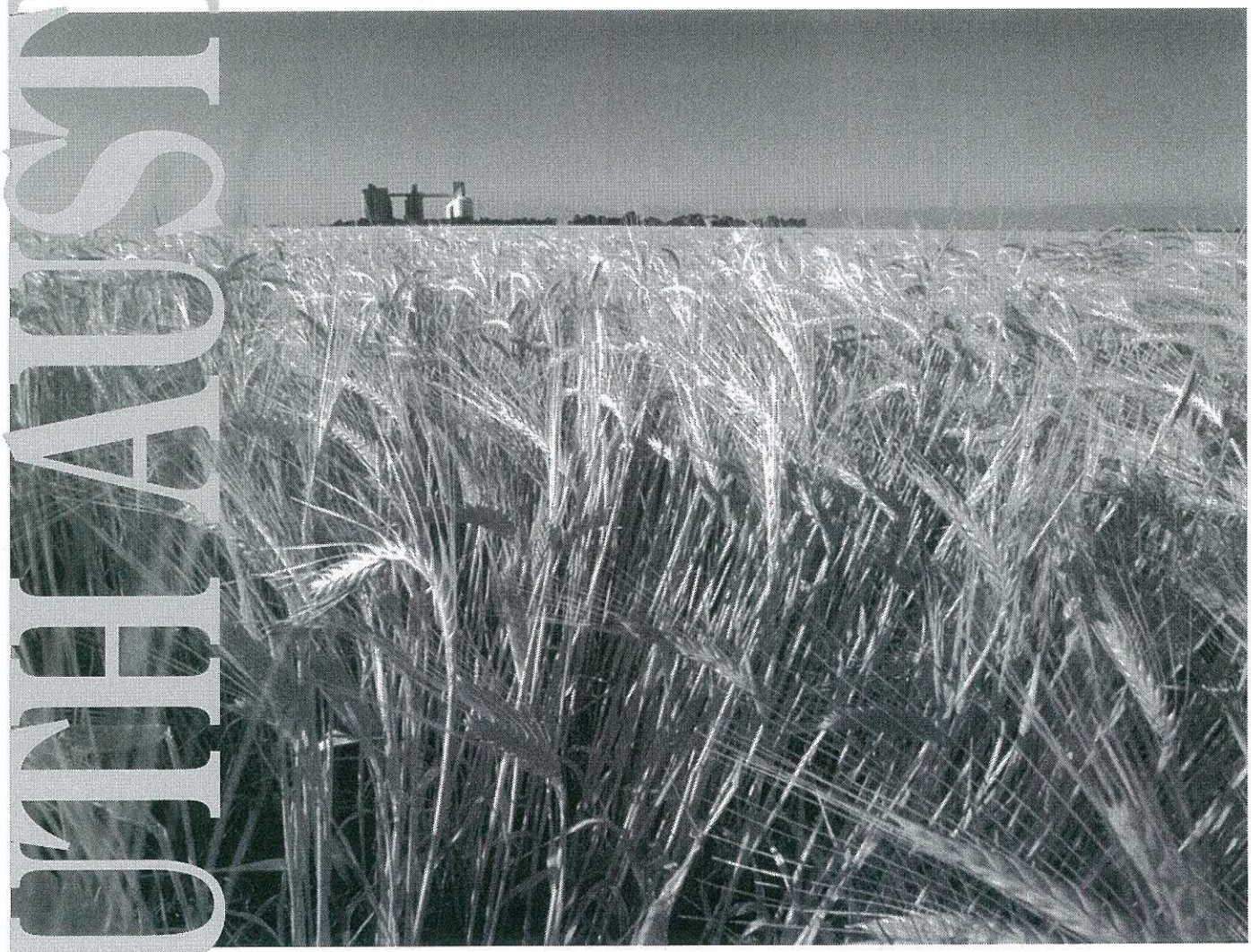
SOUTH AUSTRALIA

SOUTH AUSTRALIAN FIELD CROPS INDUSTRY DEVELOPMENT PLAN

1995 – 2000



PRIMARY INDUSTRIES
SOUTH AUSTRALIA

SARDI
SOUTH AUSTRALIAN
RESEARCH AND
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December 1995

This plan is a working document for consultation and negotiation between PISA/SARDI and other industry stakeholders. That consultation is crucial in assisting PISA/SARDI to progress this strategic plan into operational plans for implementation in 1996/97.

EXECUTIVE SUMMARY

PURPOSE OF THE PLAN

The major purpose of this plan is to:

a examine existing South Australian field crops industry structures and processes (such as marketing arrangements, relevant legislation and so on) and determine their strengths, weaknesses, opportunities and threats. This will enable us to determine the critical issues that enhance or impede the international competitiveness of the South Australian field crops industry, and develop industry strategies and actions to address these key issues; and

b determine and evaluate the major opportunities for sustainable economic development in the South Australian field crops industry, and the role of PISA/SARDI in assisting industry to capture those opportunities. By aligning our resources in PISA/SARDI to reflect the identified opportunities, we will maximise our impact as an Economic Development Agency.

INDUSTRY VISION

To increase the gross value for the South Australian field crops industry and the economy of the state by $150 million over the next five years. This will be achieved by ensuring an internationally competitive, and ecologically sustainable field crops industry in South Australia.

INDUSTRY POSITION

The South Australian field crops industry is heavily dependent on international trade, exporting around 80 per cent of its wheat crop, 75 per cent of its barley crop and smaller percentages of other coarse grains, pulses and oilseeds. The balance is sold for domestic consumption or retained on farm for feed and seed purposes. The international trading environment is thus critical to the economic welfare of South Australia's grain growers and in turn, of all South Australians.

South Australia's share of the world grain trade is between 2 and 3 per cent of the total global trade. Australia is the world's fourth largest exporter of cereal grain, while South Australia is tenth.

Over the ten year period to 1995/96 South Australia has exported on average 3.6 million tonnes of grain per annum, representing a free on board value of $650 million per annum.

The South Australian field crops industry makes a major contribution to the South Australian economy, more than the meat and livestock industries and the wool industry combined. On average over the period from 1990/91 to 1995/96, wheat and barley have contributed 17 per cent of the total value of exports from South Australia to overseas destinations.

KEY INFLUENCING FACTORS

The main influencing factors determining the future contribution of the South Australian field crops industry to economic growth and development will be the volatile international trading environment, the extent of real progress in microeconomic reform in Australia, and the degree of success in addressing underlying resource sustainability issues.

The South Australian field crops industry, in order to effectively compete and capture a substantial share of developing market opportunities, will need to achieve the following:

- improved sustainable yields and product quality to meet specific market requirements;
- an important contribution to sustainable production systems;
- an efficient marketing and distribution system;
- an expanded processing and value-adding activity (both on-farm and off-farm) responding to both domestic and overseas market opportunities;
- growers aware of and more actively involved in marketing aspects;
- quality assurance through all industry sectors;
- market driven R&D, supported by effective information and advisory services;
- well-focused and relevant education and training opportunities for participants in all industry sectors; and
- well established market-focused industry organisations, with effective communication between all industry sectors, and with governments.

