Submission by the Australasia-Pacific Extension Network

To the Standing Committee on Agriculture, Fisheries and Forestry

Re: Inquiry into Rural Skills Training and Research

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1.   Introduction

As issues and challenges faced by agricultural sectors in Australia have changed over recent years, we need to rethink and adapt our ideas about the role and meaning of 'agricultural extension'. Agricultural extension's challenges directly relate to the challenges faced by farmers and rural communities as well as those faced by the very organisations that seek outcomes through extension services.

Extension is simply a service or system targeting the facilitation of change in rural and regional people and communities. A range of definitions for extension have been proposed through the years, each with their own advancement in context and approach to facilitating change. A key learning is that each definition is a product of its time (Leeuwis 2004). Australia is faced with the challenge currently of redefining (agricultural) Extension to meet current challenges and new and different outcomes from the past.

What we do know is that Extension seeks outcomes of 'capacity building' in individuals and communities (Coutts and Roberts 2003). Also that the Purpose of Extension (from the 2004 National Extension Policy Forum) is to build this capacity to: 'Protect, maintain and/or enhance landscapes, lifestyles and livelihoods for the benefit of all Australians in urban, rural and regional places'.

APEN recommends however, that for this purpose to be achieved extension requires far better leadership and coordination than currently exists (at all levels: national, state, regional, local, government, industry, community and the private sector). The Australasia-Pacific Extension Network (APEN) is the peak body for extension practitioners and people whose job involves facilitating change in regional communities in Australia (see Appendix 1 for more detail on APEN's role). With approximately 500 members, APEN has strong representation from extension practitioners currently working in rural and regional communities. APEN recognises that the Australian extension system, comprising state government extension services, statutory authorities (eg. catchment management associations), non- statutory bodies (eg. regional bodies), community groups (eg. Landcare), industry (eg. cotton) and private providers (among others), are operating using a wide variety of service delivery models to facilitate change processes in agricultural and rural communities.

APEN supports that many productive and successful outcomes are being achieved through extension processes in isolated and minimally connected programs. The extension system as a whole however, requires much more effective integration and coordination to achieve effective outcomes and synergies for the many stakeholders involved in managing sustainable production and natural resource systems.

The following sections expand on the terms of reference for this inquiry.

2.   Extension statistics – the current situation

The availability and adequacy of education and research services in the agriculture sector, including access to vocational training and pathways from vocational education and training to tertiary education and work.

Separating agricultural extension from other forms of extension in operation across Australia is problematic. Extension/education projects cannot be considered in isolation to other extension/ education projects occurring in a community, industry or issue context. Agricultural extension can be considered as having a specific role, however if it is not considered along with other forms of extension, we risk perpetuating the issues and inefficiencies separate extension service delivery programs have been plagued with for some time.

In this context Coutts et al (2004) provide that overall, extension in Australia continues to involve a large number of people and programs in its many forms. While the Australian Government has become a major funder of extension activities across the country, State Governments have also remained significant players.

Extension is a significant activity across rural and regional Australia in both the public and private sectors involving thousands of extension workers/facilitators and tens of thousands of landholders and community members (Coutts et al. 2004).

As for quantifying the extension system Coutts et al (2004) report:
'There are in excess of 4000 full-time extension positions across Australia (2748 in the public, or public/community, sectors), or possibly half that number again considering that many extension practitioners work in part-time positions. Most of the public sector extension work and much of the private is based on developing and delivering projects'. For current extension delivery models please see Appendix 2.

The linkages amongst extension and other vocational education and training providers and private consultants are patchy and not well understood. Further applied investigation is required to better quantify the range of linkages and further classify their nature. Coutts et al's (2004) figure of 4000 may in fact be significantly higher if VET and private providers are also considered.

3.   Extension delivery capacity
The skills needs of agricultural industries in Australia, including the expertise and capacity of industries to specify the skills-sets required for training, and the extent to which vocational training meets the needs of rural industries.

