



Land and Water

NORTHERN AUSTRALIA IRRIGATION

FUTURES: Providing new knowledge, tools, and processes to support debate and decision making regarding irrigation in northern Australia

Keith L. Bristow, Jeff Camkin, Bart Kellett, Cuan Petheram and Di Popham



CSIRO Land and Water Client Report

NPSI Project CDS23

Milestone 4 Report

January 2006



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The contents of this publication do not purport to represent the position of the Project Partners¹ in any way and are presented for the purpose of informing and stimulating discussion for improved decision making regarding irrigation in northern Australia.

¹ The Project Partners are: CSIRO, Land and Water Australia (LWA), National Program for Sustainable Irrigation (NPSI), CRC for Irrigation Futures (CRC IF), and the Governments of Australia, Queensland, Northern Territory and Western Australia.

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Project Partners

CSIRO

Land and Water Australia (LWA)

National Program for Sustainable Irrigation (NPSI)

CRC for Irrigation Futures

Australian Government

Queensland Government

Northern Territory Government

Western Australian Government

Steering Committee

Greg Claydon (Chair) – Queensland Department of Natural Resources and Mines

Murray Chapman – National Program for Sustainable Irrigation

Ross Dalton - Australian Government Department of Agriculture, Forestry and Fisheries

Kevin Devlin – Sunwater

Mathew Durack – Cooperative Research Centre for Irrigation Futures

Andrew Kelly – Ord Irrigation Cooperative

Jos Mensink – WA Office of Water Strategy

Ian Smith – NT Department of Environment, Natural Resources and the Arts

Tom Aldred – Land and Water Australia

Project Team

Dr Keith Bristow (Principal Investigator)

Jeff Camkin

Cuan Petheram

Bart Kellett

Freeman Cook

Di Popham

NORTHERN AUSTRALIA IRRIGATION FUTURES

Providing new knowledge, tools, and processes to support debate and decision making regarding irrigation in northern Australia

1.0 SUMMARY

Deciding on whether to irrigate in northern Australia, and if so what irrigation should look like, where it should be located, and how it should be managed, requires improved understanding of river and catchment attributes and the risks associated with irrigation. Various studies are underway to improve that understanding and ensure decisions are made with the best information available about the long term implications for tropical catchments. The Northern Australia Irrigation Futures (NAIF) project is funded by the Commonwealth Government and the Governments of Western Australia, Queensland and the Northern Territory with the aim of providing new knowledge, tools and processes to support debate and decision making regarding irrigation in northern Australia.

The NAIF project will deliver a Sustainability Framework for use by policy makers, regulators, community organisations, managers, and investors to support more robust debate and improved decision making regarding if and where to irrigate in tropical Australia, what tropical irrigation systems could look like, and how they should be managed to meet social, cultural, environmental and economic sustainability objectives. The sustainability framework will also allow assessment of the performance of existing irrigation areas to help determine if and what changes may be necessary to make them more sustainable. The project will draw on past experience of irrigation and develop new knowledge of groundwater systems and irrigation mosaics to build an understanding of risks associated with irrigation and of key landscape attributes critical to sustainable irrigation in northern Australia.

The NAIF project comprises of two key phases. Project initiation in 2003 was funded through Land and Water Australia's (LWA) National Program for Sustainable Irrigation (NPSI) and funding through the CRC for Irrigation Futures (CRC IF) for PhD students to undertake research consistent with the NAIF objectives. Subsequent to that, the QLD, NT, WA and Commonwealth Governments provided additional resources to the research by funding a new position of Sustainability Specialist. While the initial research under the LWA/NPSI program concludes in mid 2007, further follow-on work is anticipated as the funding agreement for the Sustainability Specialist position with the NAIF project extends to October 2008.

This NPSI Milestone 4 Report puts into effect changes required to implement the revised NAIF Stage 2 Work Plan, as approved by the S on 1 December 2005 and attached to the Milestone 3 Report.

2.0 PROJECT DETAILS

2.1 Project Reference Number: CDS23

2.2 Project Title: Northern Australia Irrigation Futures: Providing new knowledge, tools, and processes to support debate and decision making regarding irrigation in northern Australia

2.3 Contracted Research Organisation: CSIRO Land and Water

2.4 Principal Contact:

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2.5 Project Duration: 01/07/03 – 30/06/07

2.6 Milestone number: 4

2.7 Due date: 31 January 2006.

Note: Change of due date from 30/11/05 to 31/1/06 was approved on 5/12/05.

2.8 Project Objectives:

1. Delineate key landscape attributes (including soil & water resources, climate, vegetation, rivers, near shore marine environments, & where appropriate links to people, industries, markets) relevant to sustainable irrigation development across northern Australia
2. Use key landscape attributes to develop sustainability indicators and associated management criteria covering a range of scales (field, farm, district, irrigation scheme, catchment) for northern Australia
3. Develop an overall framework that, through their involvement, is embraced by policy makers, regulators, investors and managers, to ensure irrigation is developed and managed in a consistent and sustainable manner across northern Australia
4. Use a number of linked case studies to support and inform development and enable testing of the framework
5. Through provision of a robust framework, contribute tools and knowledge to support considered debate & long term strategic planning for northern Australia & Australia as a whole

3.0 ALTERATION TO ORIGINAL OBJECTIVES

The following change to the original Project Objectives (above) is proposed:

Objective 3 to be amended to address incorrect perceptions that the project is promoting new irrigation development and to better reflect that the project aims to support decisions about irrigation in northern Australia. Objective 3 would then read:

“Develop an overall framework that, through their involvement, is embraced by policy makers, regulators, investors and managers, to help ensure irrigation developments in northern Australia are managed in a consistent and sustainable manner.”

4.0 MILESTONE DESCRIPTION AND ACHIEVEMENT

4.1 Generic Deliverables – Achieved

Related Achievement Criteria: *“Generic deliverables achieved”*

Report format

All project reports and communications are available in electronic and hardcopy as specified by LWA.

Photographs

A disk containing photographs depicting project milestones in a digital format suitable for web and PowerPoint presentations will be forwarded to NPSI separate to this report. Discs containing photographs will be forwarded at each Milestone report.

Media

Minister Truss featured the NAIF project in his keynote address to the Irrigation Association of Australia’s Annual Conference in Townsville on 18 May 2005 (Attachment 1).

CSIRO issued a media release on 12 August 2005 seeking expressions of interest to the NAIF Stakeholder Reference Group and on 19 October 2005 announcing the appointment of Jeff Camkin to the position of Sustainability Specialist. Both are at Attachment 2 and available at <http://www.clw.csiro.au/naif/media.html>.

On 29 October 2005 the Canberra times carried a story “CSIRO ‘bled to death’; 780 jobs under review. The article was generally about a restructure within CSIRO but finished by indicating that the Australian Conservation Foundation and World Wildlife Fund Australia were critical of the NAIF project. A copy of the article is at Attachment 3.

A list of media articles directly relating to the NAIF project is at Attachment 4.

CSIRO has recently changed its policy regarding public comment and Dr Bristow now has Divisional approval to deal directly with the media regarding irrigation and water management in northern Australia, including the NAIF project. Similar approvals are being sought for Jeff Camkin. NAIF media releases require approval of the Communications Management Team of the SC Chairman Greg Claydon, Dr Keith Bristow and Jeff Camkin. Where the media release includes potentially sensitive material of a scientific or political

nature, SC members will be given the opportunity to comment prior to release.

Knowledge assets

The NAIF project is delivering a range of new knowledge assets. NAIF reports released to date include either new knowledge or interpretations/new perspectives of existing knowledge in the northern Australia context.

A widening cross-section of the Australian community which has been engaged by the project continues to build its knowledge and understanding of the uniqueness of the northern Australia environment and of the various issues that need to be addressed in assessing the risks associated with irrigation in tropical Australia.

Equally, the NAIF project team and SC are building their awareness of the issues of importance to northern Australia stakeholder and how the NAIF project is viewed. For example, it has become clear that irrespective of the project aim of providing new knowledge, tools and processes to support debate and decision making regarding irrigation in northern Australia some stakeholders are concerned that the project will facilitate significant additional pressures for the expansion of irrigated agriculture. The project team and SC are taking this knowledge on board and actively looking for ways to address these stakeholder concerns.

Comments on Special Conditions (as required)

Nil.

4.2 Work plans continue with all priority stakeholders participating – Achieved.

Related Achievement Criteria: *“Work plan goals achieved: Report on Northern Australia’s social, economic and institutional arrangements; and Report on NAIF Engagement / Communication strategies including evidence of NAIF team taking proactive approach to identification of key audiences, their issues and NAIF response.”*

Funding partner organisations have been engaged in the development and implementation of the Work Plan through the NAIF SC. The SC approved a revised Stage 2 Work Plan on 1 December 2005, which was provided as Appendix 3 to the NPSI Milestone 3 Report.

The Work Plan will be provided to the Stakeholder Reference Group (SRG). Any comments received from the SRG will be considered and, where appropriate, modifications to the Work Plan proposed for SC consideration.

The status of deliverables due within the reporting period to 31 January 2006, as specified in the Stage 2 Work Plan, is as follows:

Activity	Deliverable	Due	Status
1.1	Project monitoring and reporting strategy	20/12/05	SC will consider draft Monitoring and Evaluation Plan on 14/2/06 (Attachment 5)
1.2	Communication risk management plan	31/12/05	SC will consider draft Stakeholder Engagement and Communication Strategy on 14/2/06 (Attachment 6)

2.1	Guide to northern Australia institutional frameworks	31/12/05	Draft Guide to Institutional, Legislative and Policy Frameworks Relevant to Water and Irrigation Management in Northern Australia under final review prior to forwarding to SC members for review (Attachment 7)
5.3.1	Operational agreement between NAIF & NT re case study	31/1/06	Delayed due to unavailability of key officers during January. Target is now 28/2/06
5.3.2	NT case study stakeholder engagement strategy	31/1/06	As above. Target is now 28/2/06
5.4.1	Operational agreement between NAIF & WA re case study	31/1/06	As above. Target is now 28/2/06
5.4.2	WA case study stakeholder engagement strategy	31/1/06	As above. Target is now 28/2/06
5.5.1	Operational agreement between NAIF & QLD re case study	31/1/06	As above. Target is now 14/2/06
5.5.2	QLD case study stakeholder engagement strategy	31/1/06	As above. Target is now 14/2/06

4.3 Draft of SF available with prototype SI's for GW systems and mosaics – Partially achieved.

Related Achievement Criteria: Nil.

The Sustainability Framework and Sustainability Indicators

This work, which was originally led by Bart Kellett, focuses on development of a Sustainability Framework consisting of a set of tools and processes to help address the likely future role of irrigation in northern Australia. It is important to note that the NAIF project does not and will not make decisions about whether or not irrigation should take place and if so where. Those decisions will continue to be the responsibilities of governments and the relevant communities. The NAIF project aims to help those decision makers to make the most informed decisions possible by providing new knowledge, tools and processes to improve decision making.

This research addresses the environmental sustainability of irrigation through application of tools and processes designed to support debate about irrigation and decision making about whether to proceed with irrigation or not. The current prototype of the Sustainability Framework was presented by Dr Bristow at the NPSI Investors Forum on 23 October 2005 and is reproduced in *Figure 1*. The prototype indicates that the tools that make up the Sustainability Framework will include a visioning tool, a planning and assessment tool, and monitoring and reporting. The aim is to also use these tools to further improve existing and evolving irrigation areas.

The Visioning Tool will contribute an information base and process to support region-specific irrigation visioning: a process necessary to strengthen regional natural resource planning. The Planning and Assessment Tool will contribute to regional natural resource management by identifying risky irrigation designs and management options. The Monitoring and Reporting Tool will contribute indicators, threshold values, and a process for the development and application of these to irrigation regions. Development of the Sustainability Framework will show the necessity of interdependent visioning, planning, assessment,

monitoring and reporting practices to improve decision making transparency and consistency.

A range of activities inside and outside of the project contribute to the development of visioning, planning and assessment, and monitoring and reporting tools. For example, monitoring and reporting tools are being progressed through the CRC IF Sustainability Challenge project. As the NAIF case studies progress they will draw in to the project the important learnings from the Sustainability Challenge project of relevance to the NAIF project with respect to monitoring and reporting.

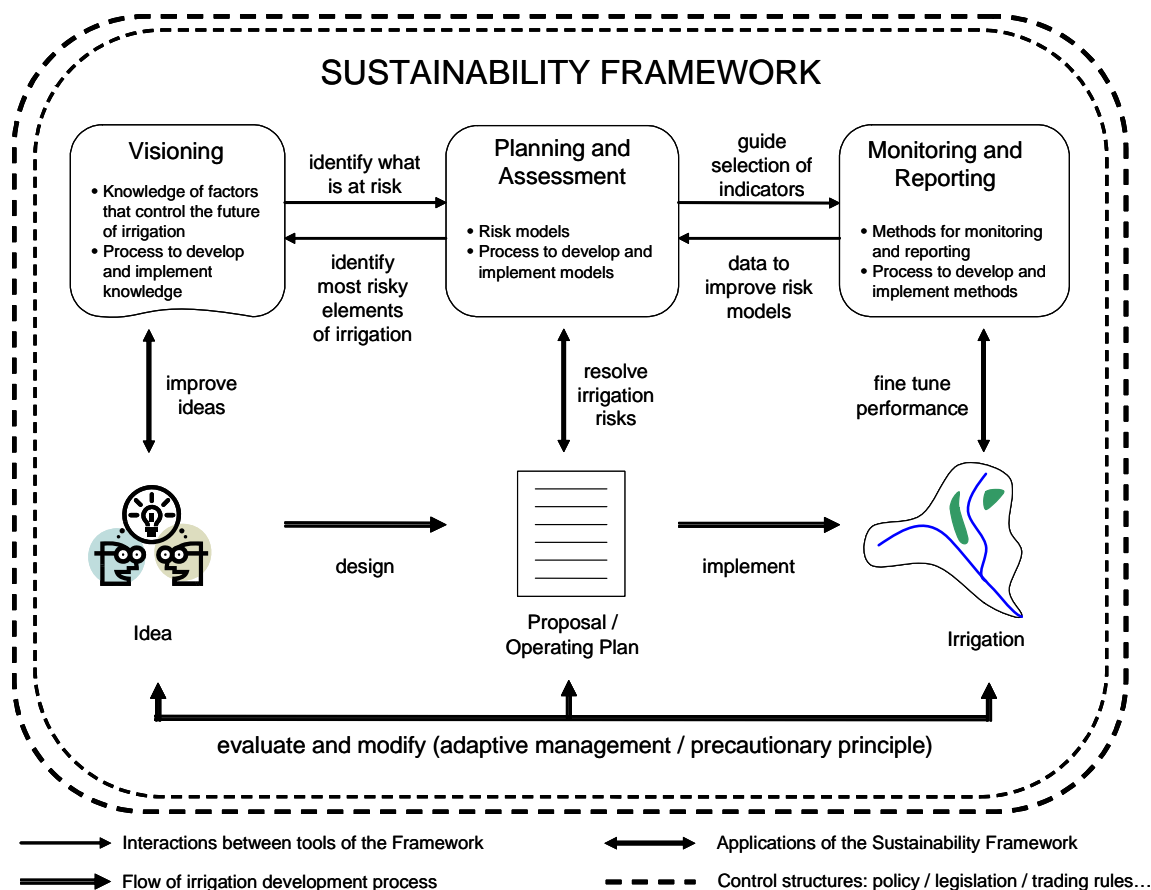


Figure 1: Schematic of the proposed Sustainability Framework and its application

The use of Sustainability Indicators for irrigation was examined in the NAIF/CSIRO Technical Report “Indicator Frameworks for Assessing Irrigation Sustainability” (Kellett, B., Bristow, K.L. & Charlesworth, P.B. 2004). The report is available at: <http://www.clw.csiro.au/publications/technical2005/tr1-05.pdf>. Subsequent work suggests that sustainability criteria in the form covered in the report may not be as useful as first thought.

Bart Kellett made substantial progress with the Sustainability Framework, but review of his PhD program has meant that he will now need to focus more of his attention on particular elements of the Framework in order to meet PhD requirements. Broader aspects of the Sustainability Framework will therefore need additional input from the Sustainability Specialist and other members of the Project Team, particularly relating to the Visioning tool, and from the CRC IF Sustainability Challenge project which is working in close cooperation

with the NAIF project, particularly in relation to the Monitoring and Reporting tool.

NAIF Work Plan Activity 5.2.1, due 31 March 2006 will report on the lessons learnt to date under the NAIF project and propose to the SC an approach for finalising the Sustainability Framework. This will be covered in the Milestone 5 Report.

Northern Australia Groundwater Systems

This work, which is led by Dr Cuan Petheram, focuses on developing improved understanding of water in the tropics, particularly tropical groundwater systems and likely risks to groundwater and connected surface water systems if used for irrigation. The aim is to draw on other work on 'cultural values of water' in addressing these issues.

The work links with other government, community and regional NRM activities at various sites and particularly at agreed case study sites including the Lower Burdekin and the Daly River basin.

A review of tropical groundwater systems has commenced with the support of the WA, QLD and NT Government agencies. Work on developing a groundwater flow classification system for northern Australia has been proposed and is under further consideration by the agencies and the NAIF SC. Recommendations on how to proceed with the classification system will follow further analysis over the next few months.

In conjunction with the WA Department of Water a project proposal "*Improved understanding and management of water resources in northern WA*" was submitted for funding consideration under the Premier's Water Foundation. The project aims to consolidate information and generate new knowledge about the hydrogeological settings and water resources of WA's north. It will focus on the groundwater systems, surface water – groundwater interactions, the ability of groundwater systems to serve as 'water storages', water availability, and the likely impact of climate variability and climate change on water availability. This project proposal reflects discussions between the NAIF project team and hydrogeologists from the NT, WA and QLD and is likely to be matched with a similar proposal under the Commonwealth Government's Raising National Water Standards program. While some outputs from the proposed project may not be available during the course of the current NAIF project, this proposal demonstrates the important role that NAIF can play in identifying knowledge gaps and facilitating cooperative arrangements across northern Australian jurisdictions to address them.

Irrigation Mosaics

This work focuses on developing a conceptual understanding of the differences between traditional large scale irrigation systems and irrigation mosaics involving irrigation of smaller discrete patches of land dispersed across the landscape. Dr Freeman Cook is progressing this work following the Departure of Dr Charlesworth from CSIRO. The new delivery timelines are included in the revised Stage 2 Work Plan. Further details on this issue are provided in 7.0 Human Resource Issues.

4.4 Attendance including presentation and poster display by PI at annual Sustainable Irrigation Program Forum – Achieved.

Related Achievement Criteria: *“Presentation and poster display at annual forum”.*

The Principal Investigator (Dr Keith Bristow) and the project Sustainability Specialist (Jeff Camkin) attended the NPSI Investors Forum on 23 October 2005. Dr Bristow presented on the NAIF project status, learnings to date and future directions. The presentation and poster display are at Attachment 8.

4.5 At least one Steering Committee meeting held – Achieved.

Related Achievement Criteria: *“Steering committee meeting held and relevant plans and strategies agreed.”*

Steering Committee meetings continue to be held on an as needs basis to address agreed priorities. Six Steering Committee meetings were held between 30 May 2005 and 1 December 2006, 4 of which were by tele-conference. Key matters addressed during this period were funding for the sustainability specialist position, appointment of a consultant to undertake a communication risk assessment and approval of the Stage 2 Work Plan.

Meeting dates from the inception of the Steering Committee are recorded below. All Steering Committee meetings are minuted and have been provided to NPSI.

SC Meeting #	Date	Format
15 (pending)	14 February 2006	Face-to-face; Townsville
14	1 December 2005	Tele-link
13	26 October 2005	Face-to-face; Mildura
12	13 September 2005	Tele-link
11	4 August 2005	Tele-link
10	12 July 2005	Tele-link
9	30 May 2005	Face-to-face; Darwin
8	21 April 2005	Tele-link
7	14 March 2005	Tele-link
6	14 February 2005	Tele-link
5	9 September 2004	Tele-link
4	21 May 2004	Tele-link
3	14 May 2004	Tele-link
2	15 April 2004	Tele-link
1	11 March 2004	Tele-link

4.6 Engagement and communications strategies implemented with feedback from stakeholders involved – Achieved.

Related Achievement Criteria: *“Report on NAIF Engagement/Communication strategies including evidence of NAIF team taking proactive approach to identification of key audiences, their issues and NAIF response.”*

Stakeholder Engagement and Communication Strategy

Members of the NAIF Project Team communicate regularly and transparently with NPSI, CRC IF, LWA, the SC, the NAIF SRG and CSIRO Land and Water. Communication is through email, telephone and face-to-face meetings.

A draft Stakeholder Engagement and Communication Strategy (Attachment 6) was prepared, taking into account a communication risk assessment. The aim of the Strategy is to significantly increase stakeholder and community awareness of the NAIF research project intent, activities and outputs in order to improve stakeholder engagement, develop greater community support for the project and maximise project benefits.

The Strategy pays particular attention to engaging and communicating with:

- The project funding and partner organisations
- Governments
- Researchers
- Non-government interest groups, including environmental and indigenous groups
- Case study area stakeholders
- The general community and
- The media.

Key stakeholder engagement and communication tools include:

- The Steering Committee
- The Stakeholder Reference Group
- The NAIF Stakeholder Network
- Briefings for Government Ministers and their agencies
- Publication of scientific research
- Meetings with key stakeholder representatives
- Presentations, exhibitions and posters
- Newsletters
- NAIF website at <http://www.clw.csiro.au/naif/>
- Media releases and press advertisements and
- Preparation of key messages and Q&A.

