NATIONAL PROGRAM FOR SUSTAINABLE IRRIGATION

Strategic Plan 2008-10

New Ideas for Irrigation

NATIONAL PROGRAM FOR
Sustainable Irrigation

Our Vision

Australian irrigation that is valued for its environmental, economic and social contribution

Our Mission

To invest in research, development and its adoption to improve the productivity and sustainability of irrigation in Australia

Our Objectives

- To provide national leadership for irrigation research and innovation
- To generate new knowledge and promote its adoption
- To contribute high quality science to the modernising of irrigation and its sustainability
- To contribute to the capacity of people to adapt, innovate and make better decisions
- To invest in the skills and knowledge of the irrigation community
- To enhance collaboration between industry, research providers and government
- To influence policy development and implementation with high quality science
- To enhance the global competitiveness and natural resource management of Australian irrigation

Our Values and Guiding Principles

- Scientific innovation and excellence
- Practical knowledge ready for adoption
- Leadership, integrity and collaboration across the irrigation industries
- Commitment to sustainable irrigation industries, communities and management of natural resources

Outcomes

- Improved irrigation water use efficiency and enhanced ability to respond to changing levels of resource availability over time.
- Reduced environmental impacts, more sustainable ecosystems and more prosperous communities.
- Improved skills, knowledge and decision making of end users which leads to practice change, and more efficient and sustainable use and management of water.
- A national approach to irrigation related R&D in Australia, which includes a strong focus on a skilled human resource base and enhanced R&D capacity and collaboration.

MAY 2008

Goal 1 Sustainable Production in a Water Scarce Environment

Strategies

- Develop techniques that will reduce evaporation and seepage losses from irrigation storages, channels and delivery systems
- Enhance technologies and sensors that can measure water in soils, and irrigation distribution systems to improve water accounting and irrigation scheduling
- Improve the modernisation of irrigation systems and enhance the understanding of any resulting changes to the environment
- Integrate farm management options that improve water use efficiency and the sustainable management of natural resources
- Investigate alternate water sources such as recycling and desalination
- Improve the resilience of irrigated agriculture to climate change and variability, through developing adaptation strategies for changing levels of water availability

Outputs and Measures of Success

- Reduced losses of water from storages, channels and delivery systems
- New tools for water accounting, irrigation scheduling and calculating water use efficiency potential and greater adoption of these tools
- Improved economic returns per megalitre of water
- Improved knowledge on best management practices, costs, benefits and implications of modernising irrigation systems
- Publication on alternate water sources for irrigation
- New knowledge on adaptation strategies to climate change

Outcome

Improved irrigation water use efficiency and enhanced ability to respond to changing levels of resource availability over time.

Water scarcity is a significant sustainability issue for Australian Irrigation now and into the future. Research is needed to assist irrigation industries to adapt to increasing variability of supply, increasing competition, reduced allocations and increasing pressure on water quality so that irrigators can modernise their practices in a way that is environmentally, socially and economically sustainable.

Goal 2 Sustainable Futures and the Environment

Strategies

- Assess the environmental consequences of new irrigation systems and technologies
- Investigate environmental implications of changing irrigation infrastructure and decommissioning irrigation channels on the landscape
- Develop assessment tools that better measure and monitor environmental impacts and economic and environmental performance of irrigation at a range of scales
- Establish or improve environmental management systems and performance benchmarks within an irrigated context, including the assessment of implementation issues and costs
- Examine options for delivery systems to minimise environmental impacts such as water quality and riverine ecosystem health decline
- Understand policy implications such as water sharing plans and the environmental benefits, economic and social implications of shifting water out of irrigation production
- Develop best practice techniques to enable managers to better assess, plan, manage on ground actions and monitor these in the landscape

Outputs and Measures of Success

- New knowledge on irrigation systems and their environmental performance
- New tools for irrigation performance monitoring in the landscape
- Improved environmental assurance and performance benchmarks
- Optimised delivery of water for irrigators, the environment and other users
- Triple bottom line case study assessments of policy change and decision makers engaged in projects

Outcome

Reduced environmental impacts, more sustainable ecosystems and more prosperous communities.

The future of sustainable irrigation lies in its capacity to respond to economic, environmental, community and policy needs. The consequences of changes to irrigation systems to meet current and future needs and expectations need to be understood from farm, community, industry and landscape scales.