The report 'Rural extension training courses: a comparative evaluation' by Warren Straw, Arthur Stubbs and Peter Mullaney, published by RIRDC 1996, covers the skills required by extension operatives. While this needs to be updated to include some of the advances in information technology, the essence of the report is still valid.

There has been a strong swing in skill sets of many extension workers from technical knowledge to process expertise. This has allowed professionals to move between industries with greater ease.

4.   Weak links – poor coordination and collaboration
The provision of extension and advisory services to agricultural industries, including links and coordination between education, research and extension.

A key issue that APEN has recognised over recent years is that political, funding and infrastructural support for leadership and coordination within the increasingly diverse extension system is lacking in Australia.

As introduced above, linkages amongst education, research and extension practitioners across Australia are limited, and in many communities are almost non-existent. A complex range of service delivery options exist for facilitating change processes in many rural and region communities. Likewise, an equally complex (and varying) range of service providers or deliverers are also available for delivering these services. This creates problems of overlapping services in some sectors or locations and large gaps in others, as well as patchy correspondence between government priorities, societal needs, market directions and cross-sectoral services. Advantages to be achieved through improved coordination and collaboration are enormous amongst: agricultural extension practitioners with natural resource management extension practitioners, community group facilitators, health industry communication and education officers; community development workers; vocational education and training deliverers; rural industry extension practitioners; etc.

A range of mechanisms may be used to improve communication and meaningful exchanges within this system. For example, current technology provides increased opportunities for networking and connectedness amongst the 'extension network' than ever before. The challenge is then to refocus and build capacity within the extension system.

APEN has instigated a number of activities to address this coordination and leadership issue including:
1.   National Extension Policy Workshop in 2003
2.   National Extension Policy Forum in 2004
3.   Institution of the State Extension Leaders Network in 2005
4.   Planning for a National Extension Policy Summit in 2006

The National Extension Policy Forum held in July 2004 identified the pressing need for a National Extension Framework to lead to more effective outcomes through cross-organisational collaboration, innovation in service delivery and better links and coordination between education, research and extension.

National Extension Framework for Australia
The (draft) National Extension Framework for Australia (NEFA) progressed at the 2004 Forum contained the following elements:
–   Why an extension framework and what is in it?
–   Extension infrastructure
–   Principles
–   Values
–   Professional support (fostering the discipline/profession)
–   Value proposition (the niche)
–   Roles and responsibilities
–   Funding
–   Choosing the right instrument
–   Continuous improvement – monitoring and evaluation

Please see Appendix 3 for a more detailed outline of the draft framework.

This framework has been initiated by APEN in collaboration with government, industry, community and private providers. While there is considerable support for the value of a National Extension Framework and much 'voluntary' contribution has progressed this draft, it lacks the political, financial and infrastructural support to further develop and implement it throughout rural and regional Australia.

APEN recommends that this critical issue needs to be addressed by a range of stakeholders, with political and financial support from the Australian Government.

5.   Government's role in the extension system
The role of the Australian government in supporting education, research and advisory programs to support the viability and sustainability of Australian agriculture.

APEN recommends that the Australian and State Governments need to collaborate and take a leadership role in the development of a National Extension Framework, particularly in relation to 'public good' issues and areas of 'market failure'. This leadership role involves communication of explicit political endorsement and support for the development, implementation and adaptive management of the framework.

In providing leadership and support for the development of a National Framework for Extension, the Australian Government can ensure that the following issues are addressed to improve the Australian Extension System:

a. Extension policy in Australia largely moribund and non-functional

Extension policy can be considered in two ways. Firstly, the more widely recognised extension policy position is one of instrumentality. Extension as a policy instrument working by itself or in combination with other instruments to achieve desired ends (as per Dovers 2001[1] - please see Appendix 4). On the other hand, extension can be viewed as a support apparatus for other policy instruments.

