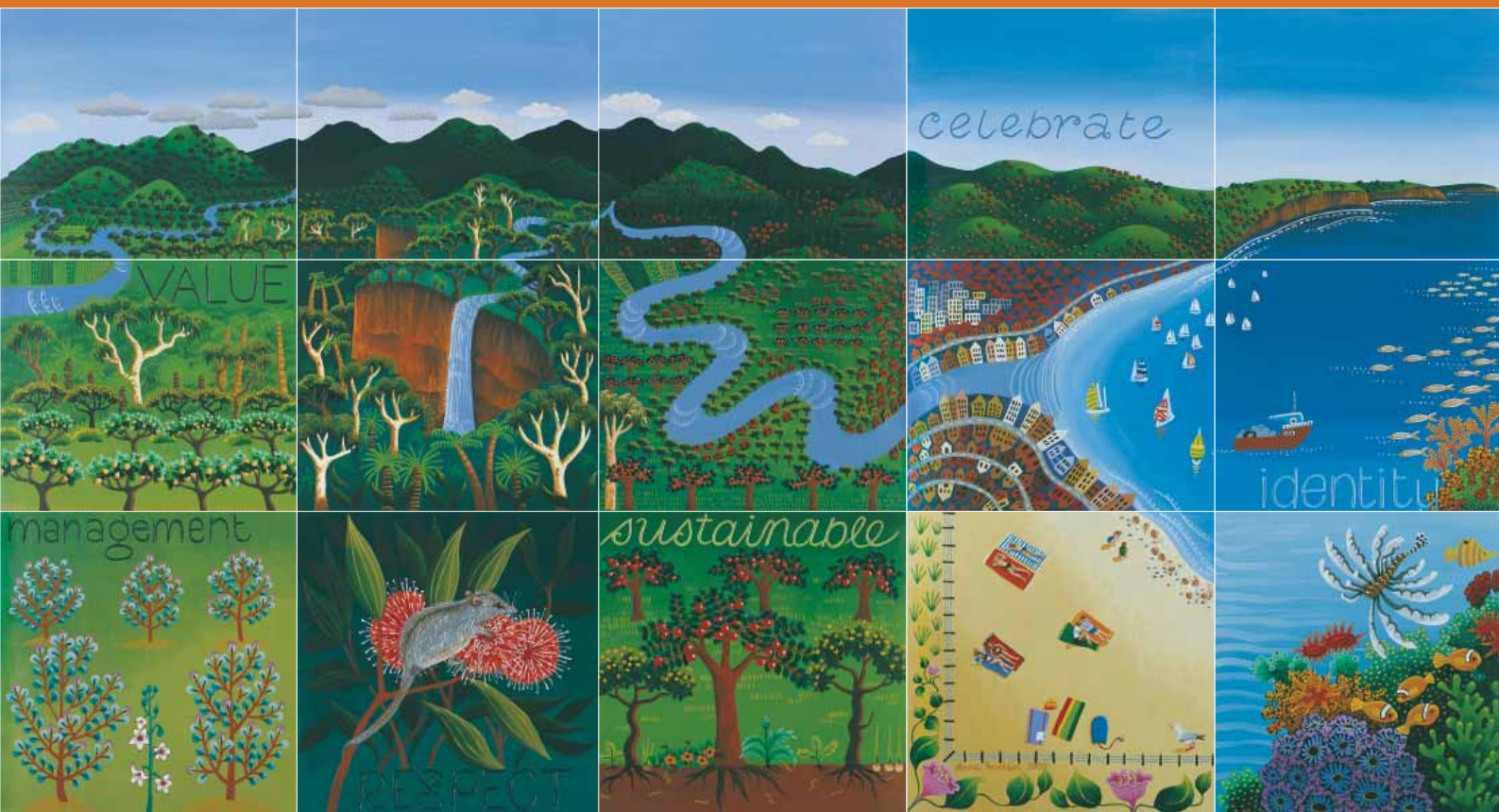




Australian Government
Land & Water Australia

Making the Connections

...THAT BUILD SUSTAINABILITY IN NATURAL RESOURCE MANAGEMENT



Key Achievements of Land & Water Australia's Social and Institutional Research and Development from 1999-2004

An Effective System of Designing Water Property Titles

ACIL Tasman 2004

"I believe the project provided an underpinning to the National Water Initiative announced in July 2004, and will continue over time to be seen as one of the most significant contributions made by Land & Water Australia's Social and Institutional Research Program to natural resource management in Australia."

John Sheehan, CEO Australian Property Institute NSW.

Microdynamics of Change in Agriculture **Dr Neil Barr, Department of Primary Industries** **Victoria 2004**

"In 2003 bushfires and drought saw us facing the worst year on record and a community unprepared for change. As a result of this Microdynamics work we've re-assessed the future of this Shire, including its amenity as a valuable asset, potential for diverse agriculture and other types of industry it can support. As a result we now have a new rezoning and rural living strategy and a community facing growth rather than decline."

Lyn Coulston, Mayor of Towong Shire in NE Victoria.

Assessing and managing burnout in Landcare members, leaders and coordinators **Professor Allan Curtis, Charles Sturt University 2003**

"The knowledge assets from this work have been disseminated through presentations to Landcare Conferences and the Australian Landcare Council. It is now critical that we build on this research in the light of new structures and funding delivery arrangements to maintain the enthusiasm, continuity and success of the volunteer Landcare movement."

Bruce Lloyd, Chairman of the Landcare Council of Australia.

Markets for Ecosystem Services Project **Dr Nick Abel, CSIRO 2003**

"This research generated a great deal of interest and excitement and as a result the findings of the ecosystem services project have become widely considered and used by the many who are concerned with land management issues across Australia. The research by Land & Water Australia's social and institutional research program was extremely innovative, and as potential future funding partners, the Myer Foundation would be very interested to hear about other cutting edge research issues, particularly those which aim to provide a lasting benefit to communities across Australia."

Lindy Haywood, Myer Foundation.

Ecological and social functions influencing governance of natural resources **Professor David Brunckhorst, University of New England 2002**

"Based on this ground breaking work, there is considerable scope to better align many of the administrative and service delivery boundaries across regional NSW to meet community needs and the Department of Lands is committed to exploring how it can be increasingly applied"

Warwick Watkins, Director General of the NSW Department of Lands.