Ongoing efforts will be made to profile the project and its outputs at the local, regional, state, national and international levels. In doing so, the project team will work with the SC to assess political sensitivities and ensure quality control of communications. Particular attention will be given to communication products (specifically reports) produced by the project to ensure they are, where possible, coordinated with other key northern activities including Government and Tropical Rivers Program activities.

The SC endorsement is expected to endorse the Stakeholder Engagement and Communication Strategy at its meeting on 14 February 2006.

Stakeholder engagement and communication features during the reporting period
Monthly tele-meetings of NAIF, the Tropical Rivers Inventory and Assessment Project, Charles Darwin University, the Northern Territory Department of Natural Resources, Environment and the Arts have been established to share information, identify opportunities for collaboration and maximise linkages across current and future research projects. The group is chaired by Jeff Camkin.

As agreed by the SC, Jeff Camkin attended a series of meetings organised by the Australian

National Committee on Irrigation and Drainage (ANCID) in Darwin on 21-22 November 2005 to discuss ANCID's 2006 Annual Conference, which will be hosted by the Ord Irrigation Cooperative but held in Darwin in October. This provided an opportunity to meet with some of the NAIF key stakeholders in the Northern Territory and to investigate possible linkages between the ANCID conference and the NAIF project. Jeff Camkin subsequently met with other NT stakeholders to discuss the NAIF project and identify opportunities for collaboration.

Dr Keith Bristow presented a paper "*Irrigation in northern Australia – is it worth the risk?*" at the ASA-SSSA National Conference, 6-10 November, Salt lake City, Utah, USA.

Dr Keith Bristow and Jeff Camkin met with a range of WA government stakeholders on 30 November – 2 December 2005 in Perth to progress the proposed WA case study, work on understanding tropical groundwater systems and generating further support for the NAIF project.

Jeff Camkin was invited by the National Water Commission to participate in a workshop in Canberra on 2 December 2005 aimed at developing guidelines for funding of irrigation related projects under the Water Smart Australia program.

Bart Kellett presented a paper and poster "*Reflecting on stakeholders' perceptions in an ecological risk assessment workshop*" at the Environmental Research Event Conference, 29 November – 2 December in Hobart, Tasmania.

A list of all NAIF publications and presentations, and workshops, seminars and meetings facilitated by or featuring NAIF, is at Attachment 9.

Correspondence

The following correspondence was received/sent during the reporting period:

- 15 December 2005. Letter received from Dr Stuart Blanch, Freshwater Manager WWF on behalf of affiliate groups of the Northern Australia Environmental Alliance. The letter was in response to a letter of 11 May 2005 from the Chairman, NAIF Steering Committee, which in turn was in response to a letter from Dr Blanch of 30 March 2005. Dr Blanch advised in the 15 December 2005 letter that NAEA declined the invitation to join the NAIF Stakeholder Reference Group. Dr Blanch raised several issues regarding the project and, on behalf of NAEA, proposed a meeting between key members of the NAIF project and NAEA affiliate groups to discuss and clarify any misunderstandings and seek a way forward. A response from the NAIF Steering Committee Chairman is in preparation.
- 26 September 2005. Letter to all nominations advising of their acceptance onto the NAIF Stakeholder Reference Group.

4.7 Monitoring and evaluation strategies implemented – Achieved.

Related Achievement Criteria: Nil.

It has always been recognised that the NAIF research project is a challenging one that will require a high degree of adaptability to achieve success. The project funders, SC and project team have all demonstrated an understanding and willingness to adapt the project design in response to new knowledge and feedback.

A Monitoring and Evaluation Plan, based on a continuation of the principles of adaptive and participatory management has been prepared (Attachment 5). The Plan is designed to:

- Assist the project team, SC and funding organisations to decide if the project and its priorities, targets and actions need to be changed, and where attention should be focussed
- Support the use of an adaptive management approach to ensure continuous improvement based on new knowledge and experience as the project progresses
- Determine accountability for monitoring, evaluation and reporting outcomes
- Establish regular reporting systems for accountability to SC and the State and Commonwealth Government project investors
- Assess project outcomes and success.

The Plan provides the project goals and objectives, describes the performance indicators against which success can be measured, lists the sources of data to enable measurement, identifies the risks to success, establishes the reporting regime, documents the role of peer review and allocates responsibilities for implementing the Plan.

SC endorsement of the Plan is expected at its meeting on 14 February 2006.

4.8 Stakeholder Reference Group receiving and providing feedback – Achieved.

Related Achievement Criteria: “*SRG functioning*”.

The Stakeholder Engagement and Communication Strategy reflects the view of the project team and SC in highlighting the importance of the NAIF Stakeholder Reference Group (SRG) as a key mechanism to engage with key stakeholders.

A request for Expressions of Interest (EOI) in joining the SRG was advertised on 12 August 2005 and nine responses were received. The result of the EOI process is that for some sectors there were duplicate nominations and for others no nominations were received. The SC endorsed the appointment of all nominations to the SRG but agreed that membership of the SRG should remain open with sectors not covered encouraged to join, subject to SC endorsement. Strategies to address membership of the SRG are included in the Stakeholder Engagement and Communication Strategy.

All nominations to the SRG received a letter of confirmation of appointment from the Chairman of the Steering Committee. All SRG members were contacted during the reporting period and advised of the current status of the project, including details of the revised Stage 2 Work Plan, development of the Stakeholder Engagement and Communication Strategy, status of the SRG and proposed activities for the SRG in 2006. All SRG members were very positive about the NAIF project and enthusiastic about their involvement in it.

An update on the status of the SRG will be provided in the Milestone 5 Report.

4.9 Milestone report submitted – Achieved.

Related Achievement Criteria: “*Milestone approved by Land & Water Australia.*”

This Milestone 4 Report was submitted on 31 January 2006.

5.0 VARIATIONS REQUIRED TO FUTURE MILESTONES

The Milestone 3 Report noted that suggested variations to future milestones, incorporating the changes required to implement the revised Stage 2 Work Plan approved by the SC on 1 December 2005 would be addressed in the Milestone 4 Report. Recommended variations to future milestones are at Attachment 10 to this report.

Proposed changes to the Milestone 5, 6 and 7 Deliverables and Achievement Criteria reflect the revised Stage 2 Work Plan. Each proposed deliverable has specific achievement criteria related to it.

The due date for Milestone Reports 5 and 6 remains the same. A change in the due date for Milestone 7 – Final Report from 1 May 2007 to 31 July 2007 is proposed. This change will increase the time available to properly engage with stakeholders in the case study activities and will help ensure important learnings from the case study activities and from Bart Kellett's PhD can be incorporated into the sustainability framework. The Final Financial Statement will still be delivered by the current due date of 30 September 2007.

The funding agreement between CSIRO and the Commonwealth, QLD, NT and WA Governments for the Sustainability Specialist position supports the change in completion of the NPSI Final Report. The agreements are for the period October 2005 to October 2008, thereby bridging the period that the Final Report is required.

6.0 FINANCIAL ISSUES

Cash contributions to the NAIF project from the QLD, NT, WA and Commonwealth Governments have increased significantly in accordance with their commitment to fund the establishment and operation of a new position of Sustainability Specialist. These contributions are \$65,000 p.a. from QLD and WA, \$50,000 p.a. from NT and \$20,000 p.a. from the Department of Agriculture, Fisheries and Forestry (DAFF), all excluding GST.

The NAIF Stage 2 Work Plan has been revised to take into account the additional contributions from these sources and the additional capacity that the Sustainability Specialist position brings to the project.

The arrangements for funding the Sustainability Specialist are detailed in Deed of Grant between CSIRO and DAFF and a funding Agreement between CSIRO, the State of Queensland represented by the Department of Natural Resources and Mines, the State of Western Australia represented by the Department of the Premier and Cabinet, and the Northern Territory represented by the Department of Natural Resources, Environment and the Arts. The Deed and Funding Agreement are for a period of three years (17 October 2005 to 16 October 2008), which extends beyond the LWA/NPSI project conclusion.

7.0 HUMAN RESOURCE ISSUES

The NAIF project comprises of two key phases. Project initiation in 2003 was funded through Land and Water Australia's (LWA) National Program for Sustainable Irrigation (NPSI) and

funding through the CRC for Irrigation Futures (CRC IF) for PhD students to undertake research consistent with the NAIF objectives. Subsequent to that, the QLD, NT, WA and Commonwealth Governments provided additional resources to the research by funding a new position of Sustainability Specialist. While the initial research under the LWA/NPSI program concludes in mid 2007, further follow-on work is anticipated as the funding agreement for the Sustainability Specialist position with the NAIF project extends to October 2008.

The Milestone 3 Report indicated that Jeff Camkin had commenced in the position of Sustainability Specialist on 17 October 2005 and that further details on the final arrangements would be detailed in the Milestone 4 report. The final duty statement for the position of Sustainability Specialist is at Attachment 11. Jeff Camkin was appointed to the position at CSIRO Officer Level 7 for a three year term appointment. CSIRO issued a media statement announcing Jeff Camkin's appointment to the position.

Dr Phillip Charlesworth left CSIRO in mid-June 2005. This requires the identification and appointment of a new person to the project with appropriate understanding and experience with spatial data management and analysis tools to address the issue of irrigation mosaics. The position of Irrigation/Water Systems Scientist was advertised by CSIRO but no suitable applicants have been received to date. Changes to the timetable for delivery of work on irrigation mosaics because of this delay in appointment were reflected in the Stage 2 Work Plan approved by the SC on 1 December 2005. Dr Freeman Cook, CSIRO Land and Water, is now leading work on irrigation mosaics consistent with the revised Work Plan.

CV summaries for all Project Team members are now available on the NAIF website at http://www.clw.csiro.au/naif/project_team.html.

8.0 COMMUNICATION ACHIEVEMENTS

Key communication achievements have been addressed under 4.6 above.

One new publication, 8 presentations and 18 additional workshops, seminars and meetings occurred during the Milestone 4 reporting period.

A list of all NAIF publications and significant workshops and meetings facilitated by or involving NAIF are at Attachment 9. A list of all NAIF publications is available at <http://www.clw.csiro.au/naif/publications.html>.

Reports on the following subjects are currently in preparation. The report titles and the number of reports may change as the project progresses.

- An overview of irrigation across northern Australia
- An analysis of the Ord, Katherine-Douglas-Daly and lower Burdekin irrigation systems: implications to future designs and management of tropical irrigation
- A review of hydrogeological systems of northern Australia
- A guide to northern Australia's institutional water frameworks

9.0 LIST OF ATTACHMENTS

The following are provided as attachments to this report:

NUMBER	DESCRIPTION
Attachment 1	Presentation by Hon Warren Truss MP, Minister for Agriculture, Forestry and Fisheries at IAA Conference, Townsville, 18 May 2005.
Attachment 2	NAIF media releases on 17 October 2005 and 12 August 2005.
Attachment 3	Media item referring to the NAIF project.
Attachment 4	List of media items relating to NAIF project.
Attachment 5	Monitoring and Evaluation Plan (Draft)
Attachment 6	Stakeholder Engagement and Communication Strategy (Draft)
Attachment 7	Guide to Institutional, Legislative and Policy Frameworks Relevant to Water and Irrigation Management in Northern Australia (Draft)
Attachment 8	Presentation and posters by Principal Investigator at 2005 NPSI Investors Forum, Mildura, 23 October 2005
Attachment 9	List of all publications, presentations, workshops, seminars & meetings facilitated by or featuring NAIF
Attachment 10	Proposed changes to future project Milestones
Attachment 11	Sustainability Specialist duty statement

10.0 OTHER COMMENTS: Nil

ATTACHMENT 1

Address by

The Hon. Warren Truss MP

Australian Government Minister for Agriculture,
Fisheries and Forestry

Keynote address to the Irrigation Association
of Australia (IAA) Conference 2005

9:45-10:15 am, Wednesday, 18 May 2005
Townsville, Qld

Thank you Mr Addis for your introduction – and Counsellor Burnnell for your warm welcome on behalf of the people of Townsville.

Good morning and ladies and gentlemen, and may I say at the outset how pleased I am to be here for the 2005 Irrigation Association of Australia conference, with its timely theme of “Restoring the Balance”.

All Australians – whether they are in rural or urban locations – know they face a challenging time in using and managing the nation’s water resources. These issues have an immediate impact as many communities continue to deal with drought.

Water availability problems are critical in many urban areas. I know that the current shortages and restrictions on use are having an impact on many industries represented at this conference.

“Restoring the Balance” is a recurrent theme we hear when we talk about water. However, it has many dimensions and governments, communities and industries are examining approaches to better balance supply and demand for water’s many users.

The irrigation industry, as you know, is the lifeblood of many of Australia’s rural and regional communities. It provides an estimated 188,000 jobs, and adds \$12 billion every year to the Australian economy. However, as a nation, we have recognised we need to manage our precious resources better if the industry is to continue to grow and prosper.

Today, I will discuss some of the initiatives the Australian Government is implementing to restore the balance.

I will also discuss how the Australian Government is working with our state and territory counterparts – including Minister Robertson, local government colleagues, like Counsellor Burnnell, and industry bodies like the Irrigation Association of Australia – to meet the challenge.

The Australian Government, I am pleased to say, is a sponsor of this conference through the Natural Heritage Trust, which we established in 1997 to help conserve and restore the balance to Australia’s environment and natural resources.

Since then, thousands of community groups and organisations have received funding for environmental and natural resource management projects.

The Natural Heritage trust has also been a significant investor in water, with the Government committing \$350 million to water quality over the Trust’s life. Of course, most of its funds – and those of the National Action Plan for Salinity and Water Quality – go towards addressing regionally determined goals and investments.

Innovation in irrigation showcase

The Natural Heritage Trust has also supported projects to underpin the sustainability of Australia’s irrigation industry. A recent example of this is the Innovation in Irrigation showcase, which is on display at this conference.

The 12 irrigators from across Australia featured in the showcase are leaders in water

management, who have employed creative strategies to ensure high productivity for every megalitre of water they use.

I know these examples are inspiring and encouraging fellow irrigators to improve their practices, and realise the exiting potential of Australia's irrigation future. I encourage you to attend the Innovation in Irrigation workshop to share the skills and knowledge of these innovators. I would also be interested in exploring the potential for a similar exercise with the urban irrigation industry.

'Irrigation Insights' Soil Water Monitoring information package

The Australian Government is also investing in key research for the future of the irrigation industry through Land and Water Australia's national Program for Sustainable Irrigation.

This program brings together 14 funding partners, including irrigators, water authorities, research agencies, commodity groups, Australian and state government departments.

It is providing \$7 million for a range of research projects, and project partners have contributed another \$8.3 million.

To ensure irrigators have access to the vital information the research projects are generating, the Programme produces a valuable publication known as Irrigation Insights.

I suspect many of you here today have already used the 'Soil Water Monitoring Irrigation Insight'.

So it will come as not surprise to you to learn Land and Water Australia is today releasing the second edition of this valuable information package, which brings together information on how irrigators can improve soil water measuring and monitoring equipment and techniques.

The next edition of Irrigation Insights – On-Farm Monitoring Irrigation Insight will highlight case studies that demonstrate the best way to use the information from on-farm monitoring equipment to improve yields. I understand Townsville hosted the first research workshop last Tuesday and more workshops will be held around the country this year.

I invite you to visit the Program's exhibition stand today and lean more about the National Program for Sustainable Irrigation.

Pratt Water study

The Australian and New South Wales Governments provided \$5.3 million from the National Action Plan for Salinity and Water Quality to fund the Pratt Water study into water savings in the Murrumbidgee Valley. The final report, *The Business of Saving Water*, highlights the economic and regional benefits governments can gain from working with the private sector to deliver urgently needed investment, which can improve the efficiency and productivity of water storage and use.

Governments supported the project to gain further insights into the potential for applying a business approach to improved irrigation efficiency and environmental benefits. The report focused on the Murrumbidgee Valley in New South Wales, but we will be looking at ways of applying the findings in other parts of the country.

The Australian Government is examining the report as part of our wide-ranging water reform agenda and developing a response.

Australian's Tropical Rivers

To my mind there's no better place to talk about the theme of this conference than tropical Townsville. This city – Townsville and Australia's north – offer an important opportunity to create a balanced future for Australia's irrigation future.

Australia's tropical rivers discharge 70 per cent of Australia's available fresh water.

Sizeable parts of these river systems are free of large-scale extraction and diversion, and important for northern Australia's environmental values. There may also be opportunities to use northern Australian water resources for irrigation.

The Australian Government – recognising both of these realities – is supporting research to understand the key sustainability issues in land and water resources use while protecting downstream users and the unique ecology of our tropical rivers, floodplains, wetlands and estuaries.

Northern Australia Irrigation Futures

The Northern Australia Irrigation Futures project is undertaking research into the biophysical issues that form the basis of smart land and water management systems. The research is helping us build a sustainability framework that can be extended to include considerations of economic, social and cultural issues.

The research will examine basic information, such as the source and availability of water, supply variability, and types of soils and landscapes.

It will also look at key features of the surface and groundwater systems, including conjunctive use, environmental flow requirements, and the likely on-and off-site impacts of implementing particular irrigation systems and management.

Australian Tropical Rivers program

As a complementary project, the Australian Tropical Rivers program aims to improve our understanding of the protection, management and sustainable use of Australia's tropical rivers.

The program is doing this by assessing river assets and threats, supporting regional planning frameworks, assessing social, cultural and economic values and opportunities, and understanding river ecosystems.

With a better understanding of our tropical rivers and catchments, we can ensure we manage our tropical rivers in a socially, economically and environmentally sustainable way.

Land and Water Australia is sponsoring both projects, which involve governments and agencies from across northern Australia.

Great Barrier Reef Water Quality Protection Plan

I could not talk in Townsville without mentioning the Great Barrier Reef.

The Australian and Queensland governments are working together to deliver the Great Barrier Reef Water Quality Protection Plan. Its key objective is to 'halt and reverse the decline of water quality entering the reef as soon as practicable'.

The success of many of the actions will depend on the uptake of improved land and water management practices within the catchments bordering the Reef. I know that regional communities in catchments bordering the Reef are incorporating that objective in their catchment plans, which the NHT and the National Action Plan support.

Industries working to improve the efficiency and effectiveness of irrigation systems will assist efforts to reduce run-off of sediments and nutrients from the catchments.

Here, I want emphasise that these are not just rural issues. I am sure your efforts in the urban irrigation sector have a role to play in enhancing water quality in this and other coastal regions.

National Water Initiative

Nationally, a great deal is happening to improve the way water is used. On 25 June 2004, the Australian, state and territory governments agreed on the actions to implement them through the National Water Initiative.

The initiative builds on the 1994 Council of Australian Government water reforms. It will drive further reforms over the next 10 years to increase the productivity and efficiency of Australia's water use and ensure the health of our water systems.

Key outcomes will include improved investment certainty, environmental health, water supply certainty and water planning.

First, the initiative will improve investment certainty through the provision of more secure water access entitlements. It will help broaden and deepen the water trading market, allowing water to move to its highest value uses and providing greater flexibility in business planning.

Second, environmental health will improve as environmental objectives are described more explicitly. Governments will be obliged to provide sufficient water and suitable management to ensure achievement of environmental outcomes.

Third, water supply certainty will improve by addressing over-allocated systems as quickly as possible. The National Water Initiative signatories have agreed to restore over-allocated systems to sustainable levels of use by 2010.

Finally, the initiative will foster more sophisticated, transparent and comprehensive water planning that deals with key issues, such as the interaction between surface water and ground water.

There's also a strong urban focus to the National Water Initiative.

Investments supporting the National Water Initiative

The Australian Government supports implementation of the National Water Initiative with investment in the Living Murray Initiative and the Australian Government Water Fund.

In June 2004, the Australian, New South Wales, South Australian, Victorian and Australian Capital Territory governments agreed – through the Murray Darling Basin Inter-Governmental Agreement – to invest \$500 million over five years.

The investment will address over-allocation of water in the Murray-Darling Basin to provide new water for environmental flows for the River Murray and the six significant ecological assets identified through the Living Murray Initiative. The Murray Darling Basin Ministerial council has agreed to four proposals from Victoria and New South Wales that will recover 240 GL at a cost of \$179 million.

Australian Government Water Fund

The \$2 billion Australian Water Fund, announced by the Prime Minister in September last year, demonstrates the Australian Government's commitment to securing Australia's water resources. In essence, it will fund on-ground water solutions that support the National Water Initiative's objectives.

The Fund has three parts, including the Water Smart Australia program, the Raising National Water Standards program and Community Water Grants.

The Water Smart Australia programme will invest \$1.6 billion over six years to accelerate the dissemination and adoption of the smartest technologies in water use across Australia.

The Raising National Water Standards programme, worth \$200 million, will ensure Australia uses the best available science and data to manage our precious water resource.

The guidelines for the first round of funding for the Water Smart Australia program, which were released on 19 April, are available on the National Water Commission website. I understand officers from the Commission are here at the conference to speak with you over the next couple of days.

Applications for the first round of funding close on 30 June 2005. I encourage the irrigation industry to take this opportunity to develop its own innovative water resource management projects.

Community Water Grants will provide \$200 million in grants of up to \$50,000 to support community groups, schools, local government, and community groups to encourage better water use or improved water health through practical on-the-ground projects.

Nationally, 27 Community Water Grants demonstration projects will receive a total of \$1 million in 2004-05 to demonstrate practical ways that communities can save water or improve the health of their local waterways.