Extension policy by both of these conceptions (and others) however, is struggling to maintain legitimacy across Australia. As government agencies retreat from some forms of agricultural extension in line with competitive neutrality and neoliberal ideals and increased private-sector delivery develops, a sense of uncertainty prevails in terms of the role of extension policy. This uncertainty has lead to a policy environment that is quite limiting regarding the repositioning of effective extension policy to deal with these changed circumstances as well as an increased focus on natural resource management and environmental sustainability. Leadership is non-existent for facilitating action to reconsider extension policy in Australia. Extension policy needs to proactively deliver on the government's National Priorities and Rural Research Priorities that reflect changed circumstances for rural and regional communities. Key targets requiring improved extension policy are represented in Appendix 5.

b. Purchaser-provider model has divided RD&E

The purchaser and provider functions in Australian extension systems are largely separated. Many state departments see potential conflicts-of-interest arise when the same party decides what activities are to be funded (purchaser) and then performs the task (provider). The suggestion is that when these functions are separate purchasers make independent non-biased decisions about where they will get the greatest return on investment. Also, providers become more competitive and innovative. It removes the perception that providers continued historical funding because they 'want to' rather than in response to stakeholder needs (thereby preventing unjustifiably optimistic views of that activity). Separating purchaser and provider roles however, has created competition between entities within the same department for limited funding, with project managers ultimately less able to control or prioritise funds. This has resulted in the division of extension and applied research into separate Departmental sections. Many stakeholders question the sustainability and efficiency of these arrangements due to the rapid escalation of transaction costs under Funder-Purchaser-Provider systems.

c. Privatisation of extension has compromised public good outcomes

Extension agencies in Australia have trended toward cost-recovery, fee-for-service, and privatisation of extension services. Gradual policy change in the 1990's saw state departments subject to processes of review and re-structuring that affected the nature of service provision. The trend towards privatisation seems to have also been influenced by:
a.   the declining relative importance of agriculture in the economy;
b.   budget pressures on governments, as well as;
c.   the increasing influence of economists' theories and prescriptions.

State agencies have frantically investigated ways of enhancing income or shifting functions to the private sector. While there has been little resistance to full-recovery pricing for training sessions or learning aides, there are few examples of successful fee-for-service options. It seems that landholders facing the decision of paying comparable rates for public agency advice or private consultants, typically favour the private sector. As agencies privatise services mixed results are occurring.

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[1] Dovers, S., 2001, Processes and institutions for resource and environmental management: Australian experiences, A Land and Water Australia Research Project under the Social and Institutional Research Program, http://www.lwa.gov.au/downloads/final_reports/ANU17.pdf

A further down-side to privatisation and competitive funding for information provision are impediments to research capability and information flows. This is manifest through information overload, reduced information sharing between researchers and providers, weakened research-extension feedback links from landholders, and a disconnect between commercial priorities and 'public-good' social, economic and environmental outcomes.

d. The public - private delivery pendulum has swung too far

State Governments have trended towards a reduction in publicly supported extension resources, with corresponding increases in external funding. A key rationale is that individuals profiting from public advisory services should pay for them and participatory approaches to collectively solving issues and generating funding to support related activities are in the interests of society. Some landholder (stakeholder) groups feel there are advantages associated with not being as dependent on public agencies. Murray (1999) found however that some landholders feel that extension (Government) is abdicating its responsibilities (eg. non-biased information).

Coutts et al (2004) observe the private sector operating in the same sphere as public extension but continuing to expand, providing individual technical advice as well as undertaking interactive group-based activities. In some cases however, decreases in public funding resulted in State Government extension staff reductions below a "critical mass" with many extension programs being largely non-functional. While this has led to strategies for seeking funding through cost-recovery, fee-for-service, and external sources however, the requirement of extension projects to align with funder priorities may be inconsistent with State objectives (Murray 1999).

Marsh and Pannel (2000) report that new Government policies have been driving moves to private sector extension delivery rather than traditional public sector provision. While these changes reflect trends towards privatisation of services world-wide, these authors feel they do not address problems of 'public-good'.