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Further information on Land & Water Australia's social and institutional research can be found at www.lwa.gov.au/sirp



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Executive Summary

In 2003 the Board of Land & Water Australia (LWA) identified social and institutional research as a priority area for investment in 2005-10. Through national stakeholder consultations and a review of current research and investment we identified the social and institutional knowledge gaps and future research needs for natural resource management (NRM). They inform this Research and Development Plan.

The title of this Research and Development Plan, *Making the connections that build sustainability in natural resource management* represents both the content of the program and the strategies for its implementation. There is wide recognition that a more integrated approach to research in natural resource management is essential. This Research and Development Plan emphasises the importance of understanding the social and institutional context of real NRM issues in different communities with different knowledge systems and at a variety of scales, now and in the future. A range of jurisdictions, disciplines and sectors must work together to ensure that the large investment in sustainable resource management is maximised.

An adequate response to current NRM issues will involve fostering an environment for change towards sustainability. The social sciences can contribute to this response and maximise the current large-scale investment in community-based NRM programs such as the National Action Plan for Salinity and Water Quality, the Natural Heritage Trust and the National Water Initiative. This will occur through rigorous, action-oriented research and activity that builds capacity in the policy, production and planning sectors.

While expressed as high-level objectives, capacity building and institutional change are not an end in themselves, but a means for securing long term change in the way people go about resource use and management. This Social and Institutional Research and Development Plan demonstrates well designed, integrated social, economic and biophysical research and illustrates how the People Arena will take a lead role in forging alliances that result in multi-disciplinary research projects that have practical in-built communication and adoption strategies. The People Arena in LWA also aims to contribute to the development of a rigorous evidence base for future NRM policy.

The Social and Institutional Research Plan will be managed through the People Arena within LWA in collaboration with strategic partnerships at the project level to ensure knowledge exchange and adoption.

The achievements of LWA's investment in social and institutional research will be measured through the extent to which new knowledge and social learning can contribute to more sustainable outcomes from NRM policies and approaches.

GOAL

To contribute to the long-term sustainability of landscapes, lifestyles and livelihoods in rural Australia by funding and managing integrated social, economic and institutional research and learning activities.

RESEARCH THEMES

A series of research projects and learning activities will be established under three interrelated social and institutional research themes:

- Institutions and governance arrangements for sustainable NRM
- Policy instrument choice
- Landscapes, lifestyles and livelihoods

RESEARCH STRATEGIES

Five key strategies will ensure that LWA's social and institutional research is innovative and adds knowledge of substantial value for managing natural resources. They are:

- National scale research and development
- Integrated knowledge
- Understanding the factors that support an environment in which change can occur
- Innovative research and development and knowledge exchange approaches
- A futures focus



1. Context

GLOBAL FORCES

A number of key driving forces are shaping Australia and the globe. These forces (shown in left hand box below) will define the environment within which knowledge will be used and initiatives for sustainability will be evaluated. All of these forces work on each other to create a highly complex and connected world. Within this global context, a number of more specific drivers apply more directly to NRM. (below right).

META-DRIVERS

The global free market – influences demand for goods, pricing of those goods and the increasing ability to source them globally.

Democratisation of society – enforced democracy coupled with a push towards more participative forms of democracy and the gradual erosion of trust in society's institutions.

Issues of security – from personal to nation-state are becoming the primary driver of organised societies.

Global movement of people and culture – Movement of people around the world coupled with the cultural fusion that this creates is leading to global systems of ideas (e.g. scientific method, use of English, currency of global brands integration of cultural characteristics, shifts in economic markets etc.).

Asymmetric communication – networks and webs using asymmetric means of communication and power.

Damage to the biosphere – including pollution, lack of potable water and extinction of species.

Strategic innovation (especially disruptive technologies such as bio-tech and nano-tech) changing the patterns of human activity and consumption to such an extent that we need to reconceptualise whole systems of ideas and associated institutions (e.g. employment, retirement, welfare, leisure, etc.).

The growing gap between the rich and the poor – the resentment that grows out of this as well as the social injustices that occur is resulting in social classes based on environmental haves and have nots.

Increasing individualism within a whole-of-society connectedness will lead to extreme examples of idiosyncratic behaviour.

Changing nature of work and organisations in the west – (with consequent redefinition of work, employment and leisure) through the drop in supply of labour, the general inappropriateness of the skilling of much of the workforce for the demands that are emerging, rising numbers of women in senior positions, an emphasis on life/work balance in the workforce.

NRM DRIVERS

Climate change – influences the nature of habitats with pressure for all natural systems (including human systems) to adapt to the changing climate or to the loss of food as species die out.

Continued demand for food and products – continued population growth, albeit at a slowing rate, pressure from climate change and the lead-time for new technologies (bio tech and nanotech in particular) suggest continued pressure on existing production systems.

Environmental awareness and pressure for sustainable management – leading to changing demands for knowledge, new systems and technologies and a willingness to change behaviour.

Technological advancements in agriculture and industry – are in themselves a driver creating new demands, solutions, opportunities and potentially unintended consequences.

Complexity and uncertainty – interaction of the multiple components of the natural and human systems, together with many competing and compounding forces create a complex and unpredictable system likely to be increasingly characterised by unforeseen and apparently spontaneous (and at least non-linear) events.

The changing nature of federalism – shifts from centralised policy to bilateral and multi-lateral policy and program delivery arrangements and the associated issues in relation to accountability.

Together these drivers represent some of the major forces that will interact to create potentially very different worlds within which LWA will be working to create sustainable landscapes. These factors have been considered in devising this research plan. The strategic approach aims to extend our understanding of the issues at both the global and local scales, and to develop actions to facilitate appropriate responses for a sustainable future.

WHY WE NEED SOCIAL AND INSTITUTIONAL RESEARCH

Business leaders, farmers, foresters, scientists and policy makers all point to alarming trends in the degradation of rural landscapes that are likely to negatively impact on Australian agriculture (Allen Consulting 2002), including rising water tables, increasing salinity, land clearing, loss of topsoil, loss of biodiversity and river algal blooms. This situation has serious commercial implications, not only in terms of the declining productivity of a deteriorating land base, but also in terms of the marketability of Australia's agricultural produce. Some 80% of that produce is exported, much of it through the complex supply chain of an increasingly concentrated, vertically integrated and globalised agrifood industry, which is itself becoming increasingly environmentally sensitive (Gunningham 2004).