In Queensland, the Australian Government is funding four demonstration projects worth almost \$160,000. They include revegetation projects along the Bremer River and improved water use efficiency in two Brisbane schools.

There is also a waste water recycling system in Beaudesert, in Queensland's south east, which will retrofit existing facilities at a retirement centre. This project will use dual wastewater lines to direct the grey water to a demonstration treatment plan.

Community groups in rural, regional and metropolitan Australia will be able to apply for Community Water Grants when the first round of grants opens shortly.

My colleagues – Senator Macdonald and Senator Campbell – will be responsible for further announcements on the full operation of the Community Water Grants in the near future.

The National Water Commission

To help with effectively implement the National Water Initiative and drive the water reform, the Government has established the National Water Commission as an independent statutory body within the Prime Minister's portfolio.

The National Water Commission has several roles.

Its first role is to assess the National Water Initiative's progress every two years.

Second, it will advise the signatories to the National Water Initiative how they can better improve water resource management under the Initiative agreement.

Third, the Commission will advise on the performance of the water industry against national benchmarks in areas such as irrigation efficiency, management costs and water pricing.

Fourth, the Commission will assess the progress of water reform under the National Competition Policy.

And finally, the National Water Commission will administer the Australian Government Water Fund I mentioned earlier.

Conclusion

In closing, I would like to emphasise that all Australians should feel positive about the future of water resource management in Australia. We are continuing the work of the Council of Australian Governments through the National Water Initiative, with the support of the Australian Water Fund.

Water has a prominent place in our thoughts as a nation, and governments have made significant policy and program commitments to improve the whole regime of water use and management.

For those in the irrigation sector, there will be improved certainty that allows for investment and longer-term planning for improved water use.

The natural resource base and the environment will also benefit. All governments are now working to improve the health of waterways, increase our knowledge of the resource and sponsor communities in their efforts to sustain the nation's water resources.

Industries represented at this conference are playing a role through research, new products, smarter water application and improved performance measurement. The task is to continue innovation and encourage the adoption of that innovation throughout the community.

I am encouraged by the progress industries are making. There's no better evidence than this conference and its theme of balancing irrigation and the environment. Thank you.

NAIF MEDIA RELEASE – 17 OCTOBER 2005

Sustainability Specialist joins Northern Australia Irrigation Futures Project

The Northern Australia Irrigation Futures (NAIF) Project has appointed Mr Jeff Camkin as Sustainability Specialist.

“Mr Camkin brings valuable experience and skills to the team” said NAIF project leader Dr Keith Bristow. “This includes excellent knowledge of key natural resource management issues facing northern Australia and extensive experience in government processes and in developing public policy.”

“His expertise will help the project deliver to governments, community groups and other organisations an improved understanding of tropical water systems and a sound base on which to engage in debate and decision making regarding irrigation in northern Australia”.

The NAIF project was established to provide the knowledge, tools, and processes needed to help governments and communities decide the sustainable future of Northern Australia, and whether this will involve irrigated agriculture.

“There is increasing pressure on water resources in Australia’s north, where tropical rivers discharge some 70 per cent of the nation’s fresh water,” Dr Bristow said. “To maintain the integrity of this region’s unique and diverse ecological systems, it is widely recognised that any decisions about the future extraction of water must be based on the best knowledge available.”

Mr Camkin will work closely with the NAIF project team and stakeholders to ensure effective engagement and communication underpins development and delivery of a sustainability framework designed to support discussion and improved decisions about if and where to irrigate in tropical Australia; what tropical irrigation systems could look like; and how they should be managed to meet social, cultural, environmental and economic sustainability objectives.

“I am excited about the opportunity to work on such an important project addressing critical issues for the future sustainability of northern Australia,” said Mr Camkin, “and am looking forward to engaging with stakeholders across the country, and particularly across northern Australia”.

The NAIF project has widespread support from NRM regional bodies, local governments and communities across northern Australia, and is currently funded by Land & Water Australia’s National Program for Sustainable Irrigation, CRC for Irrigation Futures, CSIRO, and the Australian, WA, NT and QLD Governments.

Mr Jeff Camkin will be based at the CSIRO Land and Water Laboratory at Floreat Park in Perth, WA.

Further Information:

Dr Keith Bristow, CSIRO Land and Water

07 4753 8596 or 0408 468 941

Keith.Bristow@csiro.au

Mr Jeff Camkin, CSIRO Land and Water

08 9333 6000

Jeff.Camkin@csiro.au

Media Assistance:

Cris Kennedy, CSIRO Land and Water

02 6246 5850 or 0403 739 108

Cris.Kennedy@csiro.au

NAIF MEDIA RELEASE – 12 AUGUST 2005**Have your say in Northern Australia's Irrigation Future**

Expressions of interest are invited from people passionate about the future of northern Australia.

There is increasing pressure on water resources in Australia's north, where tropical rivers discharge some 70 per cent of the nation's available fresh water. To maintain the integrity of this region's unique and diverse ecological systems, it is widely recognised that any decisions about the future extraction of water must be based on the best knowledge available.

The Northern Australian Irrigation Futures (NAIF) project has been established to contribute the understanding, tools and processes needed to help governments and communities decide the sustainable future of Northern Australia, and whether this will involve irrigation or not.

The NAIF project has widespread support from NRM regional bodies, local governments and communities across northern Australia, and is funded by both state and federal agencies.

"There is recognition that huge mistakes were made in the past in other parts of Australia and around the world, where many key irrigation systems are now degraded or degrading," says NAIF project leader Dr Keith Bristow, "and no one wants to see that repeated in northern Australia."

The Steering Committee for the NAIF Project seeks expressions of interest from individuals with a stake in northern Australia's sustainable future. The Group will work closely with the NAIF Steering Committee and NAIF Project Team to help ensure effective linkages between the project and stakeholders to address environmental, economic, and social/cultural sustainability issues of relevance in determining the role irrigation may or may not play in the future of northern Australia, and if there is to be irrigation, where it should be located, what it should look like, and how it should be managed.

The project hopes to attract up to 10 members to the Stakeholder Reference Group who can best represent key views of local government, communities (indigenous, urban, rural), the environment (land and marine), NRM regional bodies, agriculture, other industries (fisheries, mining), and the media.

Expressions of interest should address the criteria outlined on the Northern Australian Irrigation Futures website – see <http://www.clw.csiro.au/naif/> - and close 22 August 2005. They should be sent to:

Ms Di Popham, CSIRO Land and Water, PMB Aitkenvale, Townsville, QLD 4814
Phone: 07-4753 8597; Email: Di.Popham@csiro.au

The NAIF project is funded by Land & Water Australia's National Program for Sustainable Irrigation, CRC for Irrigation Futures, CSIRO, and the Australian, WA, NT and QLD Governments.

Further Information:

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Shahbaz.Khan@csiro.au

Dr Cuan Petheram, CSIRO Land and Water

07 4753 8500

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MEDIA ITEM REFERRING TO NAIF PROJECT

CSIRO 'bled to death'; 780 jobs under review

By Rosslyn Beeby Research, Conservation and Science Reporter
29 October 2005

[Canberra Times](#)

(c) 2005 The Canberra Times

Australia's peak science organisation, the Commonwealth Science and Industrial Research Organisation, has confirmed that 780 jobs worth about \$155million are under review as part of a cost-cutting exercise to free up more funds for research. A former member of CSIRO's management council said the organisation was in dire financial straits, unable to meet its operating costs and has "been bled to death" over the past 15 years as a result of diminishing government funding. "CSIRO is bankrupt and the great tragedy is that the nation doesn't really know this - it's a national disaster," Dr Graeme Pearman said. The former chief of the organisation's Atmospheric Research Division and winner of a CSIRO medal for outstanding research, Dr Pearman said executive management in the organisation had been "dumbed down" and the leadership needed to secure adequate funding was lacking.

He described the reappointment of chief executive Dr Geoff Garret to head the organisation for another three years as "a huge disappointment" for Australian science. "In my view, there has not been an adequate assessment of his performance." The CSIRO Staff Association has expressed concern about the proposed support services jobs cuts, claiming figures in the 2004-05 annual report show senior executive salary packages increased by 24 per cent in the past financial year. "On a per senior executive package basis, that is an average increase of 11.4 per cent," an association spokeswoman said. According to association figures, a CSIRO level 5 scientist's annual salary is about \$67,000, while post- doctorate researchers earn about \$58,000. Figures in the CSIRO 2004-05 annual report show the number of

senior executives earning salaries above \$300,000 has doubled. Earlier this year, CSIRO flew 70 of its "science communicators" - as well as a Queanbeyan comedian, Majura the Magician - to South Stradbroke Island in Queensland for a two-day conference at an estimated cost of about \$31,360, excluding travel costs. CSIRO sources claim the organisation encountered serious financial difficulties three years ago, after a 5per cent staff wage increase and associated costs created a \$140million "black hole" in its budget. But CSIRO chief finance officer Mike Whelan said this figure did not make sense given CSIRO's current annual wages bill was \$537million. "If you take 5 per cent of that it doesn't add up to \$140 million." Mr Whelan also talked down the financial implications of the organisation's \$9.2million operating deficit for the past financial year - a blow-out of 73 per cent. "We don't exist to maximise our budget surplus. We exist to do research. This organisation doesn't have a religious focus on trying to maximise profit." The review was aimed at reducing the cost of CSIRO support services by about 25 per cent and "transfer

dollars from support to science". The jobs under review include finance, human resources, legal, property and facilities, libraries and records, commercialisation and contract administration. A final decision on how and where support jobs would be cut would be made next month.

"I think it is important for people to understand that CSIRO spends about \$300million per annum on its research support services, which is about 30 per cent of total organisation expenditure," Mr Whelan said. "Benchmarking suggests that in some instances we spend twice as much as other scientific research establishments on support services like paying accounts."

Meanwhile, a leading ecologist and CSIRO honorary research fellow, Professor Charley Krebs, has accused CSIRO of abandoning its professional responsibilities by scaling back feral pest control research. Speaking at a recent CSIRO sustainable ecosystems seminar, Professor Krebs said the division had switched its research efforts to landscape ecology "at a time when many ecologists have declared it an emperor with few clothes".

His comments follow staff protests over a succession of retrenchments at the division's Canberra headquarters, and claims by its chief, Dr Andrew Johnston, that feral pest research did not fit new "whole of landscape research priorities". **Peak conservation groups, including the Australian Conservation Foundation and World Wildlife Fund Australia, also believe a CSIRO irrigation project in northern Australia poses a significant threat to the ecological integrity and biological diversity of Australia's tropical rivers and wetlands. In a letter to CSIRO Land and Water research director Dr Keith Bristow the conservation groups claimed the project did not meet the accepted definition of ecologically sustainable development, and that it "strongly advocates" a significant expansion of irrigated agriculture that would degrade the region's conservation and cultural values.**

* Bold emphasis added for this report

ATTACHMENT 4

LIST OF MEDIA ITEMS RELATING TO THE NAIF PROJECT *

DATE	SOURCE	HEADLINE
2005		
29 October	Canberra Times	CSIRO 'bled to death'; 780 jobs under review.
2004		
2003		
19 November	ABC News	Daly should be considered for irrigation, Minister says. 179 words.
19 November	Herald & Weekly Times	Time our northern potential flowed. 786 words.
24 October	ABC News	Group slams govt funding for Kimberley river study. 152 words.
23 October	West Australian	New Fitzroy water project. 468 words.
23 October	ABC News	Research project gets mixed support. 225 words.
22 October	ABC News	Group supports plan for Burdekin irrigation. 189 words.
22 October	Ayr Advocate	Burdekin's bounty Study offers 'tremendous opportunity' Plan to 'bring industry to the water'. 403 words.
21 October	Geelong Advertiser	Move north for water: Truss. 146 words.
21 October	ABC News	Concerns raised over northern irrigation plan. 204 words.
21 October	ABC News	Environmentalists dismiss northern irrigation plans. 203 words.
21 October	Adelaide Advertiser	Farming looks north. 96 words.
21 October	Townsville Bulletin	Tor strikes a cord. 1,382 words.
21 October	Townsville Bulletin	Push to water North Study will expand on Burdekin's potential. 391 words.
21 October	The Australian	Tropical irrigation warning. 317 words.
21 October	Sunday Territorian	Water plan for north. 339 words.
21 October	Sydney Morning Herald	Irrigation Study To Look North. 568 words.
21 October	AAP General News	Irrigators may be encouraged to move to Australia's north. 473 words.
20 October	The Australian	Tropical solution for farm irrigation. 371 words.
20 October	The West Australian	Fitzroy water irrigation plan. 463 words.
20 October	ABC News	Study to consider Fitzroy River farming water. 136 words.
20 October	ABC News	Study to look at boost to irrigation farming from rivers. 181 words.
20 October	The Courier-Mail	Scheme to untap northern riches. 460 words.

* List is currently incomplete.

ATTACHMENT 5

DRAFT MONITORING AND EVALUATION PLAN

This document is too large to be included here and has been provided to NPSI as a separate file.

ATTACHMENT 6

DRAFT STAKEHOLDER ENGAGEMENT AND COMMUNICATION STRATEGY

This document is too large to be included here and has been provided to NPSI as a separate file.

ATTACHMENT 7

DRAFT GUIDE TO INSTITUTIONAL, LEGISLATIVE AND POLICY FRAMEWORKS RELEVANT TO WATER AND IRRIGATION MANAGEMETN IN NORTHERN AUSTRALIA

This document is too large to be included here and has been provided to NPSI as a separate file.

PRESENTATION BY PRINCIPAL INVESTIGATOR AT NPSI INVESTORS FORUM, 23 OCTOBER 2005, MILDURA

Northern Australia Irrigation Futures

NAIF - Providing new knowledge, tools, and processes to support debate and decision making regarding irrigation in northern Australia



Keith L. Bristow, Jeff Camkin, Cuan Petheram, Bart Kellett plus others
CSIRO Land and Water / CRC IF

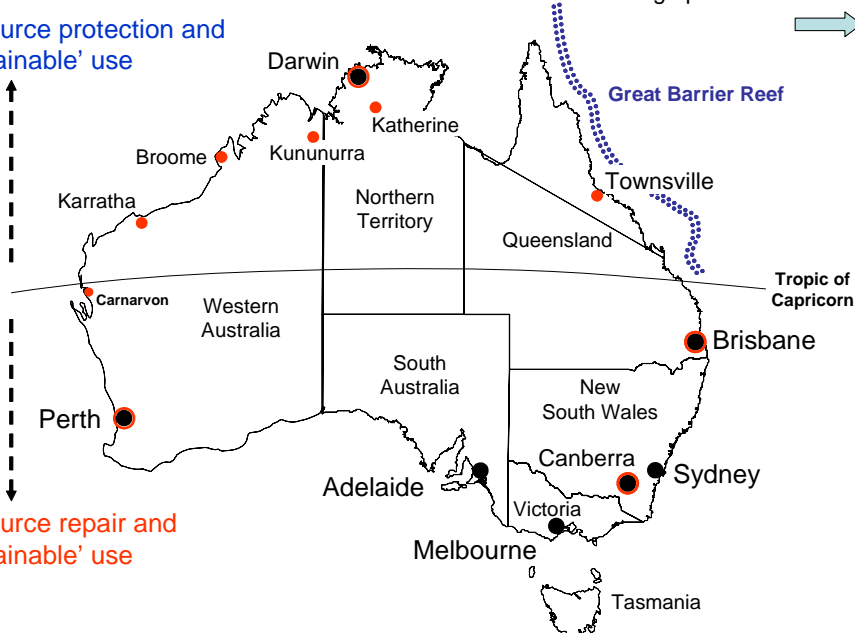


Northern Australia - unique features, opportunities, challenges

Resource protection and
'sustainable' use

Resource repair and
'sustainable' use

A tough place to live / work ...



Water reform – COAG, NWI, ...

WA

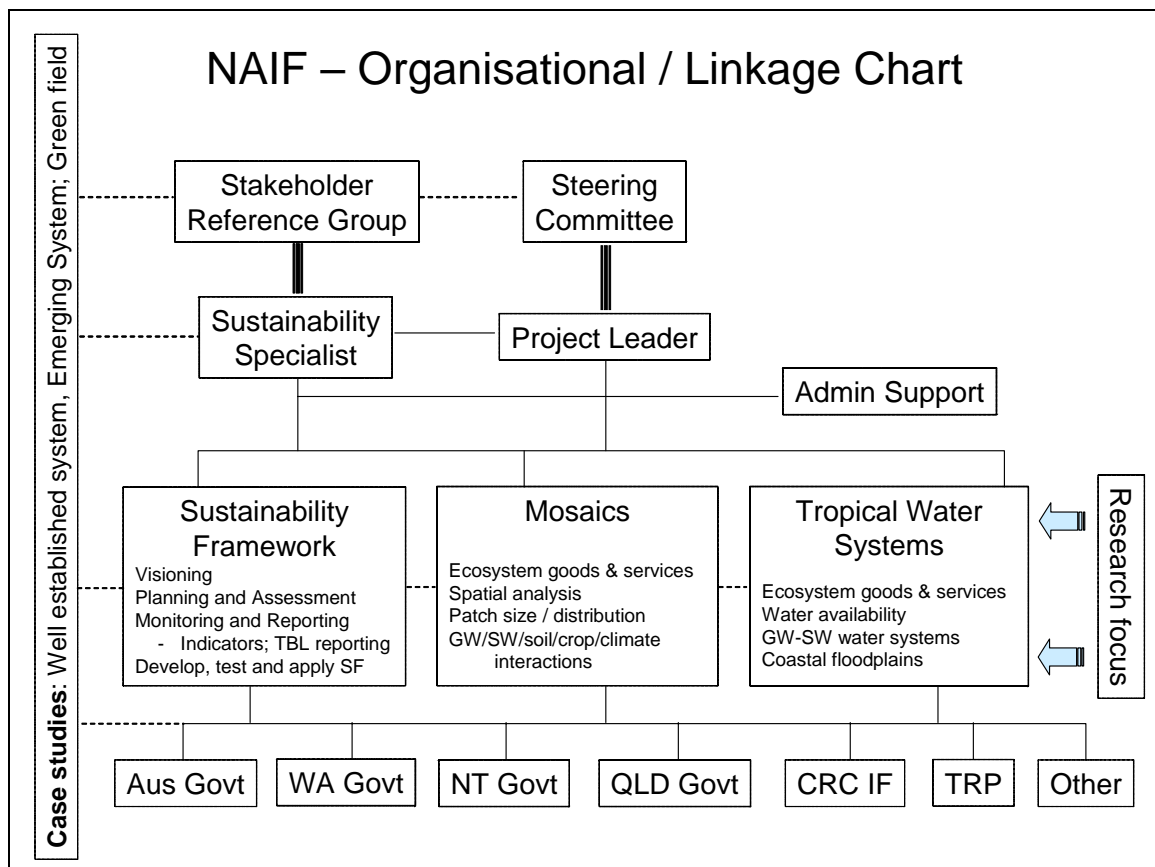
- WA Irrigation Review and Governance Review implementation
- New Department of Water
- Ord River Scheme – WA Gov and Traditional Owner agreement

NT

- Irrigation development in the Douglas-Daly-Katherine system
- Water allocation – environmental flows, water security
- Indigenous, environmental, fisheries issues

QLD

- QLD Water Plan
 - economic growth; sustainable water resource management
- Wild rivers policy
- Review / change water pricing
 - water resource management charge

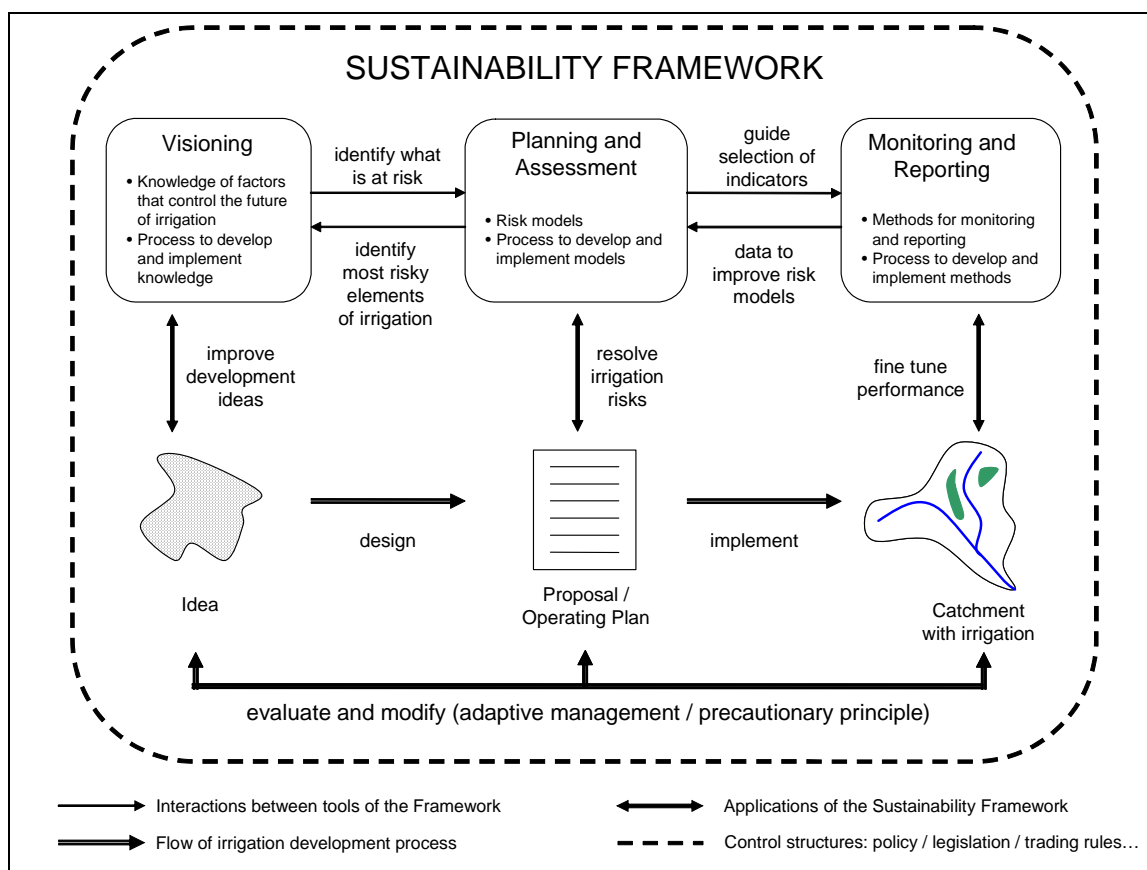


Learning's / Outcomes

- Working within very dynamic water reform environment
- Collaboration within and between Australian, WA, NT, QLD governments is increasing
- High ownership of the issues and the NAIF project
- High level of cash support – Sustainability Specialist
- Acknowledge its challenging and risky
- Commitment to the longer journey