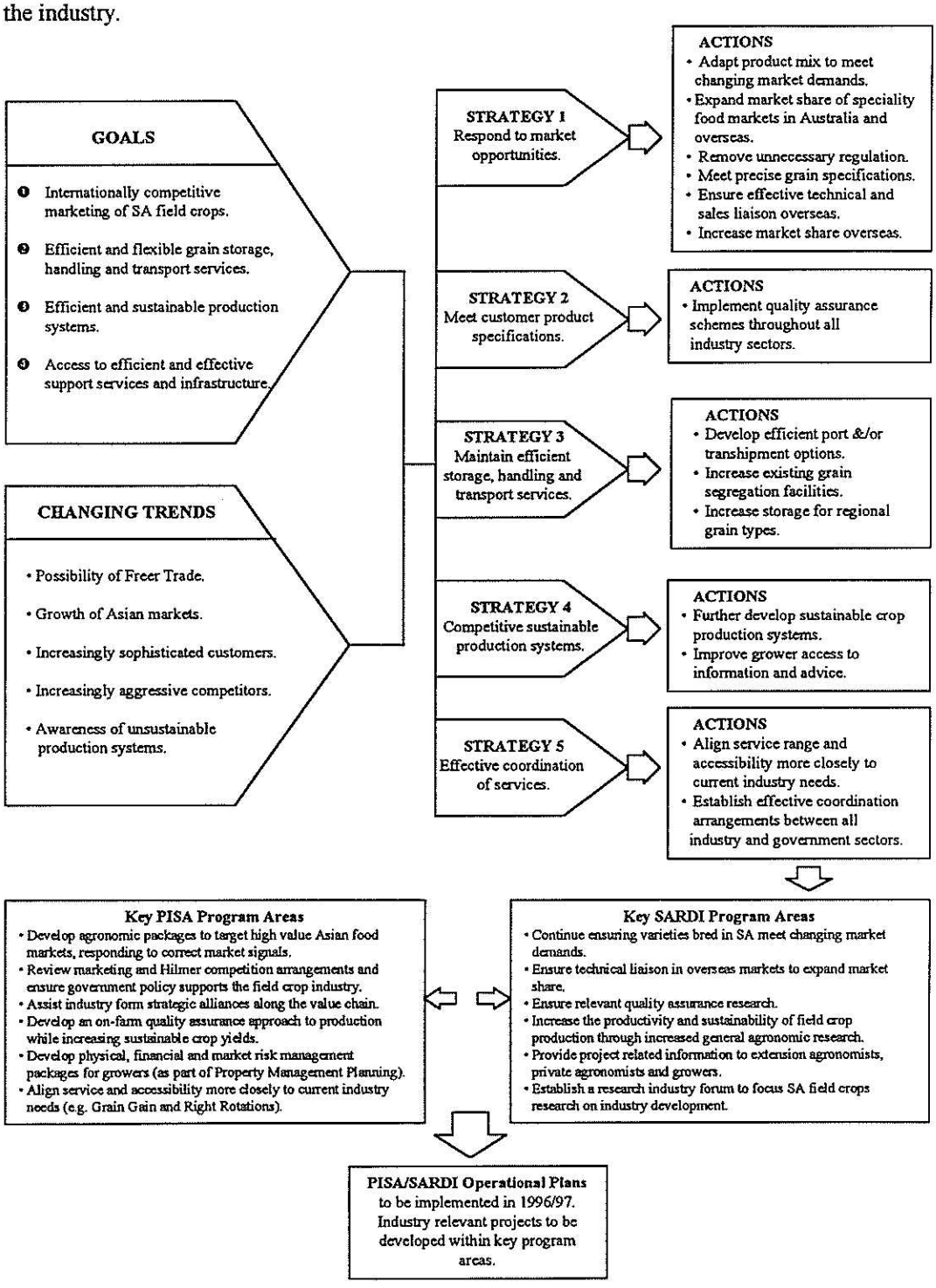
SUSTAINABLE COMPETITIVE ADVANTAGE

Factors identified as providing sources of sustainable competitive advantage for the South Australian field crops industry are:

- closer to major Asian markets than competitors (EU, Canada, US), and therefore SA has access to freight advantages typically around $6-7 per tonne;
- grains well suited to key markets and end products. Specifically, ASW wheat protein levels are suitable for Japanese and Korean white noodles, cake, biscuit and pastry uses, fillers, thickeners, pudding, grocery uses and chapattis;
- low input cost of marginal and semi-marginal land. This would suggest that South Australian grain producers have a competitive strength in the production of unprocessed grain;
- cropping land is close to ports, therefore relatively low freight costs from farm-gate to port, and
- ability to meet customer demands; clean growing environment; flexibility in SA's range of crops; consistent quality (low moisture); and industry commitment.

INDUSTRY GOALS, STRATEGIES AND ACTIONS

The diagram below outlines the industry goals, strategies and actions developed and is supported by discussion in the body of the plan. The diagram provides the South Australian field crops industry with a coherent framework to respond to the changing trends faced by the industry.



OPPORTUNITIES FOR PISA/SARDI TO CONTRIBUTE TO INDUSTRY DEVELOPMENT

This plan has identified key program areas that target specific industry actions developed through the strategic planning process, and offer the greatest potential for PISA/SARDI to contribute to the economic development of the South Australian field crops industry. The diagram above summarises the key program areas which are further discussed within the body of the plan.

Industry relevant projects that will be undertaken by PISA/SARDI within these key program areas will be identified within an annual operational plan which will be implemented at the beginning of the 1996/97 financial year.

SOUTH AUSTRALIAN FIELD CROPS INDUSTRY DEVELOPMENT PLAN

STRATEGIC DIRECTIONS

1 INTRODUCTION

The South Australian Field Crops Industry Development Plan provides a base for the development of operational plans to guide programs to be undertaken by Primary Industries South Australia (PISA) and the South Australian Research and Development Institute (SARDI). It may also provide a guide to other service providers associated with the field crops industry.

The plan has drawn on information from four recent national strategic reports for the Grains Council of Australia plus three supporting SA field crops industry profile documents - the SA cereal grains profile, the SA pulse profile and the SA oilseed profile, as well as industry consultation, as outlined in Appendix 4. All statements made in this plan are supported by discussion in the supporting SA profile documents, which are available from PISA.

This plan focuses upon the SA cereal industry (milling wheat, malting barley, feed grains and other coarse grains), the SA pulse industry (field peas, faba beans, chickpeas, lupins, lentils and vetch) and the SA oilseed industry (canola, safflower, sunflower and linola). For the most part, the broad industry strategies developed relate to all field crops because many of the key issues are common. However, at the PISA/SARDI level of planning, specific projects will be developed for individual crops.

2 THE CHANGING ENVIRONMENT

Important changes have occurred, and will continue to occur, in the operating environment, both domestically and internationally, for South Australia's field crops industry.

Australia is now a relatively small open economy substantially dependent on trading in an ultra competitive international market place. Important changes include financial deregulation, lowering of tariff barriers, deregulation of marketing arrangements, and on-going microeconomic reforms that include policies to promote competition. While the recently completed GATT negotiations look promising, any significant beneficial impact from South Australia's viewpoint is yet to become reality.

Opportunities are developing in near markets, particularly as East Asian economies are experiencing significant growth and increases in living standards. These markets are becoming more sophisticated in their requirements.

The main influencing factors determining the future contribution of the South Australian field crops industry to economic growth and development will be the volatile international trading environment, the extent of real progress in microeconomic reform in Australia, and the degree of success in addressing underlying resource sustainability issues.

