stages of selection programs, parents and foreign clones.	At least 2,000 clones screened annually.

## Attachment 3 (continued)

Key focus areas	Key performance indicators	Targets
4. Farming systems and harvesting	Productivity impact from adoption of new farming practices and/or technology.	Positive input-output efficiency ratios.
	Adoption of harvesting best practices.	10% increase in harvesting best practice demonstration sites per region per annum.
5. Milling efficiency and technology	Miller performance rating for SRA.	10% increase over five years.
	Miller satisfaction with SRA.	Average rating of at least 4 out of 5 achieved by 2022.
6. Product diversification and value addition	Technical review of diversification opportunities.	Completed by 2019.
	Identification of new opportunities for product diversification.	Completed by 2020.
	Evaluation of platform technologies for fuels, chemical and feed evaluated by 2021.	Completed by 2021.
7. Knowledge and technology transfer and adoption	Adoption of new farming practices and/or technology.	At least 70% of growers producing more than 7,000 tonnes per annum adopted new practices and/or technology over two-year period.
		At least 50% of growers producing less than 7,000 tonnes per annum adopted new practices and/or technology over two-year period.
	Grower and miller satisfaction with SRA adoption and communication activities.	Average rating of 4 out of 5 achieved by 2022.
8. Collaboration and capability development	SRA participation and investment in relevant collaborative and cross-sectoral programs, including the Commonwealth's Rural R&D for Profit Program.	Ongoing contribution and support.
	Scholarships awarded to current and future industry participants.	Maintain a minimum of four postgraduate scholarships and two early-career research awards per annum.
	Short-term placements of students and/or professionals in research or industry positions for industry exposure.	At least two placements per annum.
9. Organisational effectiveness	Investor performance rating for SRA.	Increase from 74% 'high' (2016) to 85% by 2022.
	Economic, social and environmental returns from RD&A investments.	Aggregated research investment benefit-cost ratio of 4:1 or above by 2022.
	Governance performance.	Maintain 100% compliance with statutory and contractual requirements.

## Attachment 4: Abbreviations and acronyms

<b>B</b>	Billion
<b>CCS</b>	Commercial cane sugar
<b>CRRDC</b>	Council of Rural Research and Development Corporations
<b>CSIRO</b>	Commonwealth Scientific and Industrial Research Organisation
<b>Cth</b>	Commonwealth
<b>DAF</b>	Department of Agriculture and Fisheries (Queensland)
<b>EM</b>	Extraneous matter
<b>FATs</b>	Final assessment trials
<b>GM</b>	Genetically-modified
<b>GPS</b>	Global positioning system
<b>HR</b>	Human resources
<b>IP</b>	Intellectual property
<b>IT</b>	Information technology
<b>k</b>	Thousands
<b>KFAs</b>	Key focus areas
<b>KPIs</b>	Key performance indicators
<b>M</b>	Million
<b>Mt</b>	Million tonnes
<b>M&amp;E</b>	Monitoring and evaluation
<b>NIR</b>	Near infrared
<b>NRM</b>	Naturals resources management
<b>NSW</b>	New South Wales
<b>PA</b>	Precision agriculture
<b>QLD</b>	Queensland
<b>R&amp;D</b>	Research and development
<b>RDCs</b>	Research and Development Corporations
<b>RD&amp;A</b>	Research, development and adoption
<b>RD&amp;E</b>	Research, development and extension
<b>RFP</b>	Research Funding Panel
<b>RFU</b>	Research Funding Unit
<b>SFA</b>	Statutory Funding Agreement
<b>SRA</b>	Sugar Research Australia Limited
<b>YCS</b>	Yellow canopy syndrome



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