Stakeholder Engagement

- Stakeholder Reference Group
 - Being established through call for EOI's and invitation
- Indigenous groups – no central body
 - Growing interest in economic development
 - Specific engagement strategies being developed
- Environment sector see NAIF as pro-development
 - Individual engagement required to develop confidence in process
- Broader community
 - irrigation needs to demonstrate it can deliver improved environmental performance (in existing and new areas)
- Further development of engagement strategies by SS



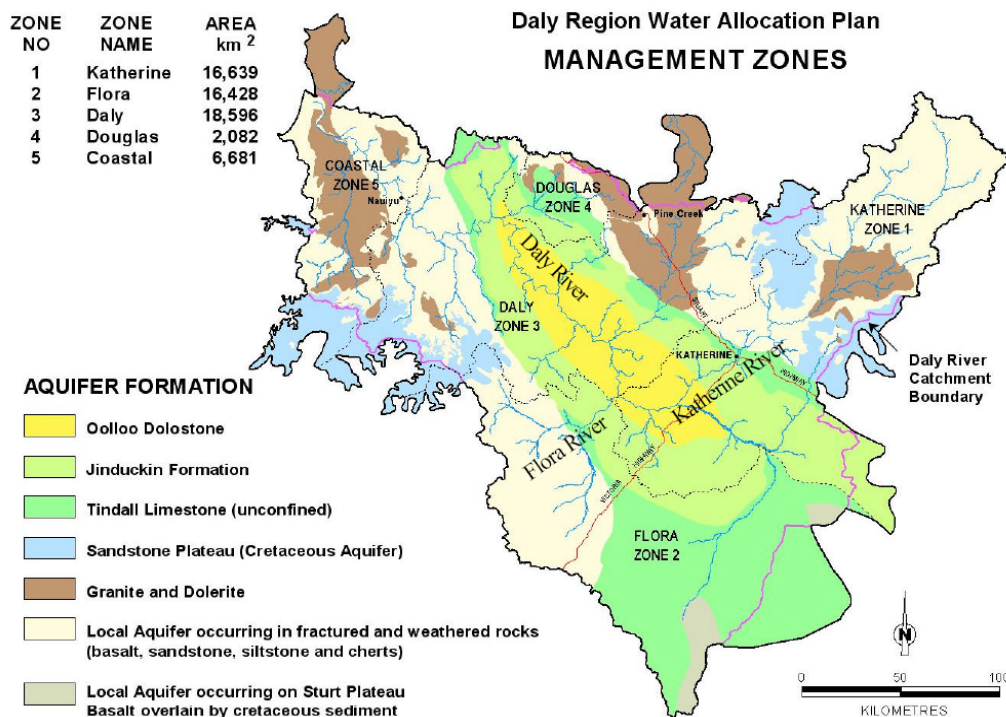
Learning's / Outcomes

- NAIF is making the connections between disparate / disjointed approaches to improve debate / decisions re sustainability
- Sustainability framework tools and processes applicable at range of scales – farm to catchment
- Can improve ERA process through development of conceptual models as part of the risk analysis
- Avoid bias in ERA process through improved stakeholder engagement plans
- Resilience assessment adds value to ERA through better understanding of thresholds, spatial and temporal effects, interdependencies

Tropical Water Systems

- Water resources / water availability
 - storage issues – dams, on-farm storages, aquifer storage
- Hydrogeological settings – variations across the north
- Coastal floodplains
 - Differences in salinity, water storage and supply capability
- River-floodplain interactions
 - maintaining connectivity, wetlands ...
- Land-ocean interactions
 - salt water intrusion, fisheries

Daly River Catchment



Learning's / Outcomes

- Groundwater mostly viewed as 'underground storages'
 - Need to understand / manage ecological functions
 - Important for maintenance of base flows
- Connectivity of the water systems is critical
 - 1 ML GW = 1 ML SW
- Must set and meet water table targets – quantity and quality
- Biogeochemistry of groundwater systems important
 - Impacts on fate of solutes and quality of water downstream
- Need to address 'salt flushing'
 - groundwater discharge poorly understood / quantified
- Must understand end of catchment needs/targets
 - Account for needs at end of catchment (including marine) and work backwards up the system

Learning's / Outcomes

- WA, NT, QLD hydrogeologists working together
 - Review of hydrogeological systems of northern Australia
 - Analysis of the Ord, Katherine-Douglas-Daly and lower Burdekin irrigation systems: Implications to future design and management of tropical systems
 - Groundwater flow system characterisation / classification; with links to tropical rivers classification
- Debate as to need for and value of classification system and the pathway to developing the most useful system – WA, NT, QLD considering joint proposal with NAIF

Mosaics

- How can irrigation fit within the environment and what are the 'costs' to the environment (impact on ecosystem goods and services)
- Traditional large scale systems ('concentrate')
 - 'sacrifice' designated areas
- Smaller distributed patches of irrigation ('spread out')
 - patch size and distribution
 - farm / sub-region / scheme scale
 - same fate as traditional large scale systems - just take longer ?
- 'Mosaic' structure emerging in the NT Daly River Catchment

Mosaics

- How can irrigation fit within the environment and what are the 'costs' to the environment (impact on ecosystem goods and services)
- Traditional large scale systems ('concentrate')
 - 'sacrifice' designated areas
- Smaller distributed patches of irrigation ('spread out')
 - patch size and distribution
 - farm / sub-region / scheme scale
 - same fate as traditional large scale systems - just take longer ?
- 'Mosaic' structure emerging in the NT Daly River Catchment

NAIF – looking ahead

- Increasing capacity with full time Sustainability Specialist
- Indigenous interests in economic development and cultural values of water
- Emerging initiatives (Tropical SKI proposal, Tropical Rivers Program, CERF's, NWC interests in the north ...)
- NAIF to have major role in ANCID 2006
 - Darwin 15-18 October 2006; includes 'field trip' to Kununurra
- An adaptive approach is essential to
 - Deliver short term benefits
 - Long term change, which is the primary focus of the project

NAIF - Summary

Project knowledge, tools and processes will help

- improve transparency and objectivity in debates and decisions regarding irrigation and water resources
- increase confidence of investors, environmentalists, and broader community
- decrease pressure on managers and politicians
- deliver better water and environmental outcomes across northern Australia



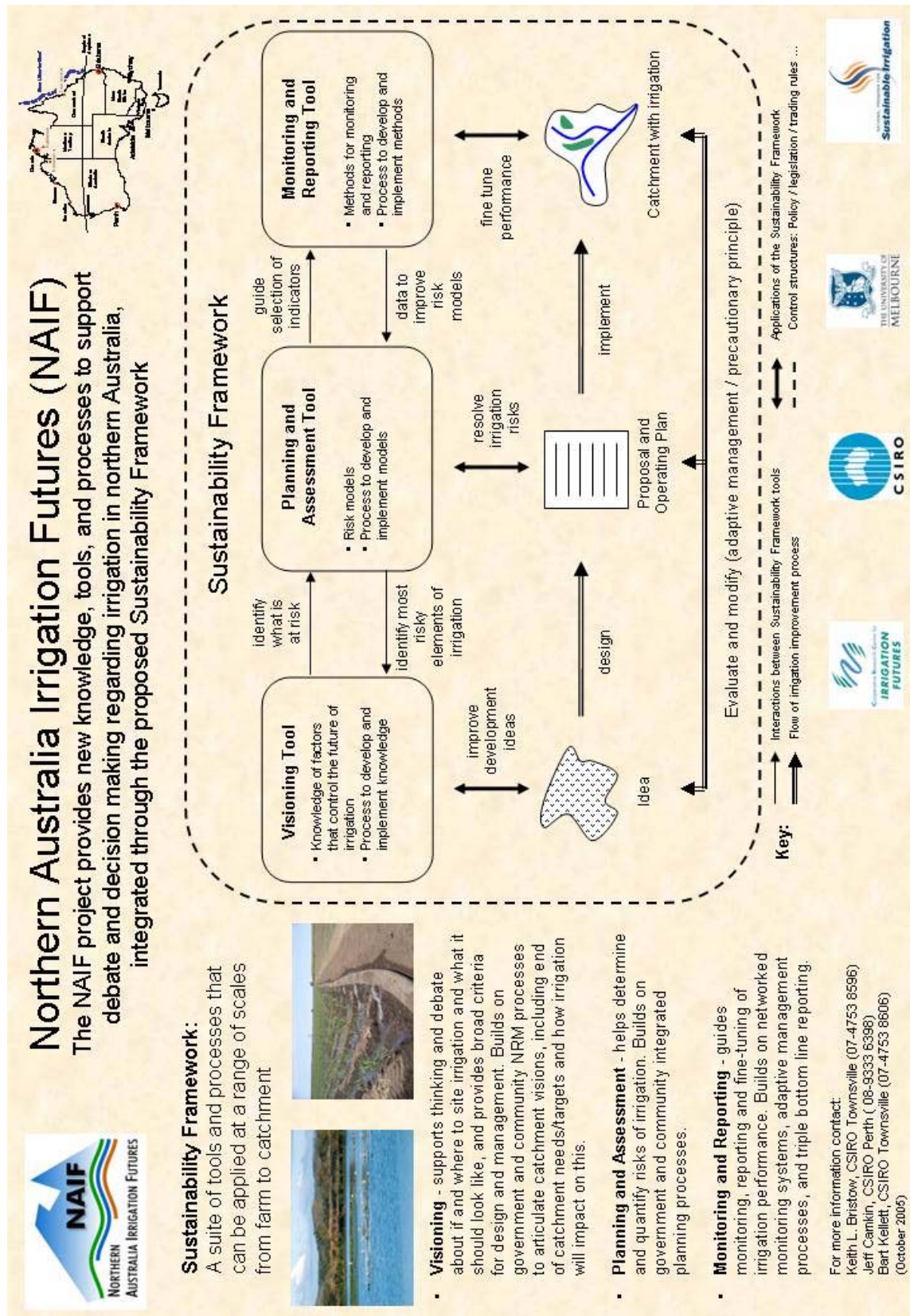
Northern Australia – a tough place to live / work !



“...it is no coincidence that the northern part of Australia was not settled either by the farming Papuans nor by the fairly domesticated Indonesian Island inhabitants...”

(Henry Nix, Canberra 2005)





Northern Australia Irrigation Futures

Groundwater flow systems: The neglected component in irrigation siting and design

A change to the water and solute balance of an underlying groundwater system can lead to unwanted on-site and/or off-site impacts

There is increasing recognition that groundwater and surface water systems are connected. A change in groundwater level or groundwater quality may take many years/decades to be observed in connected surface water bodies because of the time lags associated with lateral groundwater flow processes. Groundwater and surface water systems should be treated as connected unless proven otherwise



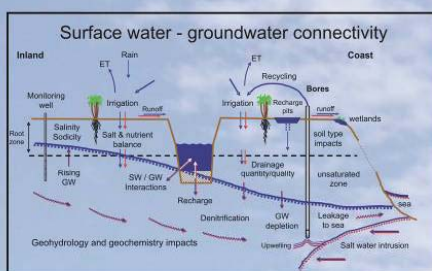
Off-site impact

Often there are temporal lags associated with these impacts



On-site impact

Irrigation induced salinity can occur when the volume of recharge in a given area exceeds the quantity of groundwater discharged through lateral flow. Lateral flow is in part a function of the hydraulic gradient and the transmissivity of the groundwater system



The temporal lag and spatial extent of the unwanted impacts associated with irrigation will in part be a function of the characteristics of the underlying groundwater system.



Groundwater provinces - based on broad uniformity of hydrogeological and geological conditions. As defined by the Australian Water Resources Council.

Groundwater flow system characterisation will ensure that groundwater flow processes are captured and highlighted in the decision making framework

Key groundwater features to be captured by characterisation include:

- sustainable yield (quality and quantity)
- potential for degradation of aquifer
- surface water - groundwater connectivity
- potential for enhanced aquifer storage
- ecohydrology (i.e. relative importance of quantity and quality of baseflow).

For more information contact:

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Keith.Bristow@csiro.au

Accounting for groundwater flow processes is of critical importance in siting irrigation

(October 2005)

Northern Australia Irrigation Futures: Risk and Resilience for Adaptive Irrigation Planning

Developing and testing a risk and resilience assessment framework for irrigation planning

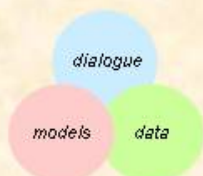
Community of Practice



Findings:

- Communities of practice are for learning
- Irrigation areas have several communities of practice, so linking with or building on existing communities of practice is a good idea
- Communities of practice act as a hub from which ideas and information can flow to build new and adaptive planning
- Communities of practice shifts focus from one client (e.g. water service provider) to the community

Articulate Planning Problem



Findings:

- Irrigation industry members can feel threatened when researchers implicitly prioritise values
- Incorporating a range of ecological, social and economic values builds transparency
- Explicit value prioritization and negotiation at this stage can help reduce conflict that can occur when decisions are made at later stages
- Knowledge diversity, including models, dialogue, and data, can offer different perspectives on problems—different perspectives are required for addressing complexity and improving transparency

Assess Risk and Resilience



Findings:

- Semi-quantitative risk assessment is an opportunity for politically driven risk quantification
- Mistrust is cultivated by determining risks prior to engagement with community
- When risk assessment channels effort and knowledge into producing single number outputs, assumptions and bias are easy to hide
- Risk assessment is part of a reactive management cycle whereas resilience assessment encourages a proactive approach
- Resilience assessment can build on risk assessment to deliver outputs that better describe thresholds, spatial and temporal effects, and significance of relationships between different kinds of systems (e.g. water trading system and river)

Build Adaptive Planning



Findings:

- Planning needs to be adaptive at farm, district, scheme, catchment, region and state levels, because change is continuous and uncertainty is always present
- Adaptive planning stems from assessments that are issue driven and assessments that are not decision making documents, but flexible practices of individuals and organisations
- Together risk and resilience make assessment more flexible and able to deal with complexity

Case studies underway in the Lower Burdekin include:
1) groundwater nitrate, and 2) wetlands

For further information contact: Bart Kellett ph: 07 4753 8608 email: Bart.Kellett@csiro.au
(October 2005) Keith Bristow ph: 07 4753 8596 email: Keith.Bristow@csiro.au

(Updated 5-1-06)

NAIF PUBLICATIONS AND PRESENTATIONS

NAIF PUBLICATIONS:

Kellett, B.M., Walshe, T. & Bristow, K.L. 2005. Ecological Risk Assessment of the Wetlands of the Lower Burdekin. CSIRO Land and Water Technical Report No. 26/05. 30 pp.

Bristow, K.L. & S. MacKinnon. 2005. Northern Australia Irrigation Futures (NAIF) - Research, Frameworks and Sustainability. IAA Journal, Vol 20 No. 2 pp. 54-55.

Kellett, B., Bristow, K.L. & P.B. Charlesworth. 2005. Indicator Frameworks for Assessing Irrigation Sustainability. CSIRO Land and Water Technical Report No. 01/05

NAIF PRESENTATIONS AT CONFERENCES, WORKSHOPS AND MEETINGS

Bristow, K.L., Petheram, C. & Kellett, B.M. 2005. Irrigation in northern Australia – is it worth the risk? ASA-SSA national Conference, 6-10 November, Salt Lake City, Utah, USA (Agron. Abstr. 2005 CD-ROM)

Kellett, B.M., Bristow, K.L., Moore, G., Beilin, R. and F.h.s. Chiew. 2005. Reflecting on stakeholders' perceptions in an ecological risk assessment workshop. In: Proceedings of the Environmental Research Event Conference. 29th November – 2nd December, 2005, Hobart, Tasmania.

Bristow, K.L. & C. Petheram. 2005. Irrigation and groundwater systems in northern tropical Australia. ANCID Conference, Mildura, Victoria (24-26 October 2005)

Bristow, K.L. 2005. Northern Australia Irrigation Futures. Land and Water Australia Sustainable Irrigation Program Investors Forum, Mildura, Victoria (23 October 2005)

Bristow, K.L. 2005. The Northern Australia Irrigation Futures Project. Environmental Research Institute of the Supervising Scientist (ERISS), Darwin, Northern Territory (7 October 2005)

B.M. Kellett & K.L. Bristow. 2005. Risk and Resilience for Adaptive Irrigation Planning. CRC for Irrigation Futures Annual Forum, Mildura, Victoria (19-21 September 2005)

Bristow, K.L., C. Petheram & B.M. Kellett. 2005. Northern Australia Irrigation Futures: An update. CRC for Irrigation Futures Annual Forum, Mildura, Victoria (19-21 September 2005)

- Bristow, K.L., Jolly, P., Smith, I., Petheram, C. & P.B. Charlesworth. 2005. Groundwater systems and their potential role in irrigation in northern Australia. Workshop on Groundwater Surface Water Interaction in the Tropics, Darwin, NT, Australia (26-27 May 2005)
- Kellett, B.M. Bristow, K.L., Charlesworth, P.B., Malano, H., Moore, G. & F. Chiew. 2005. Accounting for stakeholders' assumptions and cultural understandings in environmental risk assessment for irrigation: A groundwater nitrate case study. Irrigation Association of Australia (IAA) Conference on Restoring the Balance. Townsville, QLD, Australia (17-19th May 2005)
- Bristow, K.L., Charlesworth, P.B., Thayalakumaran, T., Narayan, K.A. & C. Petheram. 2005. Water and irrigation management on the Burdekin coastal floodplain. OzWater WaterShed Conference, , Townsville, QLD, Australia (5-7th May)
- Bristow, K.L. 2005. Northern Australia Irrigation Futures. Northern Australia Environment Alliance, Brisbane, QLD (22 February 2005)
- Kellett, B.M. 2005. A Sustainability Framework to Guide Irrigation Development in Northern Australia. BBIFMAC Office, Ayr (14 February 2005)
- Kellett, B.M. 2005. A Sustainability Framework to Guide Irrigation Development in Northern Australia. The University of Melbourne, Melbourne (4 February 2005)
- Bristow, K.L. 2005. Northern Australia Irrigation Futures. SunWater, Ayr, QLD (1 February 2005)
- Bristow, K.L. 2005. Irrigation within a broader sub-catchment context: The lower Burdekin. CSIRO Floreat Park, Perth, WA (28 January 2005)
- Bristow, K.L. 2005. Northern Australia Irrigation Futures. WA Water Task Force, Perth. (27 January 2005)
- Bristow, K.L. 2004. Northern Australia Irrigation Futures. CRC for Irrigation Futures Sustainability Challenge Workshop, Stamford Airport Hotel, Sydney, (17 November 2004)
- Kellett, B.M. 2004. A Sustainability Framework to Guide Irrigation Development in Northern Australia. PhD Introductory Seminar, CSIRO Land and Water, Davies Laboratory, Townsville (15 October 2004)
- Bristow, K.L. 2004. Northern Australia Irrigation Futures: An Update. ANCID Conference, Barossa Valley, Tanunda, South Australia (10-13 October 2004)
- Bristow, K.L. 2004. Northern Australia Irrigation Futures. Land and Water Australia Sustainable Irrigation Program Investors Forum, Barossa Valley, Tanunda, South Australia (10 October 2004)
- Bristow, K.L. 2004. Northern Australia Irrigation Futures. CRC for Irrigation Futures Annual Workshop, University of Western Sydney, Sydney (20 September 2004)

Kellett, B.M. 2004. A Sustainability Framework to Guide Irrigation Development in Northern Australia. CRC for Irrigation Futures Annual Workshop, University of Western Sydney, Sydney (20 September 2004)

Bristow, K.L. 2003. Northern Australia Irrigation Futures: Building a basis for developing sustainable irrigation across northern Australia. ANCID Conference, Shepparton, Victoria, Australia (19-22 October 2003)

Bristow, K.L. 2003. Northern Australia Irrigation Futures: Building a basis for developing sustainable irrigation across northern Australia. Land and Water Australia Sustainable Irrigation Program Investors Forum, Shepparton, Victoria, Australia (19 October 2003)

RADIO:

Northern Australia Irrigation Futures. ABC North West WA Radio News (6 May 2004)

Water futures. Curtin FM Seeling Solutions with Retirees WA (27/3/2003)