The South Australian field crops industry, in order to effectively compete and capture a substantial share of these developing market opportunities, will need to achieve the following:

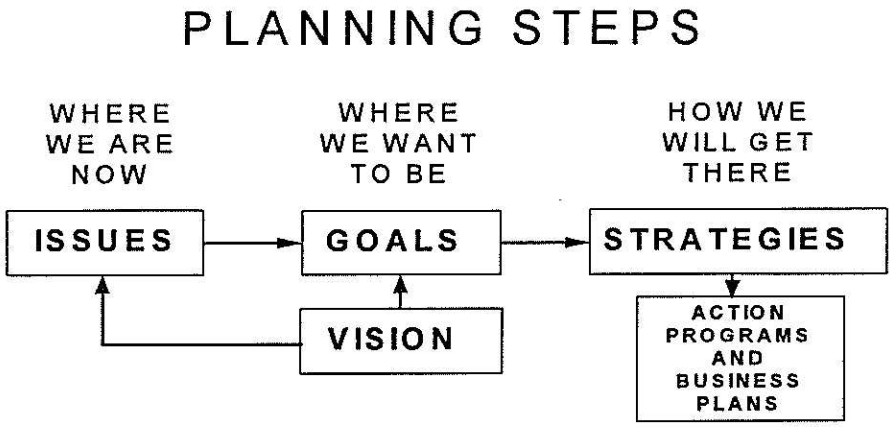
- improved sustainable yields and product quality to meet specific market requirements;
- an important contribution to sustainable production systems;
- an efficient marketing and distribution system;
- an expanded processing and value-adding activity (both on-farm and off-farm) responding to both domestic and overseas market opportunities;
- growers aware of and more actively involved in marketing aspects;
- quality assurance through all industry sectors;
- market driven R&D, supported by effective information and advisory services, public and private;
- well-focused and relevant education and training opportunities for participants in all industry sectors; and
- well established market-focused industry organisations, with effective communication between all industry sectors, and with governments.

3 INDUSTRY STRATEGIC PLANNING

The strategic planning approach taken, as summarised by the chart below, is issues based. The main steps taken in this plan are:

- preparation of a vision statement that sums up the future the South Australian field crops industry wish to work towards, as outlined in Section 4;
- identification of key issues facing the South Australian field crops industry, arising because either its strengths are not being used to seize available opportunities or its future development is threatened by problems or constraints (SWOT analysis can help to identify issues). Appendix 1 and 2 outline SWOT analyses for the SA cereal grain industry and the SA pulses/oilseed industries, respectively;
- establishment of industry goals as statements of what is to be achieved with respect to key issues, as outlined in Section 6; and
- development of industry strategies as statements to guide decisions for industry actions intended to achieve agreed industry goals, as outlined in Section 7 and 8.

With this approach, issues are seen to arise because of a mismatch between where the South Australian field crops industry is today and its vision for the future, or between that vision and the likely state of affairs if no deliberate action is taken to respond to present trends.



4 INDUSTRY VISION

To increase the gross value for the South Australian field crops industry and the economy of the state by $150 million over the next five years. This will be achieved by ensuring an internationally competitive, and ecologically sustainable field crops industry in South Australia.

Factors identified as providing sources of sustainable competitive advantage for the South Australian field crops industry are:

- closer to major Asian markets than competitors (EU, Canada, US), and therefore SA has access to freight advantages typically around $6-7 per tonne;
- grains well suited to key markets and end products. Specifically, ASW wheat protein levels are suitable for Japanese and Korean white noodles, cake, biscuit and pastry uses, fillers, thickeners, pudding, grocery uses and chapattis;
- low input cost of marginal and semi-marginal land. This would suggest that South Australian grain producers have a competitive strength in the production of unprocessed grain;
- cropping land is close to ports, therefore relatively low freight costs from farm-gate to port;
- ability to meet customer demands, clean growing environment, flexibility in SA's range of crops, consistent quality (low moisture), and industry commitment.

5 KEY INDUSTRY ISSUES

Below is a list of key issues (opportunities, constraints and impediments) derived from industry consultation and the SWOT analyses summarised in Attachment 1 (SA cereal grain industry) and Attachment 2 (SA pulse and oilseed industries), and seen as needing to be addressed. They are not listed in order of priority.

5.1 Key Cereal Industry Issues

- support the continuing development of efficient marketing systems providing clear signals that reflect customer requirements;
- the need for maintenance of industry-wide quality assurance schemes from markets through distribution to production;
- respond effectively to expansion of intensive animal feeding industries;
- further develop specialised grain-based products;
- continue efforts to secure improved access to overseas markets;
- support competitive provision of flexible storage, handling and transport services that are responsive to market requirements;
- rationalise use of existing grain segregation facilities;
- support the development of more efficient port and/or trans-shipment options;
- develop more sealed storage facilities, both central and on farm;
- develop storage (including on-farm) for regional grain quality types;
- the development and maintenance of sustainable production systems, including improved crop rotation options for low rainfall areas;
- expand production of grain types to meet specific market requirements; and
- support improved coordination between R&D, growers, industry, and extension/advisory institutions and organisations.

5.2 Key Pulse and Oilseed Industry Issues

- the need for improved promotion to lift the image and profile of the South Australian pulse and oilseed industries;
- the need for improved market intelligence and accurate information flows through the South Australian pulse and oilseed industries;
- identification of and development of market opportunities, both domestic and export;
- increased emphasis on value-adding opportunities, including retail product development;
- implementation of quality assurance schemes through all sectors of the South Australian pulse and oilseed industries;
- development of more flexible and cost efficient storage (including on-farm), handling and transport systems providing required segregation capabilities and quality focused handling;
- strengthened industry organisations and improved communication between all participants in the industries;
- increased extension concentrating on improving grower confidence and agronomic management skills in growing specific pulse or oilseed crops, including information on marketing and profitability in relation to alternative crops and on the contribution to sustainable production systems in South Australia; and

- R&D focusing on improved varieties better adapted to the range of South Australian environments and on the role of pulse and oilseed crops in sustainable production systems.

6 INDUSTRY GOALS

Four industry goals will guide the South Australian field crops industry strategies (next Section), which are summarised below. These goals are statements of what is to be achieved with respect to likely issues identified in Section 5.

1. Internationally competitive marketing (both domestic and export) of South Australian field crops, closely linked through quality assurance to efficient distribution and sustainable production systems.

2. Efficient and flexible grain storage, handling and transport services responsive to market and quality assurance requirements.

3. Efficient and sustainable production systems incorporating pulse and oilseed crops, which are internationally competitive and responsive to market and quality assurance requirements.

4. Access to efficient and effective support services and infrastructure, provided by both private and public sectors, and relevant to the needs of the South Australian field crops industry.

7 KEY INDUSTRY STRATEGIES

The five key strategies below provide the South Australian field crops industry with a coherent framework to respond to the dynamic environment faced by the industry and the key issues identified in Section 5. Figure 1 below shows how these five strategies provide a response to these changing environmental trends.

1. **Identify and respond to market opportunities within Australia and overseas.**

   This strategy aims to improve the identification and responsiveness to capture market opportunities within Australia and overseas.

2. **Ensure maintenance of quality through production, distribution and marketing to meet customer product specifications.**

   This strategy aims to provide a catalyst for the implementation of quality assurance schemes throughout all industry sectors.

3. **Maintain flexible and efficient, storage, handling and transport services.**

   This strategy focuses on improving the efficiency of the storage, handling and transport sector and reducing these costs for the industry.