'Despite the cutback in services provided by public agencies, they are all still providers of extension services, although the services provided have changed and in some cases they are moving rapidly towards becoming co-ordinators of extension service providers. Most state agencies are still generators of information through their research and have responsibilities for the dissemination of that information. Conflicts now exist between the demands to 'get information out' and to recover costs of information seen to have 'private-good characteristics' ' (Marsh and Pannell 2000).

On balance, Marsh and Pannell (2000) raise concerns (based on overseas experiences) that State governments may 'over-privatise' extension, neglecting important issues not picked up by the private sector.

e. Extension practitioner issues debilitate capacity to facilitate change

Extension staff recruitment and retention seems generally to be an endemic problem in Australia. Extension staff appear to have morale problems with reasons including instability of short term funding, relatively low entry-level and senior pay scales, continuous change in organizational direction, and general instability. It appears that public extension programs are training grounds for industry, where university graduates gain experience and leave after 2-5 years for a 'better' private sector job. This causes complications with continuity and delivery of long-term extension programs (eg. Landcare and Property Management Planning) (Murray 1999).

Also, the move away from one-on-one extension resulted in recognition that learning tools were needed to fill the gap. Extension agencies now aim to produce high-quality, user-friendly learning materials. Primary components of extension programs are often now computer software, brochures and other learning aids (Murray 1999). This further broadens the traditional competencies required by extension practitioners.

f. Poor integration of extension with other disciplines has compromised outcomes

Historically in Australia, some extension programs have had a degree of integration with applied research, but following the purchaser-provider separation has also been a division of extension and applied research functions. In some states where structural separation has occurred, this has inevitably lead to decreased communications between research and extension staff, redundancies, and other obstacles to effective interactions. Some research agencies "reinvented" ways to promote and communicate their research. By contrast with other States, Queensland extension programs have managed to maintain strong linkages and integration between research and extension (Murray 1999) (Note: However this needs continual redefinition) .

Murray (1999) also identified that Australia has limited or non-existent relationships between extension/applied research and universities (as compared with American systems at least). There are few Australian examples of institutional collaborative efforts involving extension or applied research providers and universities. (Note: The Centre for Rural and Regional Innovation – Queensland (CRRI-Q) is a noteworthy exception).

g. Extension and politics – compromising value for users

Murray (1999) reports overall that the political system's use of extension (in short priority cycles) has decreased its strategic relevance to 'clients', but privatisation is targeted for stabilising this. He found that Australian extension programs are used as political instruments for state departments and include regulatory and other ancillary responsibilities. This arrangement also provides potential for politicians to routinely use extension for their own agendas. This appears (to extension staff), to be at the expense of perceived higher priority activities. Depending on which political party is in power, state agency priorities may change, making medium and long-term priority setting problematic (Murray 1999).

Furthermore, Murray (1999) identified barriers to gaining the trust and respect of clients when extension staff are functioning with two, potentially incompatible, duties - educator and regulator. This has further fuelled disregard or apathy from landholders and/or industry toward public extension and applied research. As both quantity and quality of services diminish, former clients withdraw their support for continuation of those services. Public extension programs are no longer relevant to their needs. In fact most extension agencies seem to believe farming should not be viewed differently from other business enterprises and put efforts toward helping unsuccessful farmers gracefully exit, rather than support unviable enterprises (Murray 1999).

h. Dealing with these extension issues

Marsh and Pannell (2000) recommended that State Governments should develop a strategy to address problems and challenges (such as above) and specifically address: Education, training and professional development (especially in the private sector); Efficiency and sustainability of institutional arrangements (to reduce transaction costs); Institutional structures to ensure effective research/extension links (cooperation and coordination in a commercialised environment); Facilitating access to extension information (resolve conflicting demands faced by government agencies in a privatised environment), and; Funding and delivery of extension (agencies should not confine extension services only to areas with public good characteristics).

Such recommendations are not being actioned in a coordinated manner and give rise to some of the reasonings underpinning this submission.

Appendices

Appendix 1 - APEN

The Australasia-Pacific Extension Network (APEN) was established in 1994. It is the leading representative organisation for people whose job involves facilitating change in regional communities.