TELEVISION:

Tropical river systems and North Australian Irrigation Futures. ABD6 State Television News, Darwin (2 February 2004)

WORKSHOPS, SEMINARS AND MEETINGS FACILITATED BY OR FEATURING NAIF

(Participant numbers (#) does not include NAIF team members or NAIF consultants)

Seminars Meetings Workshops	Date	#	Organisations Represented
2005			
Meeting, Office of Water Strategy, Perth	7 December	3	<ul style="list-style-type: none"> Office of Water Strategy Dept of Water Dept of Agriculture
Meeting, Water Smart Australia, Canberra	2 December	≈ 30	<ul style="list-style-type: none"> National Water Commission National Farmers Federation Victorian Farmers Federation Cotton Australia Twynam Agricultural Group Ricegrowers Association of Australia Irrigation Association of Australia NSW Irrigators Council South Australian Murray Irrigators SunWater CRC for Irrigation Futures National Program for Sustainable Irrigation SA Murray Darling NRM Board NT Agricultural Association Pratt Water Aust. National Committee on Irrigation & Drainage Cth Dept of Agriculture, Forestry & Fisheries Southern Rural Water CSIRO (Jeff Camkin)
Meeting, CSIRO, Perth	2 December	3	<ul style="list-style-type: none"> Dept of Water
Meeting, Office of Water Strategy, Perth	1 December	10	<ul style="list-style-type: none"> Office of Water Strategy WA Irrigation Review Steering Committee Dept of Water (formerly Dept of Environment) Dept of Agriculture Water Corporation
Cross Project Collaboration tele-meeting	1 December	2	<ul style="list-style-type: none"> NT Dept Natural Resources, Environment & the Arts Environmental Research Institute of the Supervising Scientist
Meeting, CSIRO, Perth	1 December	1	<ul style="list-style-type: none"> Dept of Industry Resources
Meetings, Darwin	23-24 November	10	<ul style="list-style-type: none"> NT Dept Natural Resources Environment & the Arts NT Dept of Primary Industries, Fisheries and Mining Amateur Fishing Association of NT NT Horticultural Association Charles Darwin University Environmental Research Institute of the Supervising Scientist CSIRO Sustainable Ecosystems Aust. National Committee on Irrigation & Drainage

Seminars Meetings Workshops	Date	#	Organisations Represented
Meetings organised by ANCID, Darwin	21-22 November	12	<ul style="list-style-type: none"> • Aust. National Committee on Irrigation & Drainage • NT Dept Natural Resources, Environment & the Arts • Ord Irrigation Cooperative • NT Dept of Primary Industries, Fisheries and Mining • Charles Darwin University • Environmental Research Institute of the Supervising Scientist
Cross Project Collaboration tele-meeting	31 October	4	<ul style="list-style-type: none"> • NT Dept Natural Resources, Environment & the Arts • Environmental Research Institute of the Supervising Scientist • Charles Darwin University
Meeting, Environmental Research Institute of the Supervising Scientist (ERISS), Darwin	7 October	12	<ul style="list-style-type: none"> • SSD • Environmental Research Institute of the Supervising Scientist • NT Dept Natural Resources, Environment & the Arts • NT Dept of Primary Industry, Fisheries and Mining • Cth Department of Environment and Heritage • WWF • CSIRO
Meeting, Northern Australia Groundwater Systems, NRETA, Darwin	3-5 October	6	<ul style="list-style-type: none"> • NT Dept Natural Resources, Environment & the Arts • QLD Dept of Natural Resources and Mines • CSIRO
CRC IF Annual Research Forum, Mildura	19-21 September	>80	<ul style="list-style-type: none"> • CRC Irrigation Futures • CSIRO Land and Water • QLD Dept Natural Resources, Mines and Energy • National Program for Sustainable Irrigation • Land and Water Australia • VIC Dept of Primary Industries • University of Melbourne • University of Southern Queensland • University of South Australia • University of Western Sydney • Charles Sturt University • NSW Agriculture • South Australian Research and Development Institute
Meeting, Sustainability Challenge, North Burdekin Water Board Case Study, Ayr	27 July	14	<ul style="list-style-type: none"> • North Burdekin Water Board • South Burdekin Water Board • CSR • QLD Dept of Natural Resources and Mines • Burdekin Shire Council • Canegrowers • CSIRO • University of New England • BSES
Meeting, Sustainability	30 June	6	<ul style="list-style-type: none"> • North Burdekin Water Board • CSIRO

Seminars Meetings Workshops	Date	#	Organisations Represented
Challenge, North Burdekin Water Board Case Study, Ayr			<ul style="list-style-type: none"> • University of New England • BSES
Workshop, Lower Burdekin Knowledge Platform, Ayr	17 June	≈ 30	<ul style="list-style-type: none"> • North Burdekin Water Board • South Burdekin Water Board • Sunwater • Burdekin Dry Tropics Board • Burdekin Shire Council • Canegrowers • QLD Dept of Natural Resources and Mines • BBIFMAC • QLD Dept of Primary Industry and Fisheries • BSES • James Cook University ACTFR
ERA workshop, Ecological Risk Assessment for the Wetlands of the Lower Burdekin	1 June	25	<ul style="list-style-type: none"> • North Burdekin Water Board • South Burdekin Water Board • Burdekin Dry Tropics Board • Townsville City Council • Canegrowers • Dept of Natural Resources and Mines • BBIFMAC • Dept of Primary Industry and Fisheries • EPA • ACTFR • University of Melbourne • University of Western Australia • Great Barrier Reef Marine Park Authority • Australian Sweet Forage Pty Ltd • Earth Environmental Consulting • Haughton Catchment Committee • Creek to Coral Waterwatch • CRC for Irrigation Futures • Burdekin Productivity Services Ltd • Monash University • CSIRO Land and Water
NT Stakeholder Meeting, Darwin	30 May	≈ 26	<ul style="list-style-type: none"> • NAIF Steering Committee • NT Dept Infrastructure Planning and Environment • NT Dept Business Industry & Resource Development • CSIRO • Environmental Research Institute of the Supervising Scientist • Land & Water Australia • NT Agricultural Association • NT Cattleman's Association
Workshop: Groundwater surface water interaction in the tropics, Darwin	26-27 May	≈ 40	<ul style="list-style-type: none"> • SKM • QLD University of Technology • QLD Dept Natural Resources & Mines • Charles Darwin University • CSIRO • NT Dept Infrastructure Planning and Environment • NT Dept Business Industry & Resource

Seminars Meetings Workshops	Date	#	Organisations Represented
			<ul style="list-style-type: none"> Development EWL Sciences Pty Ltd Australian National University Ord Irrigation Cooperative
ERA Workshop: Irrigation in the Katherine-Daly region, Darwin	18 May	≈ 25	<ul style="list-style-type: none"> NT Dept Infrastructure Planning and Environment NT Dept Business Industry & Resource Development Charles Darwin University NT Horticultural Association Environmental Research Institute of the Supervising Scientist Cth Department of Environment and Heritage CSIRO
Darwin meetings	17 May	7	<ul style="list-style-type: none"> Sue Jackson, CSIRO Peter Jacklyn, CRC Savanna's Peter Jolly et al, NT DIPE
SunWater, Ayr	10 March	1	<ul style="list-style-type: none"> Shaun Davidge – Project Manager: Water for Bowen
Sustainability Challenge Project Meeting, Charles Sturt University, Albury	25 February	≈ 20	<ul style="list-style-type: none"> CRC Irrigation Futures CSIRO Land and Water QLD Natural Resources and Mines South Australian Research and Development Institute University of Western Sydney Charles Sturt University NSW Agriculture
Northern Australia Environment Alliance (NAEA), Brisbane	22 February	4	<ul style="list-style-type: none"> Stuart Blanch – Manager Freshwater WWF Australia Kerryn O'Connor - Wilderness Society Henry Boer - Queensland Conservation Council Matthew Durack – CRC IF
CRC IF Sustainability Challenge, Townsville, Ayr	15-17 February	≈ 10	<ul style="list-style-type: none"> CRC IF Sustainability Challenge (Christen, Shepherd) North Burdekin Water Board BBIF MAC SunWater
BBIFMAC, Ayr	14 February	10	<ul style="list-style-type: none"> Burdekin Bowen Integrated Floodplain MAC
University of Melbourne – Confirmation Seminar, Melbourne	4 February	25	<ul style="list-style-type: none"> University of Melbourne CRC for Irrigation Futures National Program for Sustainable Irrigation
Sunwater, Ayr	1 February	3	<ul style="list-style-type: none"> SunWater
WA Water Task Force, Perth	27 January	≈ 15	<ul style="list-style-type: none"> See minutes of meeting
2004			
CRC IF Sustainability Challenge Project Workshop, Sydney	17 November	23	<ul style="list-style-type: none"> CRC Irrigation Futures CSIRO Land and Water SunWater QLD Natural Resources and Mines South Australian Research and Development

Seminars Meetings Workshops	Date	#	Organisations Represented
			<ul style="list-style-type: none"> Institute University of Western Sydney Charles Sturt University NSW Agriculture
ERA Workshop Townsville	10 November	25	<ul style="list-style-type: none"> CSIRO Land and Water National Program for Sustainable Irrigation Monash University Australia Centre for Tropical Freshwater Research NT Dept of Infrastructure, Planning and Environment QLD Dep. of Primary Industries QLD Dept of Natural Resources and Mines Ord Land and Water Burdekin Bowen Integrated Floodplain MAC Burdekin Dry Tropics Board CSR
Seminar – Kellett; CSIRO Davies Laboratory Townsville	15 October	25	<ul style="list-style-type: none"> CSIRO Land and Water CSIRO Sustainable Ecosystems QLD Environmental Protection Agency QLD Natural Resources and Mines North Queensland Area Consultative Committee Individual Farmers
CRC IF Annual Conference	20 September	100	<ul style="list-style-type: none"> CRC Irrigation Futures CSIRO Land and Water QLD Dept Natural Resource Mines and Energy National Program for Sustainable Irrigation Land and Water Australia Victoria Department of Primary Industries University of Melbourne University of Southern Queensland University of South Australia University of Western Sydney Charles Sturt University NSW Agriculture South Australian Research and Development Institute
Brisbane Workshop	3 August	18	<ul style="list-style-type: none"> QLD Dept of Primary Industries and Fisheries QLD Environmental Protection Agency QLD Dept Natural Resources Mines and Energy QLD Dept State Development and Innovation CSIRO Sustainable Ecosystems CRC Irrigation Futures Land and Water Australia
Darwin Workshop	26-27 May	20	<ul style="list-style-type: none"> Cth Bureau of Rural Sciences CSIRO Land and Water National Program for Sustainable Irrigation Cth Dept of Fisheries, Forestry & Agriculture NT Dept of Business, Industry & Resource Development CRC for Irrigation Futures Land and Water Australia Cth Dept of Environment and Heritage Environmental Research Institute of the Supervising

Seminars Meetings Workshops	Date	#	Organisations Represented
			Scientist <ul style="list-style-type: none"> • QLD Dept of Natural Resources, Mines & Energy • NT Dept of Infrastructure, Planning & Environment • WA Dept of Environment • WA Dept of Agriculture
Kununurra Meeting 2	7 May	2	<ul style="list-style-type: none"> • WA Dept of Agriculture
Kununurra Meeting 1	7 May	1	<ul style="list-style-type: none"> • WA Dept of Environment
Kununurra Seminar	6 May	9	<ul style="list-style-type: none"> • WWF • Ord Cucurbit Growers • WA Dept of Agriculture • Ord Land and Water • Ord Irrigation • Ord Irrigation Coop • Kimberley Primary Industries Association
Broome Seminar	5 May	6	<ul style="list-style-type: none"> • Environs Kimberley • Kimberley Land Council • Gray's Organic Produce • Individual Farmers • Kimberley Area Consultative Committee • Kimberley Sustainable Regions Advisory Committee
Karratha Seminar	5 May	3	<ul style="list-style-type: none"> • WA Dept of Environment • WA Dept of Agriculture
Perth Seminar	4 May	10	<ul style="list-style-type: none"> • WA Farmers Federation • WA Dept of the Premier and Cabinet • Irrigation Association of Australia, WA Region • CSIRO Land & Water • WA Dept of Environment • WA Dept of Industry and Resources • Conservation Council of WA • Pastoralists and Graziers Association of WA

PROPOSED CHANGES TO FUTURE PROJECT MILESTONES

EXISTING DELIVERABLES	EXISTING ACHIEVEMENT CRITERIA	PROPOSED DELIVERABLES	PROPOSED ACHIEVEMENT CRITERIA
<p><i>1/05/2006: Milestone 5</i></p> <ul style="list-style-type: none"> • *Generic deliverables • Work plan continues with all priority stakeholders participating • Government and community interactions and feedback on SF tools and processes documented • At least one Steering Committee meeting held • Engagement and Communication strategies operating, with feedback from stakeholders involved • SRG feedback considered • Milestone report submitted 	<ul style="list-style-type: none"> • Generic deliverables achieved • Work plan goals achieved • Report on classification system for tropical GW systems <ul style="list-style-type: none"> - Report on northern inventory - report on NAIF engagement / communication strategies including evidence of NAIF team taking proactive approach to identification of key audiences, their issues and NAIF response • Steering committee meeting held and relevant plans and strategies agreed • SRG functioning • Milestone approved by Land & Water Australia 	<p><i>1/05/2006: Milestone 5</i></p> <ul style="list-style-type: none"> • *Generic deliverables • Implementation of work plan continues • Implementation of Stakeholder Engagement & Communication (SE&C) Strategy continues • At least one Steering Committee (SC) meeting held • Milestone report submitted by 1/5/2006 	<ul style="list-style-type: none"> • Generic deliverables achieved • Work plan deliverables achieved (as per Gantt Chart): <ul style="list-style-type: none"> - Report on tools to assist individuals & communities to identify control structures and influences relevant to their decisions on irrigation in northern Australia - Recommended approach for finalising and delivering the Sustainability Framework • Report against SE&C Strategy including evidence of NAIF taking proactive approach to identify key audiences, issues and strategies to address them, and feedback from SRG. • SC meeting held with Work Plan confirmed or modified, if required. SC endorses Milestone 5 report. • Milestone report approved by LWA

EXISTING DELIVERABLES	EXISTING ACHIEVEMENT CRITERIA	PROPOSED DELIVERABLES	PROPOSED ACHIEVEMENT CRITERIA
<p><i>30/09/06: Financial Statement 2005/06</i></p> <ul style="list-style-type: none"> • Financial Statement 2005/06 to land & Water Australia 		<p><i>30/09/06: Financial Statement 2005/06</i></p> <ul style="list-style-type: none"> • Financial Statement 2005/06 submitted to LWA 	<ul style="list-style-type: none"> • Financial Statement approved by LWA
<p><i>30/11/2006: Milestone 6</i></p> <ul style="list-style-type: none"> • *Generic deliverables • Work plan continues with all priority stakeholders participating • Draft reports highlighting progress in all key work areas underway • Attendance including presentation and poster display by Principal Investigator at annual Sustainable Irrigation Program Forum • Engagement and Communication strategies operating, with feedback from stakeholders involved • At least one Steering Committee meeting held • SRG feedback considered • Milestone report submitted 	<ul style="list-style-type: none"> • Generic deliverables achieved • Work plan goals achieved • Prototype SF being tested by stakeholders • Draft reports on SI's associated with GW systems and irrigation mosaics <ul style="list-style-type: none"> - Presentation and poster display at annual forum - Report on NAIF Engagement/Communication strategies including evidence of NAIF team taking proactive approach to identification of key audiences, their issues and NAIF response • Steering Committee meeting held and draft reports discussed • SRG functioning • Milestone approved by LWA 	<p><i>30/11/2006: Milestone 6</i></p> <ul style="list-style-type: none"> • *Generic deliverables • Implementation of work plan continues • Implementation of SE&C Strategy continues • Attendance including presentation and poster display by Principal Investigator at annual NPSI Program Forum 	<ul style="list-style-type: none"> • Generic deliverables achieved • Work plan deliverables achieved (as per Gantt Chart): <ul style="list-style-type: none"> - Report "Overview of irrigation in northern Australia" - Report "State of knowledge of groundwater flow systems in northern Australia" - Report "Current understandings of irrigation mosaics" • Report against SE&C Strategy including evidence of NAIF taking proactive approach to identify key audiences, issues and strategies to address them, and feedback from SRG. • Presentation and poster to highlight progress in all work areas

EXISTING DELIVERABLES	EXISTING ACHIEVEMENT CRITERIA	PROPOSED DELIVERABLES	PROPOSED ACHIEVEMENT CRITERIA
		<ul style="list-style-type: none"> • At least one SC meeting held • Milestone report submitted 	<ul style="list-style-type: none"> • SC meeting held with Work Plan confirmed or modified, if required. SC endorses Milestone 5 report. • Milestone report approved by LWA
<p><i>1/05/2007: Milestone 7 – Final Report</i></p> <ul style="list-style-type: none"> • Independent review of the research prior to concluding the final report • Combined workshop with all project members and key stakeholders • Final report to peer review standard with all technical reports used in the research project carried as attachments • Final report on Engagement and Communication with key stakeholders in NAIF • Final report in LWA format (12 pages) together with statement on the knowledge assets generated by the project • Summary fact sheet of the project and its key findings of relevance to end users 	<ul style="list-style-type: none"> • *Generic deliverables achieved <ul style="list-style-type: none"> - Independent external review of project completed - Project response to review submitted to LWA - Successful interaction with case study sites and stakeholder documented - Evidence that NAIF project has interacted with and engaged key stakeholder and interest groups in project • Workshops held in each state • Updated SF made available to Stakeholders • Steering Committee meeting held and final report approved • Final report approved by Land & Water Australia 	<p><i>31/07/2007: Milestone 7 – Final Report</i></p> <ul style="list-style-type: none"> • *Generic deliverables • Implementation of work plan continues • Progress towards development of the sustainability framework 	<ul style="list-style-type: none"> • Generic deliverables achieved • Work plan deliverables achieved (as per Gantt Chart): <ul style="list-style-type: none"> - Report “Research findings, modelling results and applications for irrigation mosaics in northern Australia” - Report “Towards a sustainability framework for supporting community decision making regarding irrigation in northern Australia: Lessons from three case studies” • Independent review of the research • Report on project response to independent review provided to SC • Combined workshop in each

EXISTING DELIVERABLES	EXISTING ACHIEVEMENT CRITERIA	PROPOSED DELIVERABLES	PROPOSED ACHIEVEMENT CRITERIA
<ul style="list-style-type: none"> • At least on Steering Committee meeting held 		<ul style="list-style-type: none"> • Sustainability Framework documented and available to stakeholders • Implementation of SEC Strategy continues • At least one SC meeting held • Final report to LWA by 31/07/07 	<ul style="list-style-type: none"> state with all project members and key stakeholders • Final major report to peer review standard with all technical reports used in the research project carried as attachments • Final report against SEC Strategy including advice on outstanding issues for stakeholders • SC meeting held and final reports approved • Final short report in LWA format (12 pages) together with statement on the knowledge assets generated by the project • Summary Research Bulletin of the project and its key findings of relevance to end users
<p><i>30/09/2007: Final Financial Statement 2006/07</i></p> <ul style="list-style-type: none"> • Final Financial Statement 2006/07 submitted to LWA 		<p><i>30/09/2007: Final Financial Statement 2006/07</i></p> <ul style="list-style-type: none"> • Final Financial Statement 2006/07 submitted to LWA 	<ul style="list-style-type: none"> • Final Financial Statement approved by LWA

** Generic Deliverables are:*

- All project reports and communications in electronic and hard copy formats as specified by Land & Water Australia Communications
- Photographic record depicting project milestones in a digital format suitable for web and PowerPoint presentations
- At least one media release and updates supplied to Land & Water Australia Communications and copied to Program Coordinator
- What knowledge assets the project has generated in the milestone period (if any).

If appropriate, the following Special Conditions will also be addressed in Milestone Reports:

- All project team presentations / communications to recognize the Sustainable Irrigation Program and use logos and format agreed with LWA Communications.
- Confirm research team membership and time commitment (Note that all team members should have a greater than 10% time allocation, with significant time allocation of principal and core investigators).
- No changes to principal and core investigators time allocation without the written approval of the Program Coordinator
- Participation of Principal Investigator in one science and/or end user panel per annum as required by Program Coordinator
- Participate in one peer review of other Sustainable Irrigation research as coordinated by Program Coordinator
- Participate in Sustainable Irrigation evaluation as required from time to time
- Research provider web site linked to Sustainable Irrigation web site
- Research Project Milestone Reports (full or summary to be determined with Project Coordinator) to be published on Sustainable Irrigation web site
- Media releases and updates to be published on Sustainable irrigation web site.