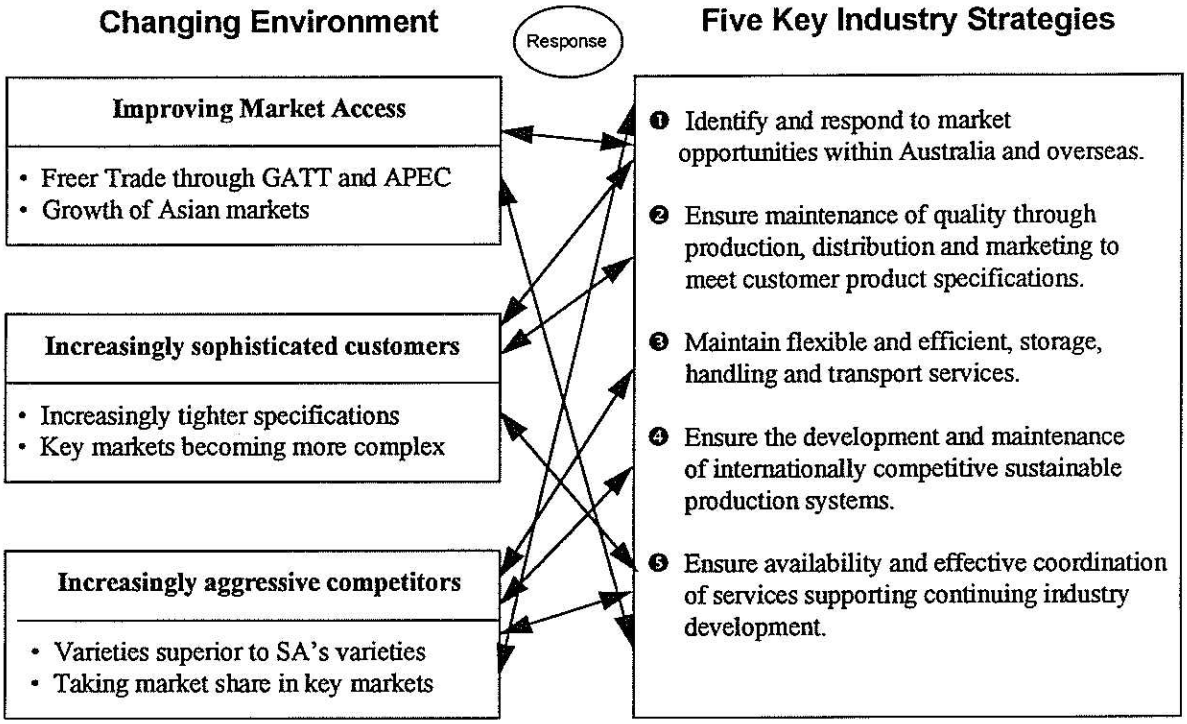
4. **Ensure the development and maintenance of internationally competitive sustainable production systems.**

   This strategy is critical to achieving a sustainable and profitable industry.

5. **Ensure availability and effective coordination of services supporting continuing industry development.**

   This strategy focuses on improving coordination and cooperation within the industry and with governments and is an essential component in achieving the other four strategies above.

Figure 1: The five key strategies responding to the changing environment



8 INDUSTRY ACTIONS

The strategic planning process has derived five key industry strategies, as listed in Section 7. These industry strategies provide the base for decisions to be made regarding appropriate industry actions.

The industry actions below address the identified key issues in Section 5. For each industry action, the primary drivers are identified. Primary drivers are those organisations which have a key interest in, and whose direct involvement would be necessary for, a successful outcome. PISA and SARDI are identified as primary drivers in a number of industry actions. Not being identified as a primary driver does not necessarily imply no involvement in the implementation of a particular industry action.

The industry actions below relate to all field crops, because many of the key issues and industry strategies to address them are common. However, at the PISA/SARDI project level of planning, specific actions will be developed for specific crops with response to the broader industry actions.

INDUSTRY STRATEGY ONE	INDUSTRY ACTIONS
Identify and respond to market opportunities within Australia and overseas.	*INDUSTRY ACTION 1* *Adapt the product mix to meet changing market demands and more specific end-user requirements.* *(Primary Drivers - grain traders [AWB, ABB, Private], manufacturers, millers, Ad. Uni, PISA, SARDI, growers [SAFF, ABA], industry associations).* *INDUSTRY ACTION 2* *Remove unnecessary regulation to capitalise on market opportunities.* *(Primary Drivers - Commonwealth DPIE, growers [NFF, SAFF, ABA], grain traders [AWB, ABB], PISA).* *INDUSTRY ACTION 3* *Maintain downstream investment in processing and manufacturing to target market opportunities.* *(Primary Drivers - manufacturers, millers, grain traders [AWB, ABB], EDA, PISA).* *INDUSTRY ACTION 4* *Develop new markets and expand market share in Australia and overseas markets.* *(Primary Drivers - Industry associations, grain traders [ABB, AWB, Private], growers [SAFF, ABA]).* *INDUSTRY ACTION 5* *Expand market share of speciality food markets in Australia and overseas.* *(Primary Drivers - grain traders [AWB, ABB, Private], manufacturers, millers, Ad. Uni, PISA, growers [SAFF, ABA], industry associations).* *INDUSTRY ACTION 6* *Ensure effective technical and sales liaison in overseas markets to expand market share.* *(Primary Drivers - grain traders [ABB, AWB, Private], maltsters).* *INDUSTRY ACTION 7* *Form strategic alliances with end-users and producers to identify their needs and target research programs.* *(Primary Drivers - growers, grain traders [AWB, ABB, Private], intensive animal industries, PISA, SARDI).*

INDUSTRY STRATEGY TWO	INDUSTRY ACTIONS
Ensure maintenance of quality through production, distribution and marketing to meet customer product specifications. 	*INDUSTRY ACTION 1* *Implement quality assurance schemes throughout all industry sectors.* *(Primary Drivers - growers [SAFF, ABA], storage, handling and transport organisations, processors, manufacturers, Ad. Uni, industry organisations, PISA and SARDI, CSIRO).*

INDUSTRY STRATEGY THREE	INDUSTRY ACTIONS
Maintain flexible and efficient, storage, handling and transport services. 	*INDUSTRY ACTION 1* *Develop efficient port and/or transhipment options.* *(Primary Drivers - SACBH, grain traders [AWB, ABB], Ports Authority, National Rail).* *INDUSTRY ACTION 2* *Remove unnecessary regulation to enable industry to respond to market opportunities.* *(Primary Drivers - Commonwealth DPIE, PISA, SACBH, grain traders[AWB, ABB]).* *INDUSTRY ACTION 3* *Develop efficient grain segregation facilities.* *(Primary Drivers - SACBH, grain traders [AWB, ABB]).* *INDUSTRY ACTION 4* *Increase sealed storage, both central and on-farm and increase storage for regional grain types.* *(Primary Drivers - SACBH, growers [SAFF, ABA]).*

INDUSTRY STRATEGY FOUR	INDUSTRY ACTIONS
Ensure the development and maintenance of internationally competitive sustainable production systems.	*INDUSTRY ACTION 1* *Develop sustainable crop production systems for low rainfall areas and address specific issues affecting sustainable production in medium and high rainfall areas.* *(Primary Drivers - SARDI, Ad. Uni, CSIRO, CRC, PISA, growers [ABA, SAFF]).* *INDUSTRY ACTION 2* *Improve grower access and transfer of information and advice to facilitate effective responses to market requirements.* *(Primary Drivers - Traders [ABB, AWB, private], PISA, private consultants, growers [SAFF, ABA], chemical and fertiliser companies,* SARDI).

INDUSTRY STRATEGY FIVE	INDUSTRY ACTIONS
Ensure availability and effective coordination of services supporting continuing industry development.	*INDUSTRY ACTION 1* *Align service range and accessibility more closely to current industry needs.* *(Primary Drivers - PISA, private consultants, Ad. Uni, SARDI, chemical and fertiliser companies).* *INDUSTRY ACTION 2* *Establish effective coordination and communication arrangements between all industry and government sectors.* *(Primary Drivers - growers [ABA, SAFF], industry organisations and commercial enterprises).*

9 PISA/SARDI ROLE

Given the five key industry strategies and the identified industry actions in Section 8 above, a PISA/SARDI Role Analysis Model (see Attachment 3) is applied at the industry action level to ascertain if a role exists for PISA or SARDI, on the basis of market failure. The nature of the market failure is identified and an assessment made of whether PISA/SARDI could or should be involved.