These external pressures are likely to increase in the future and the agricultural community will have to respond to them. An adequate response will depend on the attitudes, incentives and capacities of people, organisations and institutions. This situation reinforces the need for well integrated social, economic and institutional research.

Change to new management approaches is traditionally slow. Social research is needed to identify the drivers for

change and to develop a range of instruments to assist policy choice that will facilitate sustainable NRM outcomes and test them in context.

The current investment by governments in regional NRM delivery arrangements requires that community groups develop and implement plans for managing natural resources sustainably. The associated multi-lateral agreements and institutional arrangements are complex. It is imperative that we understand the many dimensions of NRM and the connections between them that will help to sustain vital and viable rural communities.

Well integrated social research is needed to understand the relationships between social, economic and biophysical dimensions of NRM. Social research is crucial for regional organisations and policy-makers. The success of the current NRM program arrangements will be a matter of whether resource condition targets are met, however this will only occur if regional groups have both the scientific capacity to assess and manage resource condition. They will need the skills and resources to build community partnerships to change practices that currently stand in the way of sustainable NRM.

SOCIAL INSTITUTIONAL RESEARCH IN LAND & WATER AUSTRALIA

In 1999, LWA's investment in a dedicated program of social and institutional research was a cutting edge innovation. This initial investment has been a catalyst for expansion of social and institutional research across NRM agencies, education and extension institutions. Land & Water Australia's social and institutional research over the last four years has been influential in improving NRM approaches and sustainable outcomes.

Further investment in social and institutional research and development through this plan supports the overall outcome that LWA is working towards in 2005-10: *The sustainable use and management of natural resources for the benefit of primary industries and the Australian community.*

In 2003 The Board of LWA identified social and institutional research, native vegetation and biodiversity and the tropical rivers of northern Australia as three priority research areas to invest in during 2005-10. Research projects will be arranged within three arenas: People, Industries and Landscapes.

LWA's new Strategic Plan 2005-10 is based on three key strategies: Innovation, Collaboration through Partnerships and Knowledge into Practice. This Research and Development Investment Plan also applies these strategies and will help to achieve the aims of the Corporation's 2005-10 Strategic Plan.



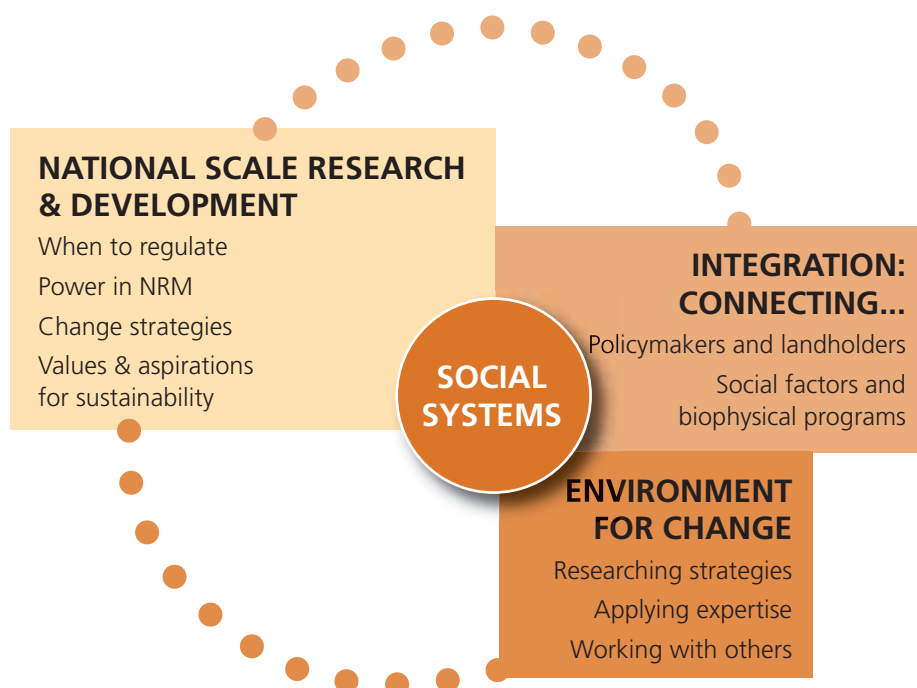
2. Goal

To contribute to the long-term sustainability of landscapes, lifestyles and livelihoods in rural Australia by funding and managing integrated social, economic and institutional research and learning activities.

3. Outcomes

This Social and Institutional Research and Development Plan seeks to generate and communicate knowledge. It will contribute to:

- improved effectiveness of and increased options for institutional arrangements for NRM;
- understanding the costs and benefits of institutional arrangements for sustainable NRM;
- development of strategies and policy instruments to increase adoption of affordable, sustainable land and water management options, systems and practices;
- increased capacity of policy-makers and resource managers to anticipate the impacts of changing policy and management approaches and to design effective transition arrangements;
- strategies to support and improve interactions between indigenous people and government, NRM agencies and researchers including the incorporation of indigenous knowledge management strategies;
- greater understanding of the levers, drivers and constraints to achieving change.



4. The Research Plan

The key elements of this Social and Institutional Research Plan are:

- Research and development investment
- Collaboration, integration and knowledge exchange

These elements are explained in detail in the following sections of this Plan.

RESEARCH & DEVELOPMENT INVESTMENT

Research Audience

The audience for the planned social and institutional research and development includes stakeholders in both policy and direct management roles at multiple scales as well as research providers.

Investment Model

Investment in social and institutional research and development in 2005-10 will be commissioned on the identified priority research themes with a small number of large, longitudinal projects. A number of projects that commenced under the 1999-2004 Social and Institutional Research & Development Plan will also continue into the new investment period (see attachment 1).

LWA will also continue to provide social and institutional research brokerage services to purchasers and end users. The brokerage role encompasses partnerships between research providers and customers by converting research needs into research questions, linking to appropriate research providers, managing research efficiently, evaluating impact and establishing effective adoption pathways.