**CSIRO Land and Water and CRC Irrigation Futures
Sustainability Specialist – Northern Australia Irrigation Futures (NAIF)**

Duty Statement

The appointee to this position will work closely with the project leader and other team members to ensure the project's success through delivery of a sustainability framework, effective liaison with governments and communities, implementation of high level engagement and communication strategies and effective contract management

Key duties will include:

1. Develop, test, deliver and apply an Irrigation Sustainability Framework
 - Establish and integrate the key elements of the framework covering visioning, planning and assessment and monitoring and reporting.
 - Provide input on its fitness for purpose and ensure it meets stakeholder needs
 - Develop pathways to foster application of the framework by stakeholders
 - Identify and document risks regarding irrigation in northern Australia
 - Work with the project team in ongoing testing and application of the framework
2. Community and Government Liaison
 - Assist the project leader in building and maintaining effective engagement and communication with various Australian, WA, NT and QLD Government Departments, key local Governments, and various environment and community groups, including regional NRM bodies (include design and implementation of a project engagement and communication strategy)
 - Establish links with key organisations to design and implement appropriate indigenous engagement and communication strategies
3. Project communications
 - Maintain a broad stakeholder network across northern Australia using various forms of communication including phone, email, video link, and site visits
 - Organise and help facilitate various project workshops and seminars
 - Produce regular brochures and other project documentation for a range of stakeholders
 - Help profile the project and its outputs at the local, regional, state, national and international levels
 - Identify needs and opportunities for building capacity to understand and utilise the framework at the local, regional, state, national and international level
4. Support for the Stakeholder Reference Group (SRG)
 - Facilitate effective operation of the SRG involving members from local Government, indigenous groups, community groups, the environment sector, NRM regional bodies, agricultural industries, other industries (eg mining, tourism, fisheries) and media
5. Project management
 - Assist the project leader in delivering project outcomes through effective management of contracts and timely delivery of high quality milestone and other reports
 - Develop and implement an effective project monitoring and evaluation strategy
 - Further development of the project concept for application in other areas and sectors



Land and Water

NORTHERN AUSTRALIA IRRIGATION FUTURES

Providing new knowledge, tools, and processes to support debate
and decision making regarding irrigation in northern Australia



CSIRO Land and Water / CRC IF / NT, QLD, WA & Australian Governments

MONITORING AND EVALUATION PLAN

(Updated 27 January 2006)

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The contents of this publication do not purport to represent the position of the Project Partners¹ in any way and are presented for the purpose of informing and stimulating discussion for improved decision making regarding irrigation in northern Australia.

¹ The Project Partners are: CSIRO, Land and Water Australia (LWA), National Program for Sustainable Irrigation (NPSI), CRC for Irrigation Futures (CRC IF), and the Governments of Australia, Queensland, Northern Territory and Western Australia.

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Project Partners

CSIRO

Land and Water Australia (LWA)

National Program for Sustainable Irrigation (NPSI)

CRC for Irrigation Futures

Australian Government

Queensland Government

Northern Territory Government

Western Australian Government

Steering Committee

Greg Claydon (Chair) – Queensland Department of Natural Resources and Mines

Murray Chapman – National Program for Sustainable Irrigation

Ross Dalton - Australian Government Department of Agriculture, Forestry and Fisheries

Kevin Devlin – Sunwater

Mathew Durack – Cooperative Research Centre for Irrigation Futures

Andrew Kelly – Ord Irrigation Cooperative

Jos Mensink – WA Office of Water Strategy

Ian Smith – NT Department of Environment, Natural Resources and the Arts

Tom Aldred – Land and Water Australia

Project Team

Dr Keith Bristow (Principal Investigator)

Jeff Camkin

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NORTHERN AUSTRALIA IRRIGATION FUTURES PROJECT

MONITORING AND EVALUATION PLAN

1. SUMMARY

Deciding on whether to irrigate in northern Australia, and if so what irrigation should look like, where it should be located, and how it should be managed, requires improved understanding of river and catchment attributes and the risks associated with irrigation. Various studies are underway to improve that understanding and ensure decisions are made with the best information available about the long term implications for tropical catchments. The Northern Australia Irrigation Futures (NAIF) project is funded by the Commonwealth Government and the Governments of Western Australia, Queensland and the Northern Territory with the aim of providing new knowledge, tools and processes to support debate and decision making regarding irrigation in northern Australia.

The NAIF project comprises of two key phases. Project initiation in 2003 was funded through Land and Water Australia's (LWA) National Program for Sustainable Irrigation (NPSI) and funding through the CRC for Irrigation Futures (CRC IF) for PhD students to undertake research consistent with the NAIF objectives. Subsequent to that, the QLD, NT, WA and Commonwealth Governments provided additional resources to the research by funding a new position of Sustainability Specialist. While the initial research under the LWA/NPSI program concludes in mid 2007, further follow-on work is anticipated as the funding agreement for the Sustainability Specialist position with the NAIF project extends to October 2008.

A Steering Committee (SC) with representation from the key funding partners and expertise in key project areas has been established to help guide the project.

The project schedule under the LWA / CSIRO funding agreement requires the development of a project "monitoring and evaluation strategy, in liaison with CRC for Irrigation Futures (CRC IF) staff and partner organisations". Following SC approval of changes to the NAIF Stage 2 Work Plan on 1 December 2005, completion of the M&E Plan is to be reported against in the NPSI Milestone 4 Report, due 31 January 2006. This document sets out the Monitoring and Evaluation (M&E) Plan for the NAIF project.

The implementation of this M&E Plan will result in the production of three Project Status Reports, two NPSI Milestone Reports, one NPSI Final Report and two Financial Statements to NPSI during the remainder of the LWA/NPSI project.

The Project Team will work with the SC, the Stakeholder Reference Group (SRG) and other key stakeholders to provide information about the performance of the project and to adapt the project, as required, to optimise project outcomes.

On-going and increasing demand for NAIF project outputs, ongoing and increasing requests for input from the project team into other activities, and ongoing involvement and increasing numbers of collaborators and co-funders will serve as a guide to the success of the project.

2. CONTEXT

Northern Australia holds an iconic status for many Australians. The interplay between the landscapes, rivers and strongly monsoonal weather patterns has resulted in unique and diverse ecological systems that will need special care to retain their integrity. At the same time, with some 70 per cent of Australia's available fresh water discharging from our tropical rivers, there are pressures from various quarters to extract some of the water for irrigated agriculture. There is, however, widespread recognition that mistakes were made in the past in southern Australia, and internationally, where many irrigation systems are now degraded or degrading. No one wants to see those mistakes repeated in northern Australia.

Deciding on whether to irrigate in northern Australia, and if so what irrigation should look like, where it should be located, and how it should be managed, requires improved understanding of river and catchment attributes and the risks associated with irrigation. Various studies are underway to improve that understanding and ensure decisions are made with the best information available about the long term implications for tropical catchments.

The NAIF project has been established as a collaborative arrangement between the Commonwealth, QLD, NT and WA governments to provide new knowledge, tools and processes, including an overarching sustainability framework, to support decisions on these complex issues. It is anticipated that the project will also provide new information and tools with which to consider the sustainability of new and existing irrigation in southern Australia.

3. THE NAIF PROJECT MANAGEMENT FRAMEWORK

The considerable risks associated with the NAIF project are widely acknowledged. The project is attempting to provide a framework to address extremely complex and difficult issues of sustainability on a perhaps unprecedented scale. The project area covers the entire tropics of Australia, which encompasses many local, state and national jurisdictions, numerous complex and in many cases poorly understood hydrological systems, and an extensive range of stakeholders with sometimes competing interests and values.

Extensive changes are taking place in water resources and irrigation management across Australia. The COAG National Water Initiative, which continues and refines the significant progress Australia has made in water resource management since 1994, has focussed political attention and community expectations on shifting towards more sustainable use of our water and land resources. There is, therefore, also widespread acknowledgement of the very considerable benefits that will accrue from a successful NAIF project. Strong project management that includes flexibility to adapt to emerging issues and opportunities is critical to achieving that success.

The NAIF Project Management Framework (Figure 1) has been established to provide project governance and help ensure project success.

The Work Plan provides a detailed account of the approved activities to be carried out by the Project Team and others. The Work Plan includes a Gantt chart showing project activities, timelines and linkages to assist project management on an ongoing basis and against which progress will be assessed.

The SC has responsibility for guiding the project to help ensure appropriate outputs are created and useful outcomes are achieved. The SC is responsible for approving the NAIF Work Plan and changes to it that are required from time to time to address issues and opportunities. Changes to the Work Plan that have a significant impact on the project or its deliverables will also be reflected in the NPSI Milestone Reporting process.

The Sustainability Specialist is responsible for maintaining the NAIF Project Management Framework, in consultation with the Project Team, and for reporting progress to the SC. This M&E Plan establishes the mechanisms for monitoring and reporting that progress.

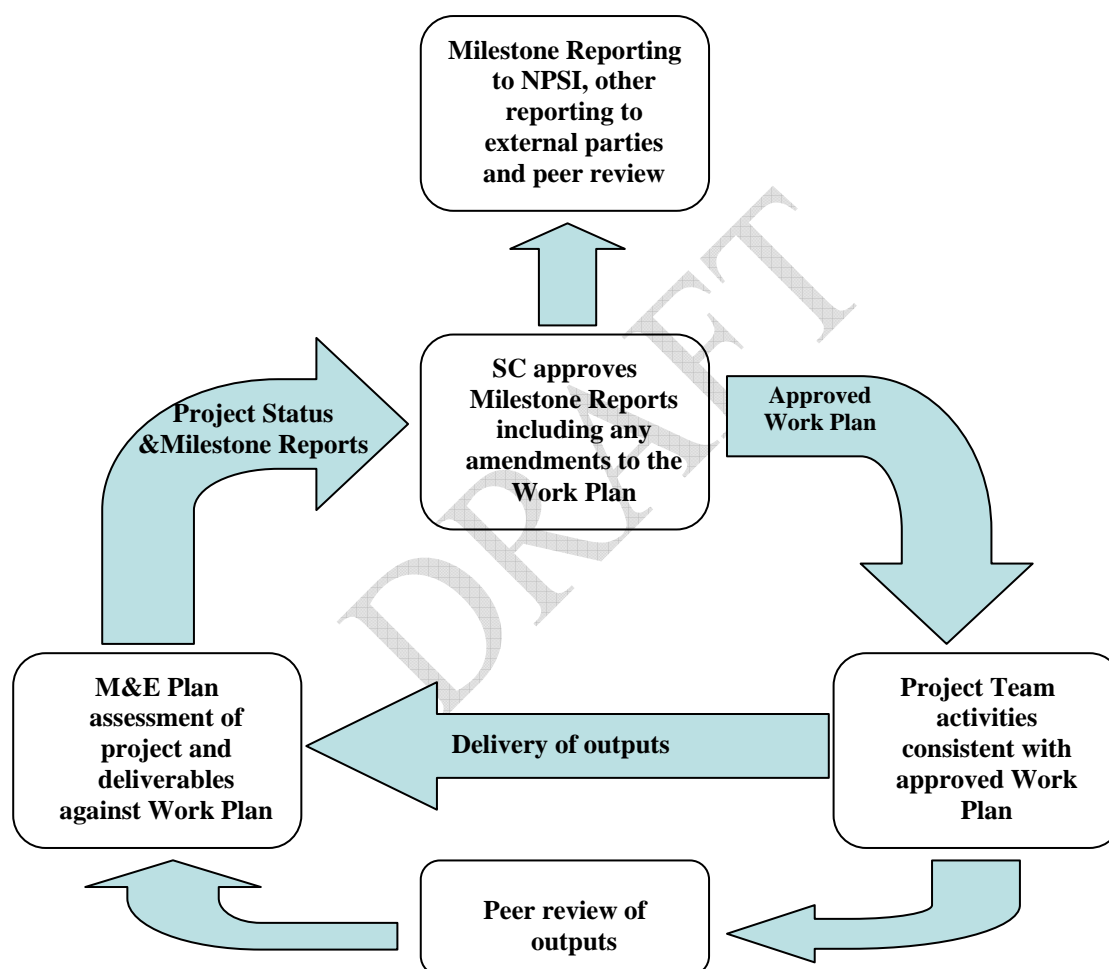


Figure 1. The NAIF Project Management Framework

4. PURPOSE OF THIS DOCUMENT

The NAIF project schedule under the LWA/CSIRO funding agreement requires the development of a project monitoring and evaluation strategy, in liaison with CRC for Irrigation Futures staff and partner organisations, and subject to approval by the SC.

Following approval by the SC on 1 December 2005 of changes to the NAIF Stage 2 Work Plan, completion of the M&E Plan is to be reported against in the NPSI Milestone 4 report, due 31 January 2006. This document sets out the M&E Plan for the NAIF project.

5. DEFINITION OF MONITORING AND EVALUATION

“Monitoring is a continuing function that aims primarily to provide managers and the main stakeholders with regular feedback and early indications of progress or lack thereof in the achievement of intended results. Monitoring tracks the actual performance or situation against what was planned or expected according to pre-determined standards. Monitoring generally involves collecting and analysing data on implementation processes, strategies and results, and recommending corrective measures.

Evaluation is a time bound exercise that attempts to assess systematically and objectively the relevance, performance and success of ongoing and completed project activities. Evaluation can also address outcomes or other development issues. Evaluation is undertaken selectively to answer specific questions to guide decision-makers and/or project managers, and to provide information on whether underlying theories and assumptions used in project development were valid, what worked and what did not work and why. Evaluation commonly aims to determine relevance, efficiency, effectiveness, impact and sustainability. Evaluation is a vehicle for extracting lessons from operating experiences and determining the need for modifications to the strategic results framework. Evaluation should provide information that is credible and useful, enabling the incorporation of lessons learned into the decision-making process.”²

6. PROJECT GOAL AND OBJECTIVES

Project Goal ³

The NAIF project goal is “To provide a sustainability framework that community and policy makers can use to ensure sustainable irrigation in northern Australia”.

The project will contribute to a sustainable irrigation industry in northern Australia that delivers economic and social benefits while minimising environmental impacts.

² UNDP Handbook on Monitoring and Evaluation for Results.

³ From NAIF Land & Water Sustainable Irrigation Project Application Form, 2003.

Project Objectives ⁴

The NAIF project objectives are to:

1. Delineate key landscape attributes (including soil & water resources, climate, vegetation, rivers, near shore marine environments, & where appropriate links to people, industries, markets) relevant to sustainable irrigation development across northern Australia
2. Use key landscape attributes to develop sustainability indicators and associated management criteria covering a range of scales (field, farm, district, irrigation scheme, catchment) for northern Australia
3. Develop an overall framework that, through their involvement, is embraced by policy makers, regulators, investors and managers, to help ensure irrigation developments in northern Australia are managed in a consistent and sustainable manner
4. Use a number of linked case studies to inform and support development and enable testing of the framework
5. Through provision of a robust framework, contribute tools and knowledge to support considered debate & long term strategic planning for northern Australia & Australia as a whole

7. PURPOSE OF THE MONITORING AND EVALUATION PLAN

This M&E Plan is designed to:

- Assist the Project Team, SC and the funding organisations to decide if the project and its priorities, targets and actions need to be changed, and where attention should be focussed
- Support the use of an adaptive management approach to ensure continuous improvement based on new knowledge and experience as the project progresses
- Support the assessment of project outputs, outcomes and overall success
- Determine accountability for monitoring, evaluating and reporting outcomes and
- Establish regular reporting systems for accountability to SC and the State and Commonwealth Government project investors.

This M&E Plan provides the project goals and objectives, describes the performance indicators against which success can be measured, lists the sources of data to enable measurement, identifies the risks to success, indicates the reporting regime and allocates responsibilities for implementation of the Plan.

The development of this M&E Plan has been guided by SC considerations, analysis of project communications risk, the NAIF Stage 2 Work Plan and the NPSI Milestone Reporting Framework. The Plan meets the NPSI Milestone requirement and will assist in assessment and management of the NAIF project, including the NPSI component.

⁴ Objective 3 is slightly different to the original project objectives. The reason for this change is detailed in the NPSI Milestone 4 Report.

8. MONITORING AND EVALUATION DESIGN

Guiding Principles

It has always been recognised that the NAIF research project is a challenging one that will require a high degree of adaptability to achieve success. The project funders, SC and Project Team have all demonstrated an understanding and willingness to adapt the project design in response to new knowledge and feedback. This M&E Plan is based on a continuation of the principles of adaptive and participatory management.

Considerations in Design

Monitoring and evaluation, reporting and decision-making are all critical to adaptability. The following roles and relationships are important to achieving project success:

The Steering Committee was established on 11 March 2004 to provide strategic advice and guidance to the project. It is the primary mechanism for engagement and communication with the project funding and partner organisations. Membership of the SC is designed to provide both expertise in key project areas and representation of the key funding partner organisations. The SC meets on a regular basis to review progress and provide advice on project direction.

The NPSI Program Coordinator (Murray Chapman) is responsible for overseeing delivery of the project on behalf of LWA and for advising LWA in relation to performance against the project brief. This is principally achieved through the NPSI Milestone Reporting process.

CSIRO, through the Land and Water Division, is the organisation contracted to manage and deliver the NAIF project.

The Project Team, led by the Principal Investigator (Dr Keith Bristow), is responsible for day to day project activities and for reporting on project progress. This is achieved in partnership with Commonwealth, QLD, NT and WA Government agency staff, and other collaborating organisations.

The Stakeholder Reference Group (SRG) is a primary mechanism for linking with key stakeholders. The SRG provides independent advice to assist and guide the project, particularly in relation to potential impacts on stakeholders.

The Stakeholder Network is a forum for dissemination of information to individuals and organisations who wish to be kept informed about the NAIF project and an important mechanism for both input and feedback on the project.

Methods

Information gained from multiple different sources will be used to provide a holistic evaluation of the project. In some cases, a Performance Indicator requires only a simple numeric response. In other cases, multiple methods of gathering information are required to provide a reasonable assessment against a criterion.

To keep M&E costs in perspective, attempts have been made to identify data sources that are already available to the Project Team or which can be incorporated into existing project activities. The primary sources of data are:

- The NAIF database, managed by CSIRO Land and Water which holds all project data
- Minutes of all Steering Committee meetings, which are held on the project database
- The NAIF Website, which is frequently updated with information on project activities and events, reports, publications, media releases and linkages with other projects and programs
- Formal and informal feedback, which will be sought from a range of sources, including the SC, SRG, SN, internal and external reviews in relation to specific and general aspects of the project.

In accordance with the principles of participatory monitoring and evaluation the SC and the Project Team will be important sources of advice for monitoring and evaluation.

9. THE ROLE OF EXTERNAL REVIEW

The main ongoing mechanisms for reviewing the NAIF project will be the SC, the SRG, normal CSIRO pre-publication procedures and external science review processes for journal publications etc.

An independent Expert Panel will be established to provide an external review of the project and its outputs at several key points, including:

- Review of the key report *“Recommended approach for finalising and delivering the Sustainability Framework”*
- Review of the key report *“Towards a Sustainability Framework for supporting community decision making regarding irrigation in northern Australia: lessons from three case studies”*
- Review of the Research prior to preparation of the project final report
- Review of the NAIF Final Report and Sustainability Framework.

In addition, a workshop including the project team and key stakeholders will be held in WA, NT and QLD to discuss the research prior to preparation of the final report.

10. ASSESSMENT OF THE PROJECT OUTCOMES

The NAIF Project Application Form listed the anticipated outcomes as:

- By 2007 leading stakeholders (Governments, communities, investors, land and water managers) will be more informed and able to use the sustainability framework including key biophysical datasets and sustainability indicators when debating and making decisions regarding irrigation in northern Australia
- By 2007 testing of existing northern irrigation management systems and practices against the sustainability framework and indicators will have commenced
- By 2010 relevant State and Commonwealth policies will have adopted the framework and

sustainability indicators

- By 2015 a sustainable irrigation industry in northern Australia will be functioning that delivers a wide range of economic and social benefits whilst minimising environmental impacts.

The application proposed that the project outputs would

“strongly influence a range of policy, regulation, management and institutional requirements across northern Australia, especially in meeting COAG and NWI water reform requirements and minimising the environmental footprint associated with irrigation developments. The project will provide regulatory organisations within each State and Territory appropriate and consistent guidelines for the environmental assessment of proposed irrigation developments in northern Australia.”

It is anticipated that the first two outcomes will be assessable within the duration of the current NAIF project and to some extent these have been incorporated into the assessment against project outputs in Section 10. However, the most aspirational of the stated outcomes, that by 2010 the framework will be adopted and that by 2015 irrigation in northern Australia will be sustainable, by definition fall outside of the project timeframe.

It will not be possible to fully answer the question of what wider impacts the NAIF project has during the course of the project. However, it will be possible to gain an understanding of trends by capturing stakeholder perspectives on the NAIF project, its activities and outputs, degree of influence and likelihood of contributing significantly to the outcomes which are sought.

Project Status Reports will, therefore, include narrative examples that indicate progress towards the project outcomes.