APEN represents about 500 professionals across Australia, Asia and New Zealand whose job involves facilitating change in regional communities. It has active chapters in every state of Australia and new chapters being added all the time.

Its role is to provide a platform for networking, professional development and representation of members.

APEN offers its members:
- a forum for professionals to share new knowledge, information, skills and experience across Australia and the Pacific
- a network which opens doors to future employment prospects and provides relative continuity for those working on short term contracts
- a communication and support network between members and institutions sharing similar aspirations and difficulties
- a quarterly newsletter, ExtensionNet, covering industry news, case studies, extension theory and upcoming events
- education and training to develop professional competencies and standards
- the opportunity to improve the practice of extension by developing more rigorous methodologies that are informed by theory
- a guide to public information available on extension
- discount rates for APEN workshops, conferences and publications.

Appendix 2 – Extension Models in Australia

Coutts et al (2004) argue that extension projects across Australia fall within four clearly defined extension models (as outlined in Coutts and Roberts 2003)[2]:

Following is a summary of extension models identified in the review:

1. *Group facilitation/empowerment model* – which supports the philosophy that facilitative frameworks effectively allow rural industry stakeholders to define their own problems and opportunities and seek avenues to address them. Important to this is ownership and responsibility. An assumption is that those in a specific situation are best able to interpret and act on issues directly concerning them and by encouraging people to work together, more lasting and sustainable solutions will result. Participants develop problem-solving, planning and reflection skills they can then apply to other situations – *human capita*l, and collectively, increased networking, stronger relationships and group skills develop - or *social capita*l.

2. *Programmed learning model* – which follows 'adult learning' philosophy in recognition that knowledge already held by participants encourages experiential learning as they engage with new information in a learning event. Significant is a belief that workshops/courses are applicable to a large number of diverse participants, and can be developed, packaged and delivered across different location eg. regions or States. Accreditation is also important to this model

3. *Technology development model* – which supports the philosophy of inclusive technological (including managerial, landscape and environmental) change where focused effort involves all stakeholders in the process. Participation and multiple approaches appear to be fundamental to development of technologies where industry or community are often involved from a project's outset. Extension/facilitator skills are critical in addressing technological development issues in a region or industry. Furthermore, skills in addressing social/people issues of understanding, information sharing and motivation, as well as confidence in dealing with contentious issues in 'safe' forums, are found to be important for facilitating technological change, acceptance and adoption of new technologies.

4. *Information access model* – which maintains that for decision-making processes people need different information at different stages, in forms that suit individual needs. Common considerations for successful information access projects are: developing clarity on objectives and stakeholders; providing pathways for individuals to search for specific information needs, and; continuously monitoring and responding to needs and feedback from information users. Information access need not be resource demanding or complex, with many creative options for linking people with relevant information.

Coutts etal (2004) indicated that the *Individual consultant/mentor model* (Coutts and Roberts 2003) was not covered in the review, and further advise that this may have been a limitation. They suggest that there is much to learn in terms of 'what works and why' in the relationship between client and consultant/mentor. They found evidence that working with individuals is key to the *Technology development* model.

> These models form the supports and rungs of a 'capacity building ladder' and all were seen to be complementary and necessary for the capacity building process. It was pointed out that stronger collaboration and cooperation between funding bodies could help ensure that the range of effective learning platforms were in place (Coutts et al. 2004).