To complement this portfolio of social and institutional research and facilitate innovation, funds to allow for contingencies will be allocated in each year of this plan. In years where those funds are not allocated, the funds will be added to the allocation for LWA's annual Innovation Call for proposals from the research community.

This approach recognises the need to respond quickly to the needs of our policy audience in relation to specific issues and to allow for funding of novel ideas.

Research Management Strategies

The three priority social and institutional research themes are interrelated. The projects will be managed within a framework based on five strategies:

- National scale research and development
- Integrated knowledge
- Understanding the factors that support an environment in which change can occur
- Innovative research and development and knowledge exchange
- A futures focus

The five strategies will guide our investment in social and institutional research that has maximum potential to improve the knowledge base and human capacity for managing Australia's natural resources sustainably, for the benefit of rural communities, primary industries and the wider community.

Our strategic research approach has been balanced by our understanding of what works – by our learning from current and ongoing social and institutional research activities. This learning provides a foundation for further research work and activities to create an environment that will actively encourage the use of research outcomes.

These strategies are explained below.

National scale research and development – Research that has relevance and ability to influence future directions at the national level as well as at sub-national scales.

Integrated knowledge – Projects will connect social and institutional research and development coherently to landscape, natural resource and production issues through research partnerships and integrated research approaches.

Understanding the factors that support an environment in which change can occur – Projects will develop greater understanding of the levers, drivers and constraints to achieving change at two primary locations of influence:

- adding meaning to data which policy makers use to formulate national directions;
- improving the likelihood of take up of sustainable land use practices which have a direct impact at the farm gate.



Innovative research and development and knowledge exchange approaches – LWA will employ and build researcher capacity to use creative research management approaches that facilitate innovation and learning across stakeholder groups. We will target stakeholders that have most capacity to influence NRM. LWA will use collaborative arrangements and the foundation knowledge from 1999-2004 Social and Institutional Research Program projects as a basis to inform new research and development. From the outset, projects will establish clear communication, engagement and adoption pathways. Projects that have the potential to inform policy will be designed to address specific policy and management questions and knowledge needs.

A futures focus – LWA will advance methodology for anticipating triple bottom line outcomes through integrated and future oriented research. This approach will aim to indicate the potential benefits and costs of a range of different NRM approaches and institutional arrangements.

These strategies will ensure that connections are made between both themes and projects under this plan.

This framework will aim to enhance the value of overall investment in NRM research and to ensure that social and institutional research adds maximum value to biophysical projects that aim to understand and address specific research and development issues.

PRIORITY RESEARCH THEMES

THEME 1

INSTITUTIONS AND GOVERNANCE ARRANGEMENTS FOR SUSTAINABLE NRM

THEME OBJECTIVES

- Evaluate the effectiveness of institutional arrangements for regional NRM through learning models that facilitate practice change.
- Fund research and development to generate an understanding of the costs and benefits of institutional arrangements for sustainable NRM and changes needed to improve their effectiveness.
- Provide targeted knowledge support for policy-makers and resource managers.

Given the large investment by all levels of government and community in regional NRM delivery arrangements through the National Action Plan for Salinity and Water Quality, Natural Heritage Trust and National Water Initiative, it is important that these processes are supported by research, monitoring and evaluation which can inform adaptive learning and change. There is opportunity for thorough assessment of these new institutional models to determine the characteristics that will enable sustainable NRM policy and program outcomes.

Research and development under this theme can make a significant contribution at the policy development and implementation level, particularly through social learning approaches to assessment and evaluation.

Targeted assessment of regional NRM initiatives

In order for regional arrangements to effectively promote sustainable NRM, attention needs to be given to long-term difficulties of coordinating the roles of governments and of public, private and community sectors more generally.

We need better ways to weigh up conflicting interests in order to address the tensions between regional economic development and NRM. A key question that requires research is what kinds of institutions and interventions are most likely to achieve cost-effective sustainable NRM outcomes?

By working closely with policy-makers and researchers, LWA will fund and manage research to explore future possibilities for building robust NRM institutions that have maximum benefit for rural communities and industries.

OUTCOMES

- Inform future institutional/delivery approaches for NRM.
- A comprehensive set of real-life examples of the level to which NRM practice change has been achieved.
- A model to capture learning about practice change over the long term.
- Strategic and informed regional investment decision making processes.
- Increased understanding of the types of arrangements and interventions that directly influence change towards more sustainable NRM in different circumstances.

Targeted assessment and knowledge support for the National Water Initiative

The Australian climate is dry and characterised by frequent and often long drought periods. Impacts of these conditions can be harsh for rural communities, industries and our natural environment. As water is increasingly subject to conflicting demands, there are tensions among these uses that must be understood to inform current and future water policy.

As a new scheme in NRM, the National Water Initiative aims to regulate water trading and ensure sustainable use of water. It will be imperative in the early stages of implementation to monitor, adapt and strengthen the arrangements for delivering the desired outcomes from the initiative.

Well integrated social, economic and biophysical research and development investment will be required at commonwealth, state and regional levels to inform appropriate planning and delivery of the initiative to ensure sustainable levels of water extraction for industry, domestic and environmental purposes.

Legal, economic, and social research will assist in identifying whether there are potential unintended consequences of the initiative and in developing flexible instruments to manage risk. Rigorous collaborative research will also contribute to the development of strategies to avoid or mitigate undesirable impacts.

OUTCOMES

- Enhanced capacity for effective implementation of the National Water Initiative.
- Improved ability to manage risks and potential impacts.
- Decision making that appropriately balances conflicting interests.

Institutional arrangements to enhance the success of market-based instruments

Through the National Market-Based Instruments (MBI) Pilots Program the Commonwealth, State and Territory Governments jointly funded a series of pilot projects. The projects are investigating ways to use innovative financial arrangements to encourage conservation of biodiversity, manage water allocation better and to reduce salinity in irrigation-based agriculture.

Market-based instruments use trading mechanisms, auctions and price signals to change behaviour to address important natural resource issues and fill knowledge gaps across jurisdictions.

Within regions there is a strong interest in using a mix of incentives. However to date there has been a tendency to focus on single incentives without understanding the potential for a wider range or various combinations of incentives and their contextual application.