The outcome of the Role Analysis Model is a number of potential program areas within which proposed projects are to be developed to appropriately respond to particular industry actions. Industry relevant projects will be developed as part of an annual operational plan which will be implemented at the beginning of the 1996/97 financial year. The potential program areas that PISA/SARDI may institute in relation to the Role Analysis Model are linked to the strategic planning process as shown below.

10 POTENTIAL PISA PROGRAM AREAS

10.1 STRATEGY 1

INDUSTRY STRATEGIES	INDUSTRY ACTIONS	POTENTIAL PISA PROGRAM AREAS
Identify and respond to market opportunities within Australia and overseas 	1 Adapt the product mix to meet changing market demands and more specific end-user requirements	Continue to provide timely information to growers on new varieties and changing variety requirements.
	2 Remove unnecessary regulation to capitalise on market opportunities	Review marketing and Hilmer competition arrangements and ensure government policy supports relevant industry participants in identifying and developing market opportunities.
	3 Maintain downstream investment in processing and manufacturing to target market opportunities	Undertake a specific review with industry to ascertain if potential opportunities exist for PISA within this industry action.
	4 Develop new markets and expand market share in Australia and overseas markets	Undertake a specific review with industry (food and feed) to ascertain if potential opportunities exist for PISA within this industry action.
	5 Expand market share of speciality food markets in Australia and overseas	Develop agronomic packages to target high value Asian food markets, responding to clear market signals.
	6 Ensure effective technical and sales liaison in overseas markets to expand market share	No role for PISA.
	7 Form strategic alliances with end users and producers to identify their needs and target research programs	Assist industry in forming strategic alliances along the value chain.

10.2 STRATEGY 2

INDUSTRY STRATEGIES	INDUSTRY ACTIONS	POTENTIAL PISA PROGRAM AREAS
Ensure maintenance of quality through production, distribution and marketing to meet customer product specifications 	1 Implement quality assurance schemes throughout all industry sectors	Develop an on-farm quality assurance approach to production aimed at ensuring high quality standards are maintained. Ensure government policy and relevant acts support industry participants in implementing quality assurance schemes and receiving clear market signals in relation to product quality.

10.3 STRATEGY 3

INDUSTRY STRATEGIES	INDUSTRY ACTIONS	POTENTIAL PISA PROGRAM AREAS
Maintain flexible and efficient storage, handling and transport services 	1 Develop efficient port and/or transhipment options	No role for PISA.
	2 Remove unnecessary regulation to enable industry to respond to market opportunities	Ensure government policy and SACBH Act supports relevant industry participants in increasing the efficiency of the storage, handling and transport sector.
	3 Develop efficient grain segregation facilities	No role for PISA.
	4 Increase sealed storage both central and on-farm and increase storage for regional grain types	Provide effective on-farm storage information packages to growers.

10.4 STRATEGY 4

INDUSTRY STRATEGIES	INDUSTRY ACTIONS	POTENTIAL PISA PROGRAM AREAS
Ensure the development and maintenance of internationally competitive sustainable production systems 	1 Develop sustainable crop production systems for low rainfall areas and address specific issues affecting sustainable production in medium and high rainfall areas	Increase sustainable crop yields and determine viable rotations in low rainfall areas through research and extension. Increase sustainable crop yields in medium and high rainfall cropping areas. Develop physical, financial and market risk management packages for growers. Protect soil resource and improve nutrition management. Provide protection from new and spreading weeds and continue vermin control. Ensure food quality (farm chemicals).
	2 Improve grower access and transfer of information and advice to facilitate effective responses to market requirements	Continue to improve extension services impacting on the field crops industry and encourage the role of private industry. Develop training packages for internal staff and industry.

10.5 STRATEGY 5

INDUSTRY STRATEGIES	INDUSTRY ACTIONS	POTENTIAL PISA PROGRAM AREAS
Ensure availability and effective coordination of services supporting continuing industry development	1 Align service range and accessibility more closely to current industry needs	Align service and accessibility more closely to current industry needs.
	2 Establish effective coordination and communication arrangements between all industry and government sectors	Develop strong linkages with service /research providers - such as DeTAFE (Food Product Development), University of South Australia (Food Science and Technology, Process Engineering, Food Product Development, Quality management, Commodity R & D, etc), University of Adelaide (Chemical/Process Engineering, Biotechnology, etc).Continue input into state committees: – Wheat and Barley Quality Advisory Committee – Pulse South Australia Consultative Committee – Australian Oilseed Federation at a State level – Continue the function of the PISA/SARDI cereal and pulse/oil seed industry development committees

11 POTENTIAL SARDI PROGRAM AREAS

11.1 STRATEGY 1

INDUSTRY STRATEGIES	INDUSTRY ACTIONS	POTENTIAL SARDI PROGRAM AREAS
Identify and respond to market opportunities within Australia and overseas 	1 Adapt the product mix to meet changing market demands and more specific end-user requirements	Continue ensuring varieties bred in South Australia meet changing market demands.
	2 Remove unnecessary regulation to capitalise on market opportunities	No role for SARDI.
	3 Maintain downstream investment in processing and manufacturing to target market opportunities	No role for SARDI.
	4 Develop new markets and expand market share in Australia and overseas markets	No role for SARDI.
	5 Expand market share of speciality food markets in Australia and overseas	No role for SARDI.
	6 Ensure effective technical and sales liaison in overseas markets to expand market share	Ensure technical liaison in overseas markets to expand market share.
	7 Form strategic alliances with end-users and producers to identify their needs and target research programs	No role for SARDI.

11.2 STRATEGY 2

INDUSTRY STRATEGIES	INDUSTRY ACTIONS	POTENTIAL SARDI PROGRAM AREAS
Ensure maintenance of quality through production, distribution and marketing to meet customer product specifications 	1 Implement quality assurance schemes throughout all industry sectors	Ensure relevant quality assurance research.

11.3 STRATEGY 3

INDUSTRY STRATEGIES	INDUSTRY ACTIONS	POTENTIAL SARDI PROGRAM AREAS
Maintain flexible and efficient storage, handling and transport services 	1 Develop efficient port and/or transhipment options	No role for SARDI.
	2 Remove unnecessary regulation to enable industry to respond to market opportunities	No role for SARDI.
	3 Develop efficient grain segregation facilities	No role for SARDI.
	4 Increase sealed storage, both central and on-farm and increase storage for regional grain types	No role for SARDI.

11.4 STRATEGY 4

INDUSTRY STRATEGIES	INDUSTRY ACTIONS	POTENTIAL SARDI PROGRAM AREAS
Ensure the development and maintenance of internationally competitive sustainable production systems 	1 Develop sustainable crop production systems for low rainfall areas and address specific issues affecting sustainable production in medium and high rainfall areas	Increase the productivity and sustainability of field crop production through increased general agronomic research. Continue with existing disease, entomology, weed control/herbicide evaluation programs.
	2 Improve grower access and transfer of information and advice to facilitate effective responses to market requirements	Provide project related information to extension agronomists, private agronomists and growers. Continue with the development of information packages. Develop training packages for internal staff and industry.

11.5 STRATEGY 5

INDUSTRY STRATEGIES	INDUSTRY ACTIONS	POTENTIAL SARDI PROGRAM AREAS
Ensure availability and effective coordination of services supporting continuing industry development 	1 Align service range and accessibility more closely to current industry needs	Establish a research industry forum to focus South Australian field crops research on industry development.
	2 Establish effective coordination and communication arrangements between all industry and government sectors	Continue the function of the PISA/SARDI cereal and pulse/oilseed industry development committees.