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[2] Coutts, J. and Roberts, K. 2003, Extension Models and Best Practice in Extension, Refereed Proceedings – APEN National Forum, Hobart http://www.regional.org.au/au/apen/2003/invited/p-08.htm#TopOfPage

Appendix 3 – Draft National Extension Framework for Australia

1. Why an extension framework?
- Increase effectiveness and efficiency of behavioural change management through collaboration
- Increase the capacity of extension
- Make extension more professional
- Framework play a key role in achieving outcomes (purpose, objectives)
- Promote the value of extension
- Move toward improved extension infrastructure
- Improve transparency in the 'common identity' of extension
- Strengthen quality of extension
- Support extension with a strategic direction (vis-à-vis education, training, capacity building)
- Selling points

What's in "it"?
The Extension Framework is about principles and values rather than a structure. It:
- identifies the context of extension
- identifies the target of extension (policy)
- identifies benefits of extension
- describes the extension system
- describes the extension forms/mix
- defines good extension practice
- outlines a code of practice
- identifies the extension discipline
- outlines recommended supporting infrastructure

The Extension Framework also targets its implementation. It:
- identifies who delivers the framework
- outlines stages of contact between: Funders; Providers; Clients
- identifies Leadership
- recommends supporting infrastructure influencers
- identifies what approach (paradigm) may be suited to meet different (institutional) needs
- highlights transparency of intent
- supports information sharing in extension discipline
- continuous improvement – capturing experiences from extension discipline

Extension profile
The Extension Framework also answers questions about its profile with other models:
- Why raise extension's profile?
- How to raise extension's profile?
- Stakeholders for raising the profile?
- Key messages for negotiating extension's role with stakeholders/funders?
- Who are extension 'deliverers'?
- Processes to achieve collaboration?
- Outcomes of collaboration?

2. Extension infrastructure
Extension supporting infrastructure:
- what does it look like?
- how does it operate?
- what goals does it have?
- how is it funded?

Extension Leadership Model Examples:
- Australian Government – DEST, DAFF, DEH….
- APEN
- extension coalition in the marketplace
- CRRI-Q

Example Extension Infrastructure Diagrams

3.   Principles
- Principles of the Extension Framework
- Principles of extension policy

4.   Values
- Extension is the process of facilitating change
- Mission
- Values
- Extension provides a unique contribution
- Extension continuously improves

5.   Professional Support (fostering the discipline/profession)
- Building capacity of practitioners
- Improving current situation

6.   Value proposition (the niche)
- The purpose of extension
- Value statements
- Who is the audience that gains value from extension? Why?

7.   Roles and responsibilities
- Ownership – responsibility
- Role of extension providers
- Who has role of delivering the extension framework?

8.   Funding
How is the Extension Framework funded? Public/private mix? Who pays what?
- Self Funded
- Market
- Key stakeholders
- Federal
- User pays
- Case by case basis: public-private mix

9.   Choosing the right instrument
Informing policy instrument choice
Policy Instruments for Sustainability (after Steve Dovers)
Criteria for policy instrument choice (after Dovers)

10.   Continuous improvement – M&E
How will we know the extension framework is effective?
- Broader outcomes
- Efficiencies
- Evaluation / measures of continuous improvement
- Infrastructure
- Relationships
- Extension discipline/profession

- Extension delivery
- Funding
- Peer support & review
- Beneficiary support & feedback
- How to make it visible?
- Participation with beneficiaries
- Include as component in all projects (to benchmark progress)
- Good communication
- Rewards

Adapted from National Extension Policy Forum, 2004, Draft Extension Framework,
http://www.extensionpolicy.com.au/

Appendix 4 – Policy Instruments for enabling change in rural and regional Australia