Research is required to develop practical approaches that support land managers to understand available incentives and to formulate, adopt and where appropriate develop packages of market and non-market-based instruments.

OUTCOMES

- Appropriate institutional arrangements to promote increased adoption of different incentive mechanisms to achieve positive changes in patterns of resource use.
- Increased capacity of resource owners, governments and industry to work creatively with incentive mechanisms.



OUTCOMES (continued)

- Improved connection between regional resource management targets and sustainable on-ground management practices.

Capacity Building

While there has been a major review of the changes to extension in Australia (Rogers 2003), there is still a need to identify the way in which relationships and structures are changing (Fulton et al 2002). For example, a growing percentage of agricultural landscape is managed by landowners that derive the majority of their income from non-farming activities (Hollier 2003). These people's extension requirements do not fit the conventional models. There is a need to develop appropriate and effective extension models and education programs for new/changing landholders.

Research and development is also required to develop effective pathways and models to make research findings and innovations useful to and adoptable by land managers and policy-makers.

In 2005-10 LWA will continue to be a significant investor in the Cooperative Venture for Capacity Building for Innovation in Rural Industries, a collaboration of Research and Development Corporations established in 2001 to enhance capacity building in rural industries.

OUTCOMES

- Best practice principles and guidelines for adoption of innovation in rural Australia.
- An overview and increased understanding of the most appropriate arrangements of institutions to provide support in a changing rural environment.

THEME 2 POLICY INSTRUMENT CHOICE

THEME OBJECTIVES

- Investigate the effectiveness of different policy instruments in achieving desirable outcomes/changed practices in a range of landscape and social contexts.
- Develop strategies and instruments to increase affordable, sustainable solutions to NRM problems that can be applied in a wide range of NRM contexts to ensure highest net benefit outcomes.
- Develop flexible instruments that enable responsive and adaptive management of natural resources.

A wide range of market-based and non-market-based policy instruments are available to NRM decision makers. However, a number of issues remain unresolved in relation to policy instrument choice. For instance, how to make sure that an instrument is used in appropriate circumstances, or how to guard against instruments having perverse impacts.

The effective integration of economic and non-economic values into NRM remains a key challenge for the future, along with research on incentives for public goods such as the environmental values of natural resources. These types of valuations are fundamental to the formation and effective functioning of markets for natural resources.

There is considerable evidence that both market-based and non-market-based instruments can be powerful in influencing behaviour change.

The market value of natural resources has been the focus of natural resource use and management practices. More recently, community attitudes have become more supportive of non-market values and some research effort has been directed to valuing these non-economic features of natural resources (Mech and Young 2001). This is important so that these values can be incorporated into planning and decision making systems.

There is evidence, from the use of voluntary instruments across a broad range of environmental issues, that only under very limited and relatively unusual circumstances can pure voluntarism deliver satisfactory NRM results. On the other hand, voluntarism has considerable potential to improve environmental and commercial outcomes when integrated into a broader policy mix. An important area of research and development will be to determine how policy and management responses should vary for different NRM issues in different socio-economic and biophysical circumstances.

It may be desirable to design complementary combinations of policy instruments, tailored to particular environmental goals and circumstances, and also to harness resources outside the public sector (including commercial and non-commercial third parties and business itself) in pursuit of environmental goals (Gunningham and Grabosky, 1998).

Exploring market and non-market-based instruments in context

More strategic and informed application of management tools and policy instruments are needed that focus on land holders' and industry's potential to develop their own solutions through the adoption of various voluntary environmental management arrangements.

Interdisciplinary research is needed to help understand how different policy instruments in different contexts affect NRM practices and overall condition and to promote approaches that are appropriately targeted, well implemented and achieve objectives at least overall cost.

The Market-Based Instruments Pilots Program has commenced a number of trials. These trials provide a propitious opportunity for such research as they are operating in regions with different types of NRM problems, in different industry contexts where attitudes and capacity to change practices vary.

OUTCOMES

- Improved understanding of the potential of different policy instruments to achieve desirable outcomes/changed practices in a range of landscape and social contexts.
- Strategies to increase the flexibility and affordability of policy instruments for sustainable NRM.
- An increase in the appropriate use of different instruments to achieve positive changes in patterns of resource use.

THEME 3 **LANDSCAPES, LIFESTYLES AND LIVELIHOODS**

THEME OBJECTIVES

- Assess social, cultural, economic and institutional values and aspirations in relation to current practices and future plans for using and managing natural resources.
- Investigate what conditions will enable effective arrangements for NRM program delivery in indigenous areas of Australia.
- Identify the factors that could influence how rural and peri-urban lands are used in the future and the impact of different trajectories for NRM.

Northern Australia

The rivers, floodplains, wetlands and estuaries of northern Australia are relatively undisturbed and highly distinctive compared to other regions of Australia. These ecosystems provide multiple benefits to the Australian community, and through ecosystem services they provide benefits to regional industries.

Currently the knowledge to inform future regional planning and NRM is limited, fragmented and insufficient for addressing the management demands of the future.

Through joint research between LWA's People Arena and Tropical Rivers Program there is an opportunity to understand, in an integrated way, how to develop and manage water resources while protecting aquatic ecosystems and the benefits they provide.



OUTCOMES

- Knowledge of key pressures that proposed development will place on the health and sustainability of North Australia's waterways and their potential economic, social, cultural and environmental impacts.
- Identification of key management strategies to address the pressure points and subsequently a sound knowledge base for regional planning and protective management in northern Australia that rests on an understanding of economic, social, cultural and environmental values.
- Analysis of land manager capacity and readiness to adopt new approaches.
- Improved arrangements for sustainable management of the waterways of northern Australia including improved cross-cultural arrangements for program delivery.

Peri-urban Development

Over the past two years, LWA has conducted a detailed analysis of social, technological, economic, environmental and political drivers of change in NRM in Australia. Combined with almost certain population growth, these factors potentially affect the patterns and nature of land use.

Through that research we have identified that there is a lack of relevant data on drivers of change in land use outside urban centres in several areas of Australia. This makes it difficult to understand trends in resource condition and the related issues of community vitality and viability.

Subsequently, LWA's People Arena will explore the potential implications of plausible future changes for the way landscapes are used, and the lifestyles and livelihoods of people in those landscapes.