Goal 3 Knowledge into Practice

Strategies

- Develop and implement a communications strategy with NPSI partners and target audiences and position NPSI alongside priority knowledge brokers
- Develop activities, methods and tools to accelerate and increase adoption of current technologies and proven methods to improve irrigation practice
- Improve accessibility of knowledge, tools, and practices which deliver productivity and sustainability outcomes for the landscapes natural resources and irrigation industries
- Undertake a stocktake of existing information and capacity. Present information in a range of formats and media to increase awareness and use
- Understand market research on barriers and drivers to adoption of R&D and technology advances of irrigation systems
- Compare different extension models and their effectiveness for end users and their ability to influence change
- Conduct workshops and forums on priority topics of national interest

Outputs and Measures of Success

- Increased awareness of NPSI outputs by irrigation knowledge brokers
- Evidence of adoption of R&D
- Data on use of program outputs
- Knowledge management systems in use
- Market research completed on barriers and drivers of practice change
- New extension and technology transfer strategies in place
- Workshops and forums held with stakeholders

Outcome

Improved skills, knowledge and decision making of end users which leads to practice change, and more efficient and sustainable use and management of water.

R&D projects do not serve their purpose unless the findings are delivered to end users (irrigators, water managers and policy makers) and applied. In many cases the research has been done and technical options developed, but they have not been tested or made accessible for adoption. Applied R&D approaches provide a process where research and end users work together to find solutions to problems, increasing the likelihood of adoption.

Goal 4 Research & Development Leadership

Strategies

- Develop a 10 year vision for irrigation R&D in partnership with stakeholders
- Provide opportunities for undergraduate students to gain practical R&D experience
- Provide fellowships for industry personnel to broaden and share their experience
- Foster collaboration between industry, end users, NRM bodies, government, research providers and investors
- Develop a national strategy for capacity building (education, training and extension)
- Publish scoping studies and reviews which synthesise current understanding or issues for debate on national priorities
- Ensure the NPSI portfolio has some blue sky research to underpin industry and environmental needs in the long term
- Facilitate irrigation R&D in northern Australia that improves the understanding of ecological, cultural, community and economic implications

Outputs and Measures of Success

- Workshops and a published agreed 10 year R&D plan
- Up to 5 undergraduate scholarships per year
- Up to 3 fellowships completed each year
- Valued collaborations with industry, end users, NRM bodies, government, research providers and investors
- Published national strategy for capacity building and additional investment
- Published scoping studies and reviews
- Innovative research projects underway
- Collaboration and agreed directions for irrigation R&D in northern Australia

Outcome

A national approach to irrigation related R&D in Australia, which includes a strong focus on a skilled human resource base and enhanced R&D capacity and collaboration.

The irrigation industry has many diverse organisations and interest groups from the public and private sectors. National leadership for Irrigation R&D that leads to accelerated and efficient implementation is required.

Our Investors

The National Program for Sustainable Irrigation is a collaboration between 16 investment partners including irrigator groups, water authorities, state government agencies, Research and Development Corporations, and the Australian Government:

- Australian Government Department of the Environment, Water, Heritage and the Arts
- Cotton Research & Development Corporation
- Gascoyne Water Co-operative
- Gascoyne Water Asset Mutual Co-operative
- Goulburn-Murray Rural Water Corporation
- Grains Research & Development Corporation
- Harvey Water
- Horticulture Australia Limited
- Land & Water Australia
- Lower Murray Water
- Ord Irrigation Asset Mutual Co-operative
- Ord Irrigation Co-operative
- South Australian Research and Development Institute
- Sugar Research & Development Corporation
- SunWater
- Western Australia Department of Water

Australian Government

Cotton Research and Development Corporation

Department of the Environment, Water, Heritage and the Arts

Grains Research and Development Corporation

Land & Water Australia

Sugar Research and Development Corporation

GASCOYNE WATER
IRRIGATING THE FUTURE

GWAMCO
Our Future is in Our Hands

GOULBURN-MURRAY WATER

Harvey Water

HAL
Know-how for Horticulture™

LOWER MURRAY WATER

rd Irrigation Cooperative Ltd

ORD Irrigation Asset MUTUAL Cooperative Ltd

Government of South Australia

SARDI
RESEARCH AND DEVELOPMENT

SunWater
Making Water Work

Department of Water
Government of Western Australia

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