12 APPENDICES

APPENDIX 1: CEREAL SWOT ANALYSIS

A SWOT analysis (identifying Strengths, Weaknesses, Opportunities, Threats) has been undertaken to assist in the identification of key issues and the formulation of a vision for the Industry. The outcome of that analysis is summarised below. Items are not listed in any perceived order of priority.

The industries being covered include milling wheat, malting barley, feed grains and other coarse grains. For the most part, the material relates to all cereal grains, because many of the issues and possible broad strategies to address them are common. Where relevant, some crop specific matters have been noted, as have any particular South Australian aspects.

Information has been grouped under four headings:

- marketing: includes processing and off-farm value-adding;
- distribution: includes storage (central and on-farm), handling and transport;
- production: includes on-farm value adding, and
- support services: includes infrastructure, and provision of goods and services by public and private sector organisations for marketing, distribution and production activities.

STRENGTHS

Marketing strengths

- low moisture, bright, clean grain of high quality
  - proven ability to offer durum wheats for pasta manufacture;
- a "green" image;
- nearness to expanding markets in Asia and SE Asia;
- ability to differentiate product (multipurpose grains), and
- established marketing arrangements and service capabilities.

Distribution strengths

- good information on grain availability;
- technically efficient storage and handling system;
- on Australian basis, relatively low land transport costs because of nearness of production to seaboard;
- good capability for segregation (vertical silos), and
- ability to respond rapidly to market requirements and adjust quality by blending.

Production strengths

- demonstrated capacity for structural adjustment in production sector;
- flexible multiple enterprise farming systems (diversification);
- relatively low costs of production;
- growers increasingly responsive to market signals;
- dry season finish increases grain protein;
- relatively low risk of weather damage compared with other States and countries;
- range of quality wheat and barley types available, adapted for SA
  - high yield potential and low disease risk in triticale production

  - useful crop for marginal soils, acidic, sands, poor drainage;
- oats providing strong yield increases and a range of uses
  - useful in crop rotations for disease control (oats), and
- cereal rye suitable for erosion control, cover crop.

Support services strengths

- well established industry structures
  - Advisory Board and Agricultural Bureau activities;
- R&D focused substantially on industry needs, and
- established private and public sector information/advisory services.

WEAKNESSES

Marketing weaknesses

- adverse growing conditions can affect regularity of supply;
- inconsistent supply of high protein wheat;
- inefficiencies in marketing systems because of lack of clear market signals for quality, especially barley (inadequate price differentiation in feed markets) and oats (hay and grain);
- lack of development of manufacturing/processing sector (possible exception barley);
- poorly defined malt and brewing quality priorities for breeding (barley);
- slow rate of development and release of new barley varieties (constrained by maltsters' requirements for field testing)
  - lack of malting variety for sophisticated brewing markets;
- limited market research and development (triticale, cereal rye), and
- small domestic market for milling oats (lack of milling varieties adapted for SA).

Distribution weaknesses

- relatively high port and sea freight costs (number of small ports);
- lack of deep water port (in addition to Port Lincoln);
- inefficiencies in storage and handling system;
- lack of availability of shipping containers (oats);
- constraints on segregation facilities in responding to increasing complexity of market demand, and
- lack of quality on-farm storage.

Production weaknesses

- organic soil nitrogen levels inadequate for high productivity varieties;
- modest rate of average yield increase across SA (though barley better);
- sustainability of farming systems, lack of crop rotation options in low rainfall areas;
- lack of grower education and training, and
- rising costs of inputs.

Support services weaknesses

- decreasing government resources in information/advisory services;
- decreasing government resources in R&D, and
- fragmented R&D and extension institutions
  - limited interaction between private and public sector R&D, extension services.

OPPORTUNITIES

Marketing opportunities

- building on a "cleaner, greener" image;
- development of "organic" (chemical free) products;
- development of specialised products for particular markets, especially in Asia and SE Asia;
- responding to increased usage of grain in Asian markets;
- expansion of existing markets in Middle East countries;
- further development of domestic markets
  - increased downstream processing within Australia;
- possible downstream investment internationally through joint ventures;
- expansion of manufacture of livestock feeds (export and local use);
- meeting requirements for expansion of intensive animal industries and of aquaculture;
- increased use of cereal rye in processing sector;
- development of ethanol production from grain;
- increased fodder trade to Japan, Korea and Taiwan;
- development of "naked" oats for health foods, and
- benefits from implementation of GATT and APEC agreements.

Distribution opportunities

- rationalisation in use of existing segregation facilities;
- benefits from flexible/integrated use of on-farm storage;
- development of sealed storage, both central system and on farm, and
- further development of storage (including on farm) for regional grain quality types.

Production opportunities

- further reduction in chemical usage in improved farming systems
  - better education of growers in chemical usage;
- closer collaboration between growers and marketing organisations in pursuit of market development opportunities;
- improved risk management by growers (financial, seasonal and marketing);
- more effective adoption of new technology and management systems;
- better weed, disease and insect control strategies;
- growing for potential expansion of intensive animal feeding industries, and of aquaculture;
- availability of specific malting barley varieties;
- better adapted varieties of cereal rye, and
- development of varieties resistant to herbicides (early maturing).

Support services opportunities

- further development of private sector information and advisory services;
- better focused R&D breeding programs in relation to markets, and
- possible increased role of private sector in R&D.

THREATS

Marketing threats

- expansion of exports from East European countries;
- development of white wheats by Canada and USA;
- introduction of exotic diseases and insect pests (increasing imports of feed grains);
- slow implementation of GATT reforms;
- slowness of microeconomic reform in Australia (ports, transport, etc);
- problems with credit/payment from some markets (eg. Russia), and
- targeted subsidies by competitors in traditional markets.

Distribution threats

- inadequate options for grain insect control in storage and handling system, and
- difficulty in maintaining quality in storage, handling and transport system.

Production threats

- introduction of exotic diseases and insect pests;
- land degradation;
- environmental impacts of expansion of intensive animal industries, and of aquaculture;
- weed and pest resistance to chemicals;
- possible deregistering of certain chemicals, with no substitutes available, and
- increasing cost of inputs (terms of trade).

Support services threats

- reducing government resources for information/advisory services;
- reducing government resources in R&D;
- problems of access to new plant breeding material (patents), and
- problems with price and supply of machinery parts, and service backup.

APPENDIX 2: PULSE AND OILSEED SWOT ANALYSIS

A SWOT Analysis (identifying Strengths, Weaknesses, Opportunities, Threats) has been undertaken to assist in the identification of key issues and of the formulation of a vision for the industry. The outcome of that analysis is summarised below. Items are not listed in any perceived order of priority.

For the most part, the material relates to both industries but, where relevant, some specific industry or crop matters have been noted, as have any particular South Australian aspects.

Information has been grouped under four headings:

- marketing: includes processing and off-farm value-adding;
- distribution: includes storage (central and on-farm), handling and transport;
- production: includes on-farm value adding; and
- support services: includes infrastructure, and provision of goods and services by public and private sector organisations for marketing, distribution and production activities.

STRENGTHS

Marketing strengths

- "clean and green" product image;
- generally favourable nutritional characteristics;
- competitive marketing systems;
- world competitive crushing technology (oilseeds);
- comparable refining/packaging technology and productivity (oilseeds);
- high proportion currently processed within Australia (oilseeds);
- good brand image and promotion (oilseeds), and
- good oil and meal quality (oilseeds).

Distribution strengths

- technically efficient central grain storage and handling system, and
- relatively low land transport costs, with production close to seaboard.

Production strengths

- important contributions to sustainable production systems, and
- provide diversity in farm enterprises and operations

Support services strengths

- reasonable availability of R&D support and extension activity, and
- industry organisations established and committed to development.