OUTCOMES

- Identification of key policy issues related to plausible land use change, and in particular the implications for current and future NRM.
- Enhanced debate about rural futures based on wider awareness of plausible changes and response options.
- Increased capacity of policy makers and resource managers to anticipate the impacts of future policy and management approaches and to design effective transition arrangements.
- An illustration of alternative ways in which Australian society might respond to these factors, especially in terms of changing institutional arrangements and types of land use.

5. Collaboration, Integration and Knowledge Exchange

This Research and Development Plan, *Making the Connections for Sustainable Resource Management* is based upon the premise that good collaboration and integration in research and development determine whether research findings help us to learn and adapt. Genuinely engaging all levels of government, community, industry and research providers, together with well targeted communication methods and products will ensure the success of this Research and Development Plan.

This plan recognises collaboration, integration and knowledge exchange are strategies that run through the

life-cycle of projects. They are also integral to successful stakeholder interaction from initial engagement to information/product dissemination.

Over the last four years Land & Water Australia's People Arena has made a significant investment in strategies for knowledge exchange and integration. We have achieved good outcomes including adoption of research findings.

Through this plan a number of well recognised collaborative, integrative and interactive strategies for adoption of research and development will be

implemented. Application of the strategies will promote the uptake of research findings and continuous learning in line with the National Research and Development Priorities, LWA's Strategic Plan and Knowledge and Adoption Strategy.

Those strategies include:

- genuine stakeholder involvement in the design and management of research and development projects;
- partnerships;
- providing expert social, economic and institutional advice;
- linking research and policy;
- integrating within and across projects;
- integration of learning from longitudinal monitoring of adoption of research findings and associated products.

GENUINE STAKEHOLDER INVOLVEMENT IN THE MANAGEMENT OF RESEARCH AND DEVELOPMENT PROJECTS

Research and development stakeholders include those people working in policy and direct management roles at multiple scales as well as research providers. Research and development management activities will include:

- facilitating stakeholder input to research and development plans, program and project evaluations including workshops, interviews and surveys to establish stakeholder views on knowledge gaps, research and development priorities for future investment and usefulness of research and development outputs;
- engaging with policy officers to define the right research questions;
- active negotiation with research providers and partners regarding research design. This will include appropriate strategies to enhance potential for adoption of research findings and ultimately, practice change;
- incorporating different ways of knowing into projects and research and development approaches, including indigenous knowledge;
- inclusion of collaboration, innovation and knowledge exchange in project milestones and active monitoring of these aspects of project progress.

PARTNERSHIPS

Research and investment partnerships are central to this Research and Development Plan.

- Partnerships will be focused on the delivery of objectives that are beneficial for the target research audience.

- Partnerships are sought where there is greatest opportunity for national-level influence and potential for coordination of new and existing knowledge.
- Partnerships will be selected on potential to maximise the value of the research priorities outlined in this plan and on the basis of greatest returns.
- Expectations of partners will be clearly understood at the outset and delivering on agreed outcomes will be critical in maintaining this commitment.
- Partnership development will continue throughout the life of the plan. Research and funding partnership building for this plan has commenced. Partnerships include:
 - Collaboration on the development of a research project with the Australian and state governments and regional groups in most states;
 - Participation and investment in the Cooperative Venture for Capacity Building for Innovation in Primary Industries;
 - Designing and co-managing social and institutional research as part of LWA's Tropical Rivers, Native Vegetation and Biodiversity and Futures Programs.

PROVIDING EXPERT SOCIAL, ECONOMIC AND INSTITUTIONAL ADVICE

The People Arena will trial a new expert advice function as part of this plan. A register of social, economic and institutional researchers and consultants will be established and maintained in order to provide specialist advice to LWA's research and development programs and strategic planning areas at key points in the research and development and corporate life-cycles.

Areas where specialist advice/services will be offered include:

- input to program plans – identifying opportunities for integration of social, economic and institutional research;
- input to project briefs;
- quality monitoring and evaluation;
- stakeholder engagement and capacity building strategies;
- adoption strategies (in collaboration with LWA's Knowledge and Adoption Team);
- engaging and preparing information for policy audiences;
- assessment of expertise and resources within projects for all of the above;
- development of templates to assist project selection with regard to inclusion of social and institutional dimensions of the proposed research and development project;



- development of training packages and toolkits for LWA program leaders and potentially those in other agencies to assist in integration of social, economic and institutional research components.

LINKING RESEARCH AND POLICY

Policy makers are a key audience for LWA's social and institutional research and they often require research and development brokerage services. We have developed a comprehensive strategy to make the research and development process and products policy-relevant.

Key activities in this strategy include:

- providing assistance to policy makers in designing research and development to answer particular policy or management questions;
- sustaining effective relationships between researchers and policy practitioners;
- issuing research project policy sheets in which researchers distil key policy-relevant research findings;
- targeting seminars where researchers communicate research findings directly to government officers;
- providing selective briefings on the policy implications of specific projects;
- involving government representatives on the program management committee and project steering committees;
- providing research and development brokerage services to government/policy agencies;
- disseminating the Land & Water Australia *Research Meets Policy Guide* to researchers to assist them in linking research and policy.

INTEGRATING WITHIN AND ACROSS PROJECTS AND PROGRAMS

In order to understand NRM issues and better futures, it will be necessary to understand the whole context of issues. At the corporate and program level, LWA will adopt strategies to improve integration of social, economic and institutional and biophysical science where it will assist in avoiding and/or addressing problems.

The following strategies will be adopted by the People Arena:

- coordinating knowledge exchange through direct contact, and development and dissemination of communication products;
- embedding social and institutional research in programs that have a focus on a specific NRM issue;
- developing synthesis communication products for the People Arena and contributing to the development of such products in other Land & Water Arenas and external collaborations as appropriate.

LONGITUDINAL MONITORING OF ADOPTION OF RESEARCH FINDINGS AND ASSOCIATED PRODUCTS

- Ongoing monitoring of usefulness of research and development outputs to nominated project beneficiaries.
- Assessment and monitoring of change and learning, and widely communicating that learning.

6. Monitoring and Evaluation

The evaluation of this Social and Institutional Research and Development Plan will be nested in the comprehensive evaluation framework LWA has developed.