11. ASSESSMENT OF THE PROJECT OUTPUTS

The following achievement criteria, performance indicators, data sources and risk apply to the assessment against project outputs:

Achievement Criteria	Performance Indicators	Data Sources	Risks
A comprehensive, practical and usable framework for supporting debate and decisions about irrigation in northern Australia	<ul style="list-style-type: none"> Progress towards SF Framework developed and ‘tested’ through effective case studies External review of SF & associated research SF is documented, approved for release and available to stakeholders Adoption of the framework by policy and regulatory agencies and investors and managers 	<ul style="list-style-type: none"> SC feedback on progress, as reported in Status Reports, recorded in SC minutes. External review of report <i>Recommended approach for finalising and delivering the Sustainability Framework</i> Report <i>Towards a Sustainability Framework for supporting community decision making regarding irrigation in northern Australia: Lessons from three case studies</i> published on NAIF website Documented feedback on research and draft SF from independent review, SRG, case study stakeholders, SN and the workshop on SF in each State Approval recorded in SC minutes. SF available via NAIF website Feedback from SC, SRG, SN, workshop on SF in each state and other stakeholders on likelihood of adoption 	<ul style="list-style-type: none"> Inability to establish case studies which contribute significantly to the SF Adoption hard to measure within project timeframe. Project Team/SC unable to influence agency & other

Achievement Criteria	Performance Indicators	Data Sources	Risks
	<ul style="list-style-type: none"> Acceptance of framework by key stakeholders 	<ul style="list-style-type: none"> Documented feedback from SC, SRG, SN, workshop on SF in each state, correspondence and media items in response to release of SF 	<p>decision makers to use SF</p> <ul style="list-style-type: none"> Lack of ownership of the framework by decision-makers and/or other stakeholders
Understanding of key biophysical features relevant to irrigation in northern Australia	<ul style="list-style-type: none"> Comprehensive collation and interpretation of key knowledge and understandings of northern Australian landscapes Publication of reports approved by SC in accordance with work plan 	<ul style="list-style-type: none"> Documented feedback from SC, SRG and independent review Approval recorded in SC minutes & list of available publications on NAIF website 	<ul style="list-style-type: none"> Insufficient research of north Australian landscapes and their function completed to allow reasonable interpretation. Insufficient in-kind or other support from State and Cth agencies to support analysis and interpretation
Description of the nature and spatial distribution of key landscape attributes of importance in siting and managing sustainable irrigation schemes in northern Australia	<ul style="list-style-type: none"> Range of communications and publications addressing key knowledge and understandings of northern Australian landscapes and their implications to sustainable irrigation available to broad audience 	<ul style="list-style-type: none"> List of available publications on NAIF website 	<ul style="list-style-type: none"> Project team is unsuccessful in securing appropriate communications support and meeting required timeframes. Insufficient in-kind and other support from State and Cth agencies to support analysis and interpretation

Achievement Criteria	Performance Indicators	Data Sources	Risks
Successful project communications	<ul style="list-style-type: none"> • Communication and Stakeholder Engagement (C&SE) Plan developed and operational • Stakeholder Reference Group (SRG) established and operating as per TOR • Stakeholder Network established and receiving quarterly project updates. • Effective linkages with other key projects and programs established • Publication of reports according to work plan 	<ul style="list-style-type: none"> • Approval of C&SE Plan recorded in SC minutes and reported in NPSI Milestone Report. • Project records on number of contacts with SRG members. Feedback from SRG members • Project records on number of members of Stakeholder Network and contacts with Stakeholder Network • Project records of requests for NAIF involvement in other projects and programs. Project records of cross participation and coordination. • List of available publications on NAIF website 	<ul style="list-style-type: none"> • Key stakeholders unwilling to join SRG • The small resource base significantly limits linkages with other key projects and programs
Effective implementation and coordination	<ul style="list-style-type: none"> • SC established and operating as per TOR. Number of meetings held • Expenditure consistent with budget projections • Project partners maintain investment for project duration • Project staff and PhD students appointed 	<ul style="list-style-type: none"> • Minutes of SC meetings • Project Financial Statements approved by LWA • CSIRO/DAFF Deed of Grant and CSIRO/WA/NT/QLD Govt Funding Agreements approved • Advice from PI. 	<ul style="list-style-type: none"> • Changes to SC membership reduce 'ownership' • Not all budgeted financial resources available or they are insufficient • One or more partners withdraw funding early • Inability to attract suitably qualified PhD students to the

Achievement Criteria	Performance Indicators	Data Sources	Risks
	<ul style="list-style-type: none"> • Research undertaken as per agreed Work Plan • Project is completed by agreed date. 	<ul style="list-style-type: none"> • Approval of Status Reports recorded in SC minutes • Final Report provided to LWA by agreed date. Final Project Financial Statement approved by LWA 	<p>project</p> <ul style="list-style-type: none"> • Key research staff are not retained • Maintaining completion date creates stakeholder unrest due to insufficient time to develop trust and productive working partnerships
Monitoring and Evaluation	<ul style="list-style-type: none"> • M&E Plan developed, approved and implemented • Information is appropriate for day to day management of the M&E Plan 	<ul style="list-style-type: none"> • Approval of M&E Plan and status recorded in SC minutes & NPSI Milestone report • Advice on implementation of M&E Plan recorded in SC minutes 	<ul style="list-style-type: none"> • Duplication of reporting for multiple purposes (NPSI, CRC IF, Cth/States/NT funding agreements) increases project overheads and administration costs

12. RISKS

With multiple funding sources, multiple reporting requirements and numerous internal and external stakeholders, there are a range of important project risks which have been identified above. Using this M&E Plan the SC will have an ongoing mechanism for monitoring those risks and the actions being taken to minimise their potential impacts. Strategies to address the risks will be prepared by the Project Team for consideration by SC and NPSI as required.

13. REPORTING MECHANISMS

Three different reports will be delivered under this M&E Plan.

NPSI Milestone Reports

Milestone Reports are the primary tool used by the LWA/NPSI program to assess delivery against the NPSI Project Schedule. These Reports provide the Project Team's advice to NPSI on performance against the Key Deliverables and associated Achievement Criteria for the project for the reporting period. The timetable for these reports is established in the Project Schedule. The format follows the NPSI '*Guidelines for Milestone Reporting*' and '*Guidelines for preparing and submitting final reports to Land and Water Australia*'.

Project Status Reports

Project Status Reports are provided to the SC with the Draft Milestone Reports to assist its role in guiding the project. The Project Status Reports provide an assessment of project status and contain the following sections:

1. Assessment of the project against the Achievement Criteria and Performance Indicators provided in Section 10 of this Plan. Typically not all criteria and indicators are addressed in each report
2. A statement on project status summarising performance against the Work Plan, key outputs, achievements and learnings, issues and opportunities and their implications for the project
3. Narratives indicating progress against the project outcomes
4. Recommendations to the SC to address the issues and opportunities identified in 2.

Financial Statements

Financial Statements are required at times specified in the LWA/CSIRO project agreement. The format for these reports is consistent with NPSI requirements for financial statements (Form FI-F-08).

14. REPORTING TIMETABLE

The following reports will be produced under this M&E plan during the remainder of the LWA/NPSI project:

	Due	Report Type	Comments
1	31/01/06	M&E Plan (draft) to SC	SC endorsement expected on 14/02/06
2	31/01/06	Milestone 4 Report to NPSI	For LWA approval. SC endorsement expected on 14/02/06
3	01/04/06	Project Status Report and Draft Milestone 5 Report to SC	For consideration of Project Status Report & endorsement of draft Milestone Report
4	01/05/06	Milestone 5 Report to NPSI	For LWA approval
5	30/09/06	Financial Statement 2005/06 to NPSI	For LWA approval
6	31/10/06	Project Status Report and Draft Milestone 6 Report to SC	For consideration of Project Status Report & endorsement of draft Milestone Report
7	30/11/06	Milestone 6 Report to NPSI	For LWA approval
8	30/06/07	Project Status Report and Draft Milestone 7 – Final Report to SC	For consideration of Project Status Report & endorsement of draft Milestone Report
9	31/07/07	Milestone 7 – Final Report to NPSI	For LWA approval
10	30/09/07	Final Financial Statement 2006/07 to NPSI	For LWA approval

15. IMPLEMENTATION OF CHANGES RESULTING FROM THE M&E PLAN

Changes to the project approved by the SC will be reflected in updates to the Work Plan. The amended Work Plan will be provided to the NPSI Program Coordinator with the next Milestone Report.

16. RESPONSIBILITIES FOR IMPLEMENTING THE M&E PLAN

The Sustainability Specialist (Jeff Camkin) has responsibility for preparation of the M&E Plan, for its ongoing operation and for preparation and delivery of the Milestone Reports and Project Status Reports.

The Principal Investigator (Dr Keith Bristow) has responsibility for approval of the NPSI Financial Statements, Milestone Reports and Project Status Reports, and has overall responsibility for the NAIF project.

CSIRO Land and Water Project Management Accountants are responsible for the preparation of the NPSI Financial Statements.

All Project Team members have responsibility for the maintenance and provision of data and information relevant to implementation of the M&E Plan.

17. MONITORING, EVALUATION AND REPORTING EFFORT

The estimated Project Team effort required for development and implementation of the M&E Plan to 30 September 2007, in terms of work days, are:

Deliverables	Total Person Days
1 x Draft M&E Plan	5
2 x Milestone Reports to NPSI	8
1 x Final Milestone Report to NPSI	20
3 x Project Status Reports to SC	9
2 x Financial Statements to NPSI	2
M&E data management	10
TOTAL DAYS	54

18. CONFIDENTIALITY

This M&E Plan and Project Status Reports will be publicly available on the NAIF website. NPSI Milestone Reports, or summaries of them, are made available on the NPSI website.

This M&E Plan and the associated reports are subject to the Copyright and Disclaimer information on page 2.



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and decision making regarding irrigation in northern Australia



CSIRO Land and Water / CRC IF / NT, QLD, WA & Australian Governments

STAKEHOLDER ENGAGEMENT AND COMMUNICATION STRATEGY

(Updated 27 January 2006)



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¹ The Project Partners are: CSIRO, Land and Water Australia (LWA), National Program for Sustainable Irrigation (NPSI), CRC for Irrigation Futures (CRC IF), and the Governments of Australia, Queensland, Northern Territory and Western Australia.

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NORTHERN AUSTRALIA IRRIGATION FUTURES PROJECT

STAKEHOLDER ENGAGEMENT AND COMMUNICATION STRATEGY

1. SUMMARY

Deciding on whether to irrigate in northern Australia, and if so what irrigation should look like, where it should be located, and how it should be managed, requires improved understanding of river and catchment attributes and the risks associated with irrigation. Various studies are underway to improve that understanding and ensure decisions are made with the best information available about the long term implications for tropical catchments. The Northern Australia Irrigation Futures (NAIF) project is funded by the Commonwealth Government and the Governments of Western Australia, Queensland and the Northern Territory with the aim of providing new knowledge, tools and processes to support debate and decision making regarding irrigation in northern Australia.

The NAIF project comprises of two key phases. Project initiation in 2003 was funded through Land and Water Australia's (LWA) National Program for Sustainable Irrigation (NPSI) and funding through the CRC for Irrigation Futures (CRC IF) for PhD students to undertake research consistent with the NAIF objectives. Subsequent to that, the QLD, NT, WA and Commonwealth Governments provided additional resources to the research by funding a new position of Sustainability Specialist. While the initial research under the LWA/NPSI program concludes in mid 2007, further follow-on work is anticipated as the funding agreement for the Sustainability Specialist position with the NAIF project extends to October 2008.

A Steering Committee (SC) with representation from the key funding partners and expertise in key project areas has been established to help guide the project.

The project schedule under the LWA / CSIRO funding agreement requires the development and implementation of stakeholder engagement and communication strategies to drive and direct activities over the course of the project. The strategies will help manage project risk, protect and enhance the reputation and credibility of the project, and help maximise the benefits from the project.

Following SC approval of changes to the NAIF Stage 2 Work Plan on 1 December 2005, completion of the strategies is to be reported against in the NPSI Milestone 4 Report, due 31 January 2006.

This document sets out the Stakeholder Engagement and Communication (SE&C) Strategy for the NAIF research project. The Strategy identifies the target audiences and segments them by audience type and communication needs. Sub-Strategies are provided for each segment. Status of the strategies will be reported through the NPSI Milestone Report process.

2. CONTEXT

Northern Australia holds an iconic status for many Australians. The interplay between the landscapes, rivers and strongly monsoonal weather patterns has resulted in unique and diverse ecological systems that will need special care to retain their integrity. At the same time, with some 70 per cent of Australia's available fresh water discharging from our tropical rivers, there are pressures from various quarters to extract some of the water for irrigated agriculture. There is, however, widespread recognition that mistakes were made in the past in southern Australia, and internationally, where many irrigation systems are now degraded or degrading. No one wants to see those mistakes repeated in northern Australia.

Deciding on whether to irrigate in northern Australia, and if so what irrigation should look like, where it should be located, and how it should be managed, requires improved understanding of river and catchment attributes and the risks associated with irrigation. Various studies are underway to improve that understanding and ensure decisions are made with the best information available about the long term implications for tropical catchments.

The NAIF project has been established as a collaborative arrangement between the Commonwealth, QLD, NT and WA governments to provide new knowledge, tools and processes, including an overarching sustainability framework, to support decisions on these complex issues. It is anticipated that the project will also provide new information and tools with which to consider the sustainability of new and existing irrigation in southern Australia.

3. THE NAIF PROJECT MANAGEMENT FRAMEWORK

The considerable risks associated with the NAIF project are widely acknowledged. The project is attempting to provide a framework to address extremely complex and difficult issues of sustainability on a perhaps unprecedented scale. The project area covers the entire tropics of Australia, which encompasses many local, state and national jurisdictions, numerous complex and in many cases poorly understood hydrological systems, and an extensive range of stakeholders with sometimes competing interests and values.

Extensive changes are taking place in water resources and irrigation management across Australia. The COAG National Water Initiative, which continues and refines the significant progress Australia has made in water resource management since 1994, has focussed political attention and community expectations on shifting towards more sustainable use of our water and land resources. There is, therefore, also widespread acknowledgement of the very considerable benefits that will accrue from a successful NAIF project. Strong project management that includes flexibility to adapt to emerging issues and opportunities is critical to achieving that success.

The NAIF Project Management Framework (Figure 1) has been established to provide project governance and help ensure project success.

The Work Plan provides a detailed account of the approved activities to be carried out by the Project Team and others. The Work Plan includes a Gantt chart showing project activities, timelines and linkages to assist project management on an ongoing basis and against which progress will be assessed.

The SC has responsibility for guiding the project to help ensure appropriate outputs are created and useful outcomes are achieved. The SC is responsible for approving the NAIF Work Plan and changes to it that are required from time to time to address issues and opportunities. Changes to the Work Plan that have a significant impact on the project or its deliverables will also be reflected in the NPSI Milestone Reporting process.

The Sustainability Specialist is responsible for maintaining the NAIF Project Management Framework, in consultation with the Project Team, and for reporting progress to the SC in accordance with the Monitoring and Reporting Plan.

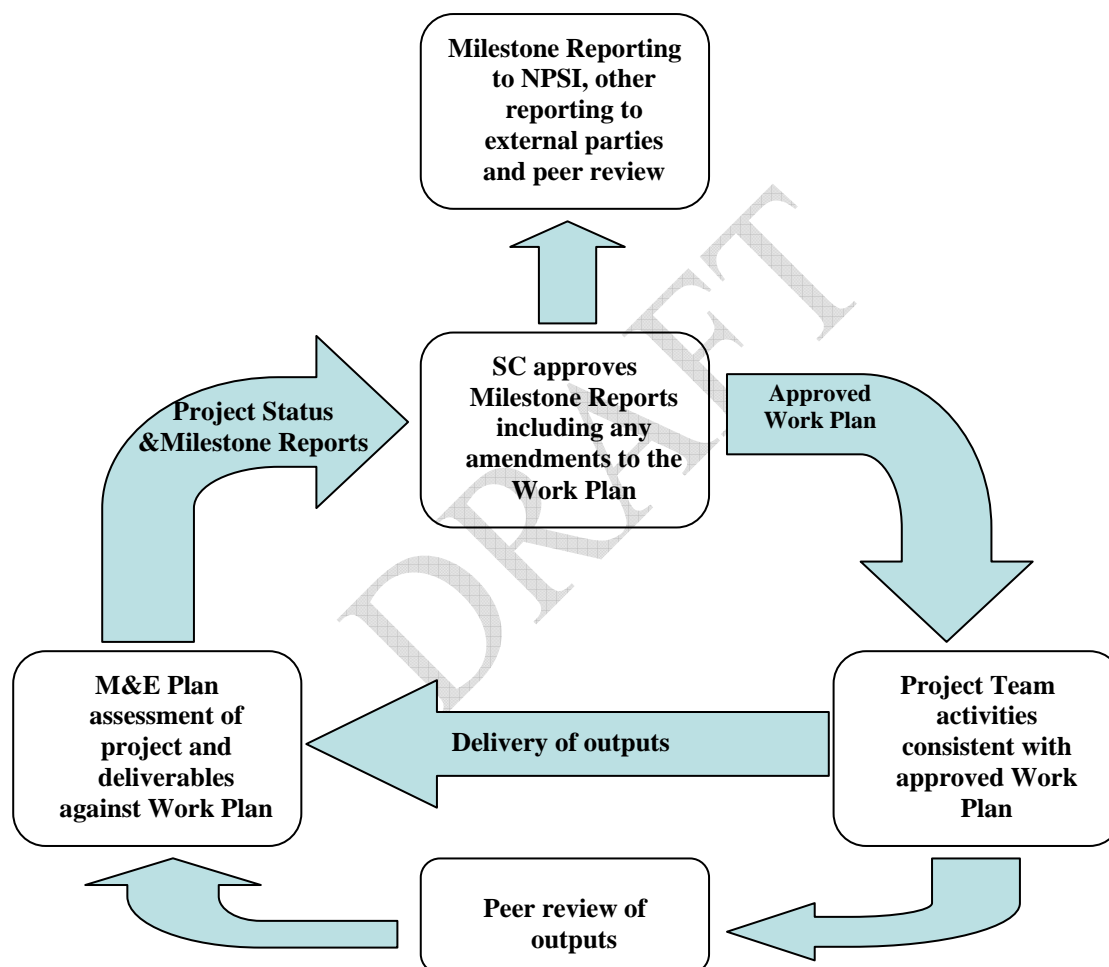


Figure 1. The NAIF Project Management Framework

4. PROJECT GOAL AND OBJECTIVES

Project Goal ²

The NAIF project goal is “To provide a sustainability framework that community and policy makers can use to ensure sustainable irrigation in northern Australia”.

The project will contribute to a sustainable irrigation industry in northern Australia that delivers economic and social benefits while minimising environmental impacts.

Project Objectives ³

The NAIF project objectives are to:

1. Delineate key landscape attributes (including soil & water resources, climate, vegetation, rivers, near shore marine environments, & where appropriate links to people, industries, markets) relevant to sustainable irrigation development across northern Australia
2. Use key landscape attributes to develop sustainability indicators and associated management criteria covering a range of scales (field, farm, district, irrigation scheme, catchment) for northern Australia
3. Develop an overall framework that, through their involvement, is embraced by policy makers, regulators, investors and managers, to help ensure irrigation developments in northern Australia are managed in a consistent and sustainable manner
4. Use a number of linked case studies to inform and support development and enable testing of the framework
5. Through provision of a robust framework, contribute tools and knowledge to support considered debate & long term strategic planning for northern Australia & Australia as a whole

5. THE NEED FOR A STAKEHOLDER ENGAGEMENT AND COMMUNICATION STRATEGY

There is widespread interest and a broad range of views about the future of northern Australia and the role that irrigation might play in that future. As a result, there is considerable nervousness amongst some stakeholder groups that some research projects may generate increased support for irrigation in northern Australia. These concerns have been raised with respect to the NAIF research project.

Since its inception the NAIF project has taken a fairly ad hoc approach to communications. Apart from a flurry of media coverage at its launch in 2003, the project has received little public attention. Most communications about the project have been through existing R&D

² From NAIF Land & Water Sustainable Irrigation Project Application Form, 2003.

³ Objective 3 is slightly different to the original project objectives. The reason for this change is detailed in the NPSI Milestone 4 Report.

communication channels, and have not made their way into the domain of general public information.

By early 2005 it had become apparent that the project had attracted a number of critical opponents who sought to question certain elements of the project. Initially criticisms were made through informal consultations and more recently documented through letters and in the public domain through media interviews and media reports.

A communications risk assessment was undertaken to identify the various sources of communications risk faced by the project and determine both the likelihood and impact of those risks on the project's reputation, credibility and efficacy. Key issues and considerations identified through that assessment are detailed in Section 7 of this strategy.

Effective strategies need to be put in place to engage the many interested parties, at a range of levels of involvement, to ensure that all important issues are captured and the project continues to make good progress. Communication strategies are needed to address not only those individuals and organisations that wish to be directly involved in the project but also those who simply wish to receive information about the research and project findings.

Improved stakeholder and broader community awareness and understanding of the intent, activities and outcomes of NAIF research project are expected as a result of this SE&C Strategy. The Strategy establishes important opportunities for interested parties to put their views forward, to provide important data and information and to benefit from the information, tools and processes that will be generated through this research.

A list of all NAIF project publications and significant workshops and meetings facilitated by or involving NAIF is at Attachment 1. An updated list of NAIF publications, reports and other important information is available at <http://www.clw.csiro.au/naif/index.html>.

There is a need to significantly increase the level of stakeholder engagement and project communications through the remainder of the NAIF research project.

6. CURRENT AND PREVIOUS RESEARCH

The NAIF research project currently has two stages: Project Initiation and Definition; and Development and Testing a Sustainability Framework. If the project is successful in delivering a sustainability framework that is of practical use to decision-makers, including individuals, communities and governments, a third stage supporting the utilisation of the sustainability framework is envisaged. The Stages of the NAIF project are represented in Figure 2.

Stage one of the NAIF research project was launched during the Australian National Committee on Irrigation and Drainage (ANCID) conference in October 2003. Stage 1 focussed on engaging a broad range of clients and stakeholders, and formulating a work plan, project team and funding arrangements for Stage 2.

The main outcomes of project activities in Stage 1 were the widespread support for the project and for proceeding with a Stage 2, establishment of a project team and budget for review, and approval by key stakeholders, including the SC, NPSI and CRC IF, for

proceeding with Stage 2. There was strong support for the NAIF research project to be linked to key case study sites.