WEAKNESSES

Marketing weaknesses

- low industry profile, limited promotion;
- lack of quality assurance schemes;

- limited awareness of export opportunities
  - emphasis to date on Middle East markets, little yet in SE Asia;
- lack of specific information on end-user specifications;
- lack of specific nutritional information for markets
  - "internationalisation" of eating habits reducing traditional markets (pulses)
  - Australian per caput consumption relatively low (pulses);
- lack of reliability in basic commodity markets (pulses);
- lack of supply continuity and critical mass (pulses) leading to
  - loss of market confidence
  - reluctance to invest in manufacturing;
- low yield in processing and splitting (pulses), and
- inefficiencies in crushing sector due to low volumes (oilseeds).

Distribution weaknesses

- inefficiencies in storage and handling;
- relatively high port and sea freight costs, and
- limited capacity to segregate quality types and handle for quality requirements
  - wide range of crops and small volumes of many present complex storage demands (especially pulses).

Production weaknesses

- variability in production and quality
  - canola a possible exception;
- poor adaptation of varieties for SA environments;
- lack of market knowledge and sound interpretation of market information by growers;
- lack of grower confidence and acceptance, treat as short term opportunity crops, and
- high risk of land degradation in some areas of SA.

Support services weaknesses

- extension resources inadequate and focus could be improved;
- poor communication of R&D needs, and
- poor communication between industry participants.

OPPORTUNITIES

Marketing opportunities

- improved market development and market intelligence;
- improved promotion to achieve better customer perception and nutrition awareness;
- establish quality assurance in all industry sectors;
- capitalise on growth in demand
  - import replacement
  - health trends
  - intensive livestock and aquaculture
  - new Asian and East Asian markets
  - positive outcomes from GATT and APEC, and
- expansion and development of value-added products.

Distribution opportunities

- development of a more flexible, integrated (including on-farm) storage and handling system.

Production opportunities

- increased research and extension to improve yield and quality within sustainable production systems
  - variety improvement and adaptation
  - agronomic management;
- development of new oilseed crops, and
- better information to growers on relative profitability of oilseeds, pulses and alternative crops.

Support services opportunities

- more efficient linkages in developing R&D priorities, and
- improved industry coordination and communication.

THREATS

Marketing threats

- increased production by overseas competition;
- poor product quality, lack of quality assurance;
- chemical residues in products;
- imported processed oil (oilseeds);
- high processing costs (oilseeds), and
- inability to pay of some importing countries (pulses).

Distribution threats

- failure to achieve adequate segregation and product integrity in storage and handling system.

Production threats

- production and price uncertainty, lack of grower confidence;
- land degradation, particularly for pulses (SA);
- herbicide resistant weeds;
- chemical residues in soil;
- introduction of exotic diseases and pests, and
- competition for land with other uses.

Support services threats

- continued ineffective communication within all industries;
- reduced public resources in R&D and extension, and
- inadequate support for resource protection.

APPENDIX 3: PISA/SARDI ROLE ANALYSIS MODEL

The Role Analysis Model is aimed at linking PISA/SARDI programs, and projects/activities to industry actions. These industry actions are aimed at addressing priority strategies derived from the industry strategic planning process.

The strategic planning process for the development of the field crops industry has derived five key industry strategies which with associated industry actions address the identified key issues (opportunities, constraints, impediments). For each industry action, the primary drivers are identified. Primary drivers are those organisations which have a key interest in and from which direct involvement would be necessary for a successful outcome. PISA and SARDI are identified as primary drivers in a number of industry actions. Not being identified as a primary driver does not necessarily imply no involvement in the implementation of a particular industry action.

Given the five key industry strategies and the identified industry actions, the Role Analysis Model (see page 3 of this attachment) is then applied as follows:

Step 1: Identify industry actions of potential relevance to PISA and SARDI.

This includes industry actions for which PISA has been identified as a primary driver. It also includes an examination of other industry actions to which PISA may potentially contribute in some form.

SARDI has also been identified as a primary driver for those industry actions which involve R&D and for which SARDI has both the charter and research capabilities.

Step 2: Rationale for involvement of PISA and SARDI.

Any such rationale for involvement of PISA/SARDI, using State funds, must be justified on the basis of market failure. The nature of the market failure should be identified and an assessment made of whether PISA/SARDI could or should be involved.

Step 3: Nature of PISA or SARDI Role.

The nature of the role of PISA or SARDI; leading (primary driver), facilitator or supporter, should be determined. A leading role would involve being an active participant and having a responsibility for ensuring service delivery and outputs are achieved. A facilitating role would be one of acting as a catalyst, bringing together relevant parties to implement actions. Acting in a support role would mean being one of a number of interested parties, perhaps providing some relevant expertise or information.

At the same time, a preliminary assessment should be made of likely source/s of funding and whether the services could or should be provided by PISA or SARDI staff, perhaps jointly with other organisations. Other options should also be considered such as funding the delivery of services by the private sector (out-sourcing) or exploring the possibility that the service could be both funded and provided by industry.

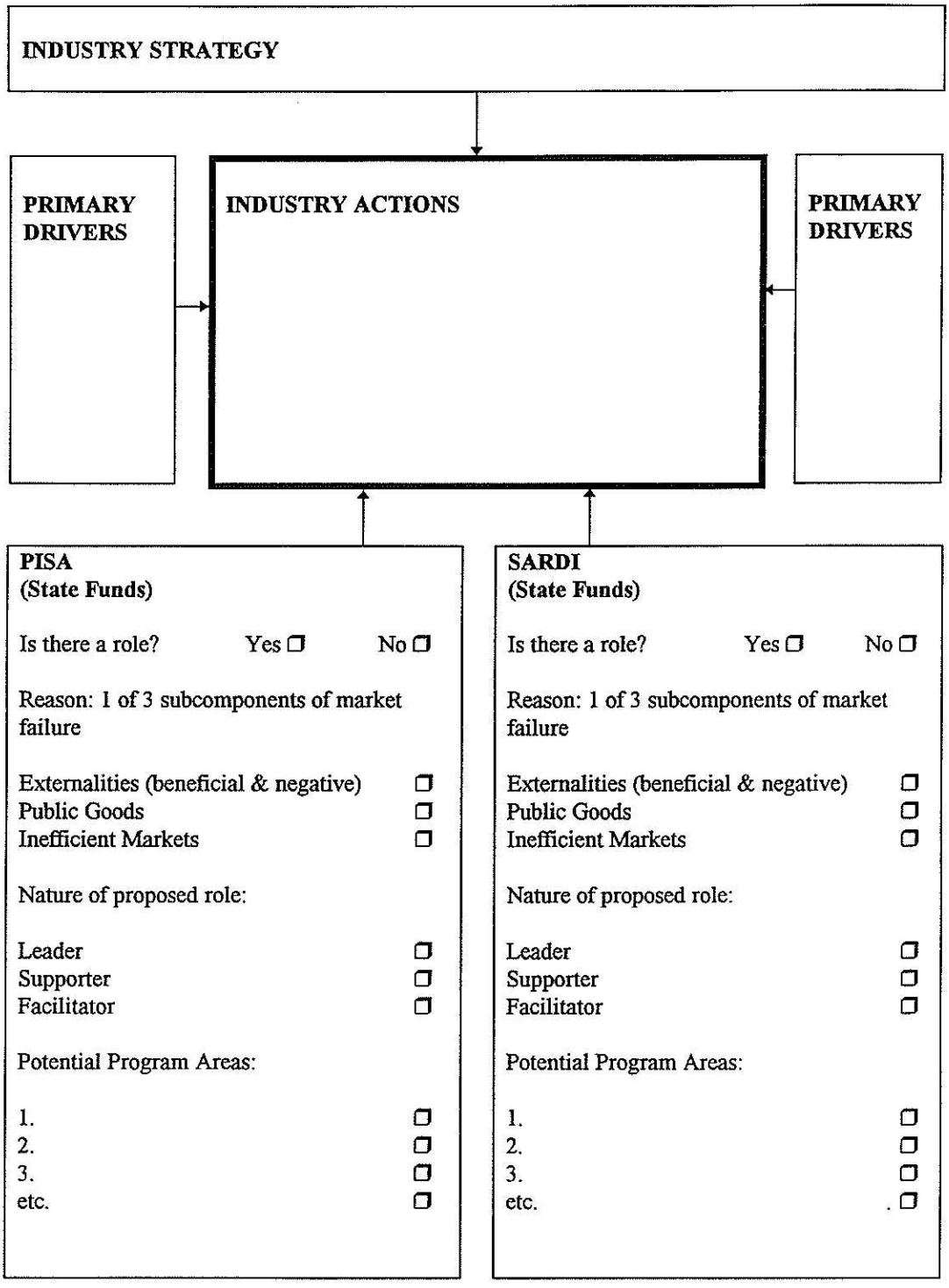
Step 4: Identify Potential Program Areas for PISA and SARDI.