Progress towards the set outcomes of this Research and Development Plan will be evaluated mid way through the five year investment period and again at the end using realistic and measurable performance indicators.

The plan will be evaluated in terms of progress towards achievement of stated goals and whether research and development products are being used and are perceived to be helpful in improving sustainable NRM user satisfaction.

An adaptive learning approach will be applied to the monitoring and evaluation of this plan. To this end, formal monitoring will be undertaken on an annual basis.

7. Budget

In addition to the social and institutional projects that will continue from the previous investment period, LWA will invest in the order of one million dollars each year from 1 July 2005 into this research.

It is expected that this investment will be boosted through partner funds and provision of brokerage services at the project level.

8. Governance

This Social and Institutional Research and Development Plan will be administered by LWA through a Program Management Committee, representing stakeholders, experts and investment partners.

The LWA Board is committed to the highest standards of corporate governance in accordance with required statutes and principles. A range of measures ensures that the corporation is operating according to the accountability provisions of the Commonwealth Authorities and Companies Act 1997.

BUSINESS SERVICE AND QUALITY ASSURANCE

LWA has an excellent accountability record in its management of external funds, demonstrated through external and internal audits. Effective and efficient systems for program management, accountability and reporting underpin the AS/NZS ASO 9002 accredited

Quality Management System. All investments are covered by tight contracts specifying clear deliverables within defined timeframes.

FINANCIAL MANAGEMENT

The Program Management Committee allocates investment in accordance with the LWA Research and Development Investment Plan, a template of questions (selection criteria) for screening investment proposals, anticipated returns from the research investment and the extent of partnership funding potentially available.

LWA is an approved research institute by the Commonwealth for the purpose of industry contributors receiving the 125% tax deductibility concession.

LWA has developed knowledge management, adoption, communication and commercialisation strategies that will maximise return on results of research and development.

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Appendix 1: Continuing Projects

A total of 17 projects will continue from the previous investment period and will be incorporated under the new plan. The continuing projects are listed in the table below with an indication of their relevance to the three 2005-10 priority research and development themes.

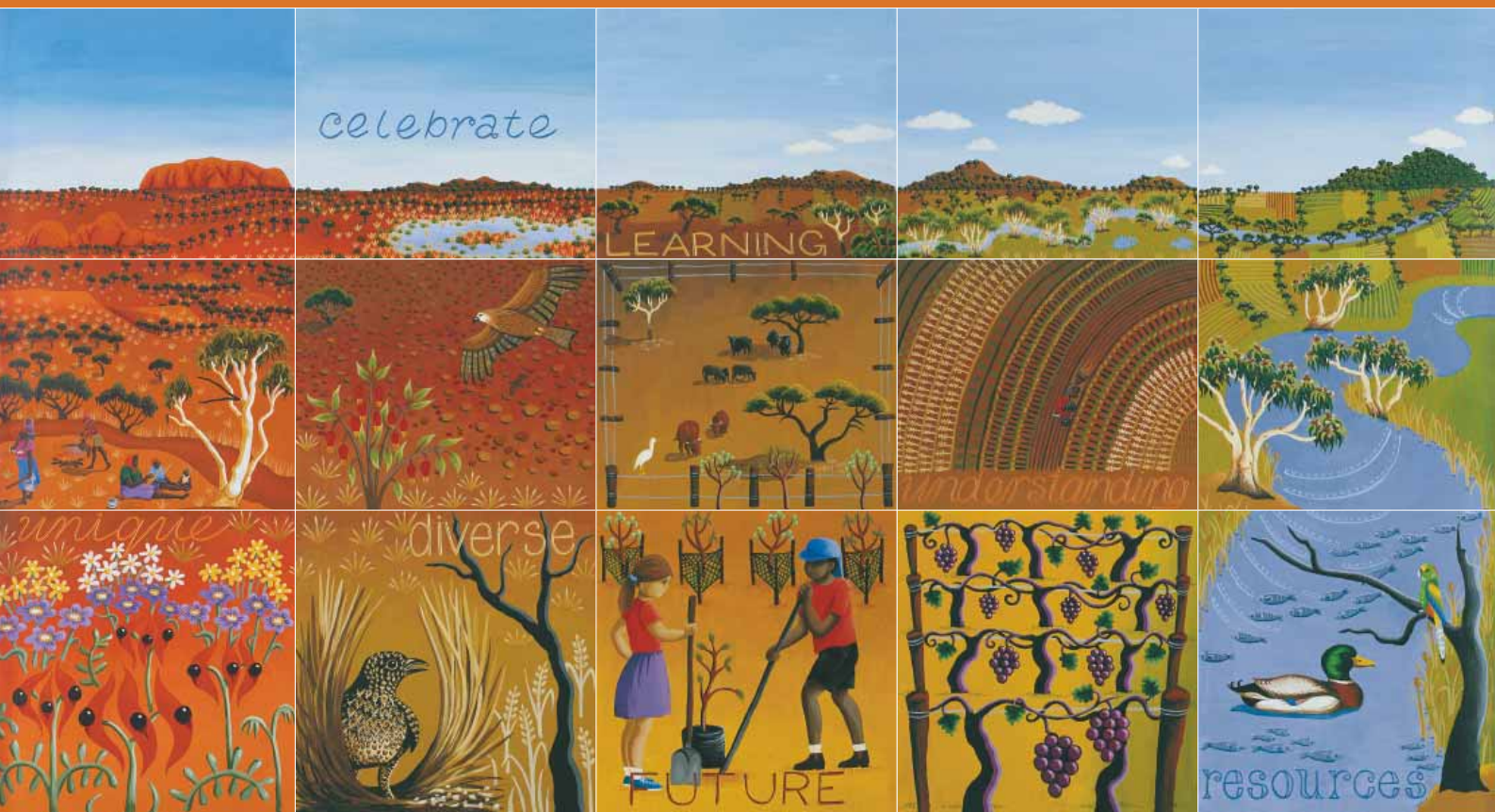
PROJECT TITLE	PROJECT OBJECTIVES	PROJECT COMPLETION	FULL PROJECT BUDGET
ANU 31 Improving deliberative forms of public participation for decision making on sustainability	<ul style="list-style-type: none"> Investigate the extent to which deliberative processes stimulate an awareness of collective interests and the common good over selfish individual interests. Explore whether participatory processes can be designed to ensure commitment to outcomes and political accountability. Determine how deliberative participatory processes can be designed to involve "typical" citizens as well as the sustained and willing involvement of government representatives, business, experts and organised interest groups. Identify what transition steps are necessary to ensure that policy development moves towards more improved forms of public involvement. Determine under what circumstances is it appropriate to employ deliberative participatory processes. 	2005-06	\$95,000
DAV 41 Demography of Australian farming	<ul style="list-style-type: none"> SLA aggregated maps of changes in population, age, income, entry and exit from farming and distribution of farm sizes. Analysis and comparison of population, age, income, entry and exit from farming for custom regions of rural Australia. Exploration of some of the relationships between age, household income, sex, agricultural industry and entry or exit from farming using nationally aggregated data. Relationships between age, sex, entry exit and industry. Revised projections for national and custom regions using two scenarios. 	2005-06	\$75,000
UWO5 Integrating carbon emissions trading with major Australian land management initiatives	<ul style="list-style-type: none"> Explain Australian climate change developments, particularly carbon emissions reduction and trading in the context of international obligations. Explore integrated solutions and their policy implications. 	2005-06	\$84,000
ANU22 Social and institutional implications of landscape and land use change	<ul style="list-style-type: none"> Demonstrate the impact of different policy approaches to land use change through case studies and fieldwork. 	2005-06	\$84,000