Instrument class:	Main instruments and approaches:
1. R&D, Monitoring	Increase knowledge generally (basic research) or about a specific matter (applied research); establish a standard; develop technologies or practices; establish socio-economic implications; monitor environmental conditions or policy impact.
2. Communication and Information Flow	Directions: research findings to policy; policy imperatives to research; both to firms, agencies and individuals. Mechanisms: state of the environment reporting; natural resource accounting; community-based monitoring; environmental auditing; strategic impact assessment; fora for consultation or policy debate.
3. Education and Training	Public education (moral suasion); targeted education; formal education (schools, higher ed.); training (skills development); education regarding other instruments.
4. Consultative	Mediation; negotiation; dispute resolution; inclusive institutions and processes.
5. Agreements, Conventions	Intergovernmental agreements/policies (international or within federations); memoranda of understanding; conventions and treaties.
6. Statutory	New statutes or regulations under existing law to: create institutions; establish statutory objects and agency responsibilities; set aside land for particular uses; land use planning; development control; enforce standards; prohibit practices
7. Common Law	Torts, nuisance, public trust.
8. Covenants	Conservation agreements tied to property title.
9. Assessment procedures	Review of effects; EIA; social impact assessment; cumulative impact assessment; risk assessment; life cycle assessment; statutory monitoring requirements.
10. Self-regulation	Codes of practice, codes of ethics, professional standards.
12. Community Involvement	Participation in policy formulation; community based monitoring; community implementation of programs; cooperative management; community management.
13. Market Mechanisms	Input/output taxes/charges; use charges; subsidies; rebates; penalties; tradeable emission permits/use quotas; tradeable property/resource rights; performance bonds; deposit-refunds.
14. Institutional or Organisational Change	To enable other instruments or policy and management generally, esp. over time.
15. Change Other Policies	Distorting subsidies, conflicting policies or statutory objects.
16. Reasoned Inaction	(Where justified by due consideration.)

(adapted from Dovers 2001)

Appendix 5 – National and Rural Priorities 2005-06[3]

National Priorities:
An environmentally sustainable Australia;   *knowledge/skills* to enhance sustainable new and emerging rural industries   *facilitate* more effective resource use by existing industries
Promoting and maintaining good health;   - increase the *focus on consumer and customer demand* for clean, green, safe and healthy products and food integrity   *promote* improved farm health and safety performance
Frontier technologies for building and transforming Australian industries;   - utilise advances in science such as biotechnology, genomics, *communications and information technology* to develop and commercialise new industries and new products   - identify and research new *knowledge based* and value added products, *services* and industries based on agriculture   *foster* 'frontier technology' R&D packages as the driver of competitive advantage in established industries
Safeguarding Australia;   *examine and design processes to enhance rural learning and practice, including rural extension and education*   *improve the business and financial risk management skills* of Australian producers

Rural Priorities:
Sustainable natural resource management;   *knowledge/skills* to enhance sustainable new and emerging industries   *facilitate* more effective resource use by existing industries
Improving competitiveness through a whole of industry approach;   - address potential non-traditional uses for agricultural products with closer *multi-sectoral linkages*, including food, feed, pharmaceutical and energy   - identify and research new *knowledge based* and value added products, *services* and industries based on agriculture   - encourage increased investment and *involvement in R&D from industry parties including producers, suppliers and processors*
Maintaining and improving confidence in the integrity of Australian agricultural, food, fish and forestry products;   increase the *focus on consumer and customer demand* for clean, green, safe and healthy products and food integrity
Improved trade and market access;   *undertake research* that addresses trade impediments and options to respond to current distortions in world trading conditions   - provide analyses to contribute to future market access *negotiations*   - timely *research and development* on possible regional and bilateral trade options to complement multilateral agreements as a means of trade expansion for Australia's agriculture and food industries
Use of frontier technologies;   *foster* 'frontier technology' R&D packages as the driver of competitive advantage in established industries   *deliver R&D packages* that are amenable for *adoption* by industry and key stakeholders   *disseminate R&D results through effective demonstration and communication systems and channels*

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[3] Adapted from: Rural Industries Research and Development Corporation, 2005, RIRDC's 2005–2006 Research Priorities, http://www.rirdc.gov.au/researchpriorities/ResearchPriorities2005-2006.pdf

Protecting Australia from invasive diseases and pests;
augment market access systems through measures to improve scientific analysis and controls over invasive pests and diseases   *improve the business and financial risk management skills of Australian producers*
Creating an innovative culture;
ensure wide recognition of the importance of human capacity building in delivering positive changes for rural and regional Australia   *examine and design processes to enhance rural learning and practice, including rural extension and education*

Focus for Extension is *italicized*. Adapted from RIRDC 2005
http://www.rirdc.gov.au/researchpriorities/ResearchPriorities2005-2006.pdf