A number of potential program areas can be identified within which proposed projects and activities can be developed to appropriately respond to particular industry actions.

SARDI has a defined priority setting and resources allocation process which ultimately involves the SARDI Board and Minister for Primary Industries. The identified potential program areas based on key industry strategies and industry actions can therefore be incorporated into the SARDI program and project planning process.

Step 5: Evaluation of proposed Projects/Activities for PISA

It is at the level of projects/activities that benefit-cost (B/C) analysis can assist in priority setting and resource allocation decisions. Proposed projects/activities should be specified in detail, including objectives, milestones, timing and resources required with an estimate of the flow of benefits.


INDUSTRY STRATEGY
PRIMARY DRIVERS
INDUSTRY ACTIONS
PRIMARY DRIVERS
PISA
(State Funds)
Is there a role? Yes ☐ No ☐
Reason: 1 of 3 subcomponents of market failure
Externalities (beneficial & negative) ☐
Public Goods ☐
Inefficient Markets ☐
Nature of proposed role:
Leader ☐
Supporter ☐
Facilitator ☐
Potential Program Areas:
1. ☐
2. ☐
3. ☐
etc. ☐
SARDI
(State Funds)
Is there a role? Yes ☐ No ☐
Reason: 1 of 3 subcomponents of market failure
Externalities (beneficial & negative) ☐
Public Goods ☐
Inefficient Markets ☐
Nature of proposed role:
Leader ☐
Supporter ☐
Facilitator ☐
Potential Program Areas:
1. ☐
2. ☐
3. ☐
etc. ☐

APPENDIX 4: INDIVIDUALS CONTACTED DURING THE PLAN'S DEVELOPMENT

The following individuals either participated in one or more of three industry workshops held during the planning process, or received and/or responded to draft working papers.

Name	Organisation/Company	Name	Organisation/Company
Deane Crabb	ABA	Jay Cummins	PISA
Ray Kernick	ABA	John Hannay	PISA
Barry Marshall	ABB	Mark Stanley	PISA
Brian Banbury	ABB	Steve Hogg	PISA
Lyndon Asser	ABB	Tom Yeatman	PISA
Michael Iwaniw	ABB	Trevor Dillon	PISA
Bill Gill	Adelaide Malting Co	Wayne Hawthorne	PISA
Peter Langridge	Adelaide University	Kevin Boyce	PISA
Glenn McDonald	Adelaide University	Bill Davies	PISA
Steve Powles	Adelaide University	Brian Hansen	PISA
Andrew Barr	Adelaide University	Michael Thomas	PISA
Bill Bellotti	Adelaide University	Paul Moran	PISA
Cath Cooper	Adelaide University	John Burley	PISA
Geoff Fincher	Adelaide University	Peter Bulman	PISA
Gil Hollamby	Adelaide University	Richard Payne	PISA
Jeff Paull	Adelaide University	Garry Oborne	PISA
Ron Knight	Adelaide University	John Mrowka	Pivot Fertilisers
Tony Rathjen	Adelaide University	Dick Tarlinton	Pulse Australia
David Moore	Aust Combined Exports	Peter Faddy	Quality Bakers Australia
Wal Cook	Aust. Field Crop Society	Robin Reid	Ridley Agriproducts
Chris Heinjus	AWB	John Spragg	Ridley Agriproducts
David Thomas	AWB	John Hood	SA Brewing Company
Damian Taylor	Bakers Delight SA	Virginia Redden	SA University
Trudy Huczko	Bank SA	Goran Bergquist	SACBH
Ian Dalgliesh	Cargill	Brian Eime	SAFF
Jim McColl	Consultant	Dene Fuss	SAFF
John Carey	Consultant	Ian Desborough	SAFF
Malcolm Bartholmaeus	Consultant	Jeff Arney	SAFF
Ann Hamblin	Coop Research Centre	John Lush	SAFF
Nigel Wilhelm	CRC	Morris Crotti	San Remo Macaroni
Sue Saunders	CSIRO	Alan Dube	SARDI
Alex Wang	CSIRO	Don Plowman	SARDI
Graeme McIntosh	CSIRO	Hugh Wallwork	SARDI
Peter Clifton	CSIRO	Ian Black	SARDI
Tom Murrell	Defiance Milling Co	Jim Egan	SARDI
Thor Cruse	Du Pont	Mark Ramsay	SARDI
John Cambridge	EDA	Peter Burridge	SARDI
Ric Mollison	Elders Ltd	Peter Gibson	SARDI
Trevor Day	GCA	Rade Matic	SARDI
Tom Cootes	GRDC	Rob Lewis	SARDI
David Rust	Hi-Fert	Rob van Barneveld	SARDI
Jeff Voigt	IAMA	Rob Wheeler	SARDI
Ian Fraser	Joe White Maltings	Steve Jefferies	SARDI
Denis Johnson	Johnson and Sons	Trent Potter	SARDI
Mark Laucke	Laucke Mills	Sue Pelham	SARDI
Hans Hol	Lief Grain	John Keesing	SARDI
Huck Sheppard	NASSA	Pat Wicks	Seedex
Arie Mulders	National Assoc Sust Ag	Ian Cox	Vivco Distribution
David Verner	Pea and Grain Exporters	John Secomb	Wesfarmers Dalgety
Hugh McClelland	PISA	Tony de Vries	Weston Milling

APPENDIX 5: ACRONYMS AND ABBREVIATIONS

ABA	Advisory Board of Agriculture
ABB	Australian Barley Board
ABS	Australian Bureau of Statistics
APEC	Asian Pacific Economic Cooperative
ASW	Australian Standard White
AWB	Australian Wheat Board
B/C	Benefit Cost Analysis
DPIE	Department of Primary Industries and Energy
EDA	Economic Development Authority
EU	European Union
FOB	Free on Board
GATT	General Agreement on Tariffs and Trade
GCA	Grains Council of Australia
GDP	Gross Domestic Product
GRDC	Grains Research and Development Corporation
IDP	Industry Development Plan
NFF	National Farmers Federation
PISA	Primary Industries South Australia
R&D	Research and Development
SA	South Australia
SACBH	South Australian Cooperative Bulk Handling
SAFF	South Australian Farmers Federation
SARDI	South Australian Research and Development Institute
SWOT	Strengths, Weaknesses, Opportunities and Threats
UR	Uruguay Round