PROJECT TITLE	PROJECT OBJECTIVES	PROJECT COMPLETION	FULL PROJECT BUDGET
UCW5 Assessing impacts and learnings from large scale collaborative research and development initiatives	<ul style="list-style-type: none"> Using the Ord-Bonaparte Program as a case study, this Phd is examining the regional impacts of large scale integrated research, and how local communities can be involved to adopt research findings. 	2006-07	\$84,000
UAD 17 Institutional change enabling kangaroo harvest to promote sustainable rangelands	<ul style="list-style-type: none"> Examine social, cultural and economic parameters affecting kangaroo harvest decisions and develop policy frameworks and stakeholder support mechanisms which will result in a more sustainable commercial kangaroo industry. 	2005-06	\$84,000
ANU36 Federalism and natural resources management in the Murray-Darling Basin	<ul style="list-style-type: none"> Improve understanding of the interaction between landscape, climate and society in the Murray-Darling Basin, paying particular attention to the role played by the Australian federal system in shaping the institutional processes that have been developed to manage the public dimension of that process. 	2005-06	\$70,000
UNE44 Creating inspiration – how visual and performing arts shape environmental behaviour	<ul style="list-style-type: none"> Study to investigate the role that visual arts and performing arts play in people's attitudes and behaviour towards the environment. 	2005-06	\$192,892
ANU 37 Indigenous kinship with country: intercultural values of NRM	<ul style="list-style-type: none"> Study sustainable economic management of indigenous lands. Provide bi-cultural models for ecologically sustainable tourism on indigenous lands. Provide new knowledge on indigenous land, water and other resource management. 	2006-07	\$84,000
ANU39 The regulation of indigenous rights through environmental legislation	<ul style="list-style-type: none"> Examine the regulation of indigenous rights through environmental legislation and policy including the development of NRM theory. Investigate how law/ policy are responding to the recognition of indigenous rights to land and waters in NSW, and how these can be improved. 	2006-07	\$84,000
TRC3 Development of indigenous knowledge capacity across north Australia	<ul style="list-style-type: none"> Develop a workable strategy for the systematic conservation and application of indigenous knowledge to integrated NRM at the local, regional and north Australia levels. 	2006-07	\$292,000
TRC 2 Integrated natural and cultural resources management options for pastoral lands in the East Kimberley	<ul style="list-style-type: none"> Identify options for implementing environmentally, culturally and economically sustainable NRM outcomes at the property scale in the East Kimberley, with a particular emphasis on indigenous pastoral lands. Identify institutional and policy impediments to, and opportunities for, developing sustainable NRM pastoral management practices in the East Kimberley, and more generally in Northern Australia. 	2007-08	\$850,000



PROJECT TITLE	PROJECT OBJECTIVES	PROJECT COMPLETION	FULL PROJECT BUDGET
ANU43 Extending audit outcomes to enhance rural local government environmental capacity	<ul style="list-style-type: none"> Drawing on the findings from the National Land & Water Resources Audit, develop and apply models and strategies to enhance capacity of rural and indigenous local government to deliver beneficial NRM outcomes. 	2006-07	\$148,700
UWA27 Integrated Environmental Management Systems for planning and management: community and regional perspectives	<ul style="list-style-type: none"> Review environmental management systems to identify potential for improving regional environmental management. Examine environmental community groups for funding accountability, sub/regional linkages with other stakeholders and the assistance received from all levels of government. 	2006-07	\$84,000
ANU 40 Improving NRM program and project design, implementation and evaluation	<ul style="list-style-type: none"> Synthesise research and practice in project evaluation. Identify critical variables that impact on projects/programs. Develop a framework to improve project/program design. 	2006-07	\$84,000
NTU7 Sustainable northern landscapes and the nexus with indigenous health	<ul style="list-style-type: none"> Determine if landscape health, using a number of simple measures, is different under contrasting Aboriginal land management regimes. Compare the health and well being of Aboriginal participants in land management compared with non-participants. Initiate critical evaluation of policy options for land management contributing to the development of Indigenous sustainable futures. Seek Indigenous views about sustainable northern Australian landscapes. 	2006-07	\$385,000
CLW 73 Voluntarism, democracy, administration and the evolution of future landscapes	<ul style="list-style-type: none"> Assess the resilience of current NRM in political economic, public administration and community contexts in the light of current social change factors. Create alternative integrated models of democratic process, public administration and voluntarism which will underpin a more robust NRM system with clear values at a regional level for implementation thirty years from now. Create awareness of major change factors to promote resilience in future administrative arrangements, and provide specific recommendations that could be considered for public administration in this area. 	2006-07	\$130,000

Further information on these Land & Water Australia projects can be found at www.lwa.gov.au/sirp



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