NAIF PATHWAY TO A SUSTAINABILITY FRAMEWORK

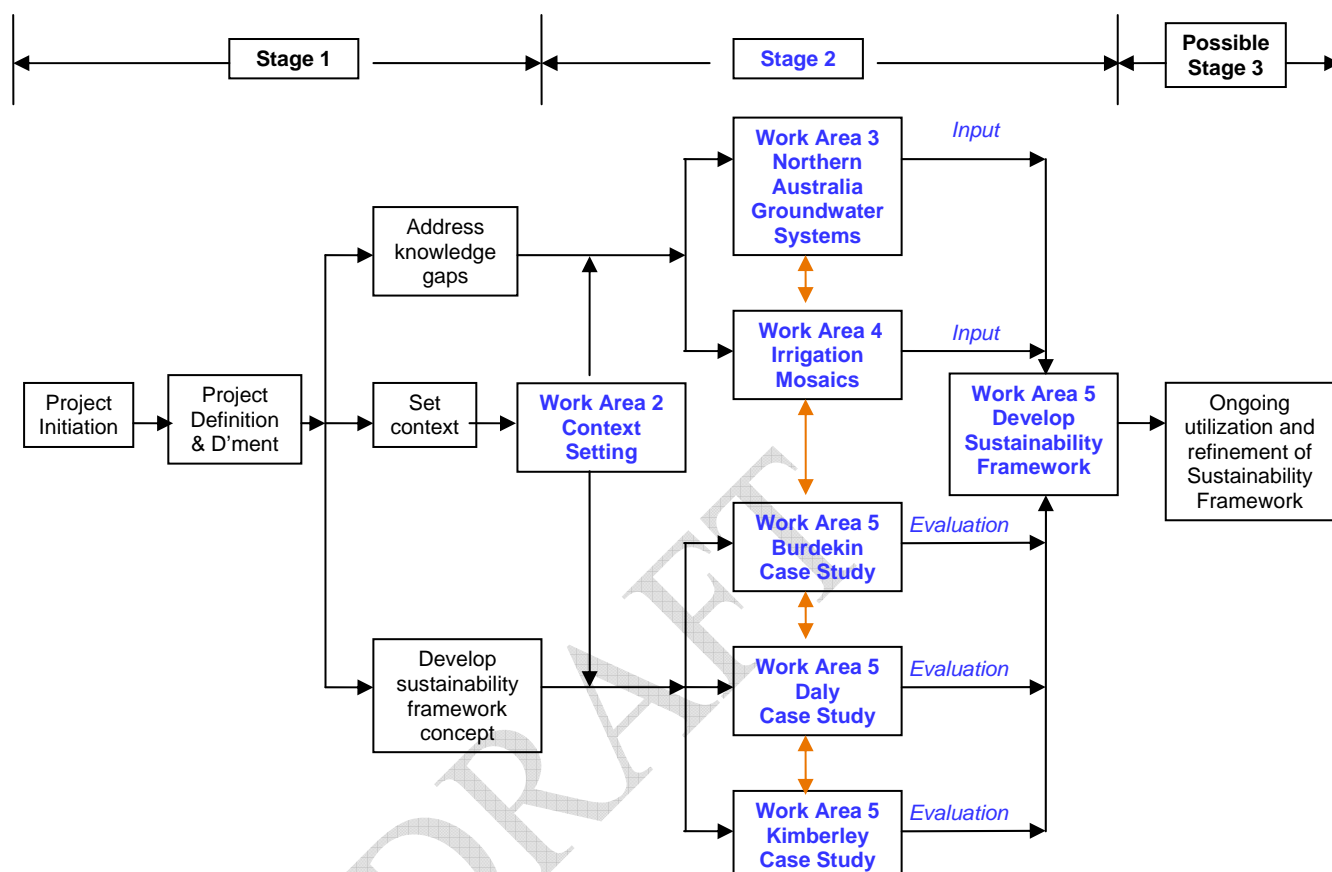


Figure 2. Key stages and components of the NAIF project.

Reviews of Stage 1 noted that because of limited time and resources, the NAIF research project would need to be clear about what it can address and what others need to address. A key to managing the issue would be the development of linkages with other activities and initiatives.

Of particular importance in the development of the Stage 2 Work Plan was a workshop of Australian governments (WA, NT, QLD and Commonwealth) associated with the future of northern Australia and the likely role irrigation could play in that future. This workshop was held in Darwin on 26-27 May 2004 in the presence of some of the key project stakeholders, including NPSI and the CRC IF. The report of the Darwin workshop, and other consultations, is available on the NAIF Project website at http://www.clw.csiro.au/naif/documents/Report_Darwin_Workshop_220604.pdf.

The key issues identified at the Darwin workshop were:

- Meeting indigenous needs and taking account of indigenous knowledge
- Institutional arrangements to address scale
- Focus on groundwater and conjunctive use

- Irrigator behaviour and management
- COAG water reform framework
- Role of decision support tools and trade-off analysis
- Move to private investment environment (all states)
- Emphasis on biophysical (vs socioeconomic knowledge needs and gaps)
- Database management
- Communication and delivery.

The key implications for the NAIF project emanating from the workshop were grouped into content and process, and summarised as:

Content

- The importance of independent groundwater systems in the future of irrigation development in northern Australia and as a key component in the biophysical component of the sustainability framework;
- The importance of irrigation system design where indigenous communities are involved;
- The development of more specific produce definitions and delivery systems. This will be important to both developing cash resourcing opportunities as well as providing greater appreciation of benefits and confidence in the project by different stakeholders;
- Clarification of whether the project will develop decision support systems and if so, the types of support systems envisaged;
- Better definition is needed between the interface of the biophysical components with socioeconomics, or with social, economic and institutional components of the framework; and
- There are significant differences in northern Australia regarding the possible scale, shape and design of irrigation developments.

Process

- Significant opportunities are present in linking with other State/Territory and Commonwealth initiatives to both extend the skills available to the project and to enhance its resourcing for meeting its objectives;
- The project may need to focus on key issues should it be limited by cash resources and success with linking with other initiatives;
- A strong communication strategy will need to be developed including the effective engagement with key stakeholders, development of a common language, and the management of expectations. As engagement of communication imperatives can be resource demanding, the resourcing of such communication requirements should be recognised and resources made available to the project;
- The design of specific engagement processes for indigenous communities and the injection into project skills of some appreciation of the indigenous view of landscape and the associated design of irrigation developments; and
- Further clarification will be required in developing useful types of decision support tools and how far the framework extends to addressing the need for tradeoffs between environmental, social and economic benefits and costs across a range of spatial scales.

A primary consideration in finalising the Stage 2 Work Plan was the need to meet a range of SC and stakeholder interests and to ensure the development of the sustainability framework proceeds in a way that provides the best likelihood that it will be both supported and of practical use to individuals, community groups, governments and others making decisions in

relation to the future of irrigation in northern Australia. A case study approach will be taken to achieve this.

The Stage 2 Work Plan was approved by the SC on 1 December 2005. In addition to the development of a sustainability framework, Stage 2 will deliver improved understanding of the hydrology of northern Australia and an understanding of the concepts of irrigation mosaics and their application in northern Australia.

7. KEY ISSUES AND CONSIDERATIONS

A communication risk assessment of the NAIF project was undertaken for the NAIF project. A key issue identified in that assessment for consideration in the development of this SE&C Strategy was public and private criticisms on several aspects of the project including: (i) that it had a pro-development bias; (ii) that it was not effectively engaging or properly managing relationships with stakeholders (eg indigenous groups and environmental NGOs) beyond the immediate project partners; and (iii) that it posed a significant threat to the ecological integrity and biological diversity of Australia's tropical rivers and wetlands because it did not meet the accepted definition of ecologically sustainable development.

Many of the current issues and concerns about the project, particularly the perception of a pro-development bias, can be related to deficiencies with project communications. Specifically, the project has not yet successfully addressed through communications a few core negative perceptions about the project amongst key stakeholders.

Opportunities exist to reduce communications risk by:

- Establishing agreed key messages for the project that address specific stakeholder concerns
- Establishing agreed protocols for communicating with key stakeholders
- Improving document management and
- Improving coordination of communication and engagement activities.

Projects with a high-risk profile and a complex network of stakeholders and interest groups such as NAIF, require a comprehensive communications strategy in order to manage communications-based risk and protect and enhance the reputation and credibility of the project. This confirms the need to develop a comprehensive communication strategy that will drive and direct communications over the life of the project and that is integrated with a stakeholder engagement strategy.

8. AIMS OF THE NAIF PROJECT

The aim of the NAIF research project is to provide new knowledge, tools and processes to support debate and decision making regarding irrigation in northern Australia.

The project will deliver a sustainability framework for use by policy makers, regulators, community organisations, managers, and investors to support more robust debate and improved decision making regarding if and where to irrigate in northern Australia, what tropical irrigation systems could look like, and how they should be managed to meet social,

cultural, environmental and economic sustainability objectives. The sustainability framework will also allow assessment of the performance of existing irrigation areas to help determine if and what changes may be necessary to make them more sustainable.

The project will draw on past experience of irrigation and development new knowledge of groundwater systems and irrigation mosaics to build understanding of risks associated with irrigation and of key landscape attributes critical to sustainable irrigation in northern Australia. This knowledge will be used to provide the information required in the framework.

9. STAKEHOLDER ENGAGEMENT AND COMMUNICATION AIMS

The aim of this SE&C Strategy is to significantly increase stakeholder and community awareness of the NAIF research project intent, activities and outputs in order to improve stakeholder engagement, develop greater community support for the project and maximise project benefits.

10. STAKEHOLDER ENGAGEMENT AND COMMUNICATION GUIDELINES

The behavioural guidelines for this SE&C Strategy are:

Clarify the objectives and goals of engagement and evaluate the appropriateness of techniques.

Understand related processes and be clear about how the engagement fits in with official decision-making processes.

Manage information in an accessible way without using complex concepts or jargon.

Support the development of capacity in understanding and applying the research concepts.

Ensure transparent identification of stakeholder groups and invitations to be involved.

Build trust with and between participants for the long term.

Allocate sufficient time to develop process, build partnerships and strengthen networks.

Encourage feedback and ensure flexibility to adapt to that feedback.

11. STAKEHOLDER ENGAGEMENT AND COMMUNICATION OBJECTIVES

The main stakeholder engagement and communication objectives are:

- Awareness:* To raise overall awareness of the project, its intent, activities and outputs.
To promote the benefits and positive aspects of the project.
To raise awareness of the linkages between the NAIF project and other research projects.
To ensure stakeholders are aware of the project and how to be involved.
- Attitudes:* To reduce communications risks by encouraging a positive view of the project.
To manage expectations of what the project can and can't deliver.
- Behaviours:* To encourage public demonstrations of support for the project.
To encourage key stakeholders to engage in project activities.
To provide tools for project partners and collaborators to communicate the project intent, activities and outputs.

12. STRATEGIC APPROACH

Because of the iconic status of northern Australia to so many Australians, every audience for communicating messages about the NAIF project is also a stakeholder or potential stakeholder. It is difficult and unnecessary to separate strategies for communication from strategies for stakeholder engagement in these circumstances and, consequently, the approach taken is to establish a combined SE&C Sub-Strategy for each of the identified Stakeholder Groups.

Key strategies are:

- Building direct, positive relationships wherever possible
- Utilising media and stakeholder networks where direct relationships are not possible
- Building strong linkages between NAIF and other relevant research and researchers
- Facilitating information sharing and information sharing networks
- Demonstrating how NAIF is contributing to a broad range of research and societal goals
- Harnessing third party advocates to champion the research
- Using a matrix of communication tools in a sustained program

13. STAKEHOLDER GROUPS

The following key stakeholders and target audience groups have been identified at three levels. Details of individuals and organisations in each of these groups are drawn from a NAIF Project Stakeholder Network database, which is continually updated.

Level 1 Stakeholders

Group 1 – Key R&D funding and partner organisations

- CSIRO
- Land and Water Australia
- National Program for Sustainable Irrigation
- CRC for Irrigation Futures
- Queensland Department of Natural Resources and Mines
- Northern Territory Department of Environment, Natural Resources and the Arts
- Western Australian Department of the Premier and Cabinet
- Ord Irrigation Cooperative
- Sunwater
- Project Team

Level 2 Stakeholders

Group 2 – Government

- Relevant Commonwealth Government agencies and Ministers
- Relevant Queensland Government agencies and Ministers
- Relevant Northern Territory Government agencies and Ministers
- Relevant Western Australian Government agencies and Ministers
- Northern Australia local governments

Group 3 – Researchers

- CSIRO
- Universities
- Cooperative Research Centres
- Commonwealth Government
- Queensland Government
- Northern Territory Government
- WA Government

Group 4 – Non-government interest groups

- Environmental NGOs
- Indigenous organisations
- Irrigation industry organisations
- Fishing NGOs

Group 5 – Case Studies

- Case study area governments, researchers, non-government interest groups, general community and media.

Level 3 Stakeholders

Group 6 – General community

- General scientific community
- Northern Australian residents
- Other Australian residents

Group 7 – Media

- National media
- QLD, NT and WA state media
- QLD, NT and WA regional and local media

14. STAKEHOLDER ENGAGEMENT AND COMMUNICATION TOOLS

Steering Committee

The SC was established on 11 March 2004 to help ensure appropriate outputs are created and useful outcomes are achieved. The SC is the primary mechanism for setting the strategic direction of the project, for providing guidance in adapting to emerging priorities, and for engaging and communicating with the key project funding and partner organisations. This tool is particularly relevant to Stakeholder Group 1.

Stakeholder Reference Group

The NAIF is intended to be a primary mechanism for linking with key stakeholders. Attempts will be made to ensure that the SRG is representative of the key stakeholders but, where this is not possible attempts will be made to secure members that have an understanding of likely stakeholder views on critical issues. This tool is particularly relevant to Stakeholder Group 4.

NAIF Stakeholder Network

A Stakeholder Network database of people who wish to be involved or kept informed about the NAIF project has been established. This tool is particularly relevant to Stakeholder Groups 2, 3, 4 and 6.

Government briefings

As major project funding partners, senior management briefings will be provided for Commonwealth, QLD, NT and WA government Ministers, their staff and agencies. This tool is particularly relevant to Stakeholder Groups 1 and 2.

Publication of scientific research

All key project reports are reviewed and published through normal CSIRO pre-publication procedures and external science review processes for journal/conference publications. New publications are advertised on the NAIF website and in the NAIF Newsletter. Publications will include a summary Research Bulletin of the project and its key findings of relevance to end users at project completion. This tool is particularly relevant to Stakeholder Group 3.

Meetings with key stakeholder representatives

The development of personal relationships between NAIF and key stakeholders is critical to

generating understanding and trust. Meetings with key stakeholder representatives play a critical role in this. Where possible and necessary, meetings will be supported with exchange of correspondence confirming issues discussed, agreements reached and outstanding matters for further consideration. This tool is particularly relevant to Stakeholder Group 4.

Presentations, exhibitions and posters

Presentations, exhibitions and posters at conferences, workshops etc are an important mechanism for directly informing larger numbers of key stakeholders through their organisations. Presentations, exhibitions and posters are on the NAIF project in general and on specific components of the research, depending on the needs of the audience and the project. This tool is particularly relevant to Stakeholder Group 4.

Newsletters

The Stakeholder Network receives regular updates on NAIF project. A Northern Australia Irrigation Futures Newsletter will be created and distributed bi-monthly. This tool is particularly relevant to Stakeholder Groups 2, 3, 4 and 6.

Web site

The NAIF project website has been established and is updated regularly. It contains details of the project, project reports and publications, hot links to other relevant projects, programs and organisations, and provides an opportunity for feedback to the project team. This tool is particularly relevant to Stakeholder Groups 2, 3, 4 and 6.

Media releases and press advertisements

Media releases are used to reach local, regional and national audiences at important milestones in the project. Advertisements will generally only be used to support information distributed through stakeholder networks, for example supporting calls for expression of interest in the Stakeholder Reference Group. This tool is particularly relevant to Stakeholder Groups 6 and 7.

Key messages and Q&A

Key messages and a series of questions and answers (Attachment 2) have been prepared to help project spokespeople and other stakeholders deliver consistent messages and improve understanding of the NAIF research project. This tool is relevant to all Stakeholder Groups.

15. SUB-STRATEGY 1: KEY R&D FUNDING AND PARTNER ORGANISATIONS

Key R&D Funding and Partner Organisation Stakeholders

- CSIRO
- Land and Water Australia
- National Program for Sustainable Irrigation
- CRC for Irrigation Futures
- Queensland Department of Natural Resources and Mines
- Northern Territory Department of Environment, Natural Resources and the Arts
- Western Australian Department of the Premier and Cabinet
- NAIF Project team

Primary Objectives of Sub-Strategy

The primary objectives of engaging and communicating with the key R&D Funding and Partner Organisations are:

- To report on project progress and direction
- To seek guidance on project direction
- To support project outcomes by encouraging use of project outputs
- To demonstrate value for money from funding contributions

General approach

The SC is the primary mechanism for setting the strategic direction of the project, for providing guidance in adapting to emerging priorities, and for engaging and communicating with the key project funding and partner organisations. Terms of Reference for the SC are at Attachment 3.

Stakeholder Engagement and Communication Tools

The SC was established on 11 March 2004 to provide strategic advice and guidance to the project to ensure that it secures adequate resourcing to develop, test and deliver an acceptable framework to stakeholders to ensure sustainable development, management and improvement of irrigation systems in tropical Australia. The SC meets in person occasionally, with other meetings held by telephone conference call. SC members will be provided Project Status Reports and draft NPSI Milestone reports one month prior to forwarding Milestone Reports to NPIS. The SC will receive updates on relevant specific issues at each SC meeting.

In addition to the SC meetings, the Principal Investigator and Sustainability Specialist interact regularly with SC members, and direct personal contact between the Project Team and SC members is expected on an as needs basis.

Key Issues

At inception, it was recognised that the composition of the SC may need to adapt over time. The current composition has been questioned by some stakeholder groups who consider that it has insufficient expertise in indigenous and environmental issues. The Steering Committee composition will be reviewed against the Terms of Reference to determine whether changes should be made to address the concerns raised.

The Stakeholder Engagement and Communication Plan for Key R&D Funding and Partner

Organisations is given in Table 1.

Table 1: Stakeholder Engagement & Communication Plan for Key R&D Funding and Partner Organisations

Action	Responsibility	Timeframe
Steering Committee meetings	Chairman/Di Popham	As required, but at least quarterly
Review of Steering Committee membership and any proposed changes to SC agreed	Keith Bristow / Jeff Camkin/SC	31/3/06
Standard Q&As available for use by all SC members	Jeff Camkin	14/2/06
Summary of the NAIF project as a PowerPoint presentation available for use by all SC members	Jeff Camkin	31/3/06
Project Status Reports & NPSI Milestone Reports to SC	Jeff Camkin	1/4/06, 31/10/06 & 30/6/07
Presentation to NPSI Investors Forum	Keith Bristow	14/10/06 & October 2007

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16. SUB-STRATEGY 2: GOVERNMENT RELATIONS

Government Relations Stakeholders

- Relevant Commonwealth Government agencies and Ministers
- Relevant Queensland Government agencies and Ministers
- Relevant Northern Territory Government agencies and Ministers
- Relevant Western Australian Government agencies and Ministers
- Northern Australia local governments

Primary Objectives of Sub-Strategy

- To ensure all levels of Government have sufficient understanding of the NAIF project
- To generate support for the project
- To support project outcomes by encouraging use of project outputs

General approach

Briefings by SC members and the project team are the main method of direct engagement with relevant federal, state and local government agencies and their Ministers.

Stakeholder Engagement and Communication Tools

Opportunities for personal briefings of Ministers, their advisors and key agency staff will be sought through the life of the project. Letters providing updates on the NAIF project and seeking face to face briefings will be forwarded to Ministers and relevant agencies at regular intervals.

Key Issues

Ministers and senior agency staff are inevitably busy and they may need to be convinced of the benefits of receiving briefings on the NAIF project. SC members will assist the project team in creating opportunities for formal briefings for relevant Minister and their agencies briefings and will take other opportunities as they arise.

The Stakeholder Engagement and Communication Plan for Government Relations is given in Table 2.

Table 2: Stakeholder Engagement and Communication Plan for Government Relations

Action	Responsibility	Timeframe
Briefings for Commonwealth Minister for Agriculture, Fisheries and Forestry on project plan, key messages & communication and engagement strategies	KB &/or JC & SC member	30/06/06 & 30/06/07
Briefings for QLD Minister for Natural Resources and Mines, as above	KB & GC	30/06/06 & 30/06/07
Briefings for NT Minister Natural Resources, the Environment and Heritage, as above	KB &/or JC & IS	30/06/06 & 30/06/07
Briefings for WA Minister for Water Resources and Minister Assisting, as above	JC & SC member	30/06/06 & 30/06/07
6 monthly letter from SC Chairman to update above Ministers on project status	Jeff Camkin	Feb. & August annually
Separate briefings for relevant NT, QLD and WA government agency staff	SC members to arrange	6 monthly
Letter from SC Chairman to QLD, WA and NT Minister's and Department's of Local Government advising them of the NAIF project.	Jeff Camkin	31/3/06

17. SUB-STRATEGY 3: RESEARCHERS

Researcher Stakeholders

- CSIRO
- Universities
- Cooperative Research Centres
- Commonwealth Government
- Queensland Government
- Northern Territory Government
- WA Government

Primary Objectives of Sub-Strategy

- To identify and cultivate linkages between NAIF project and other research projects and programs
- To raise awareness of NAIF outputs for use in other research projects.

General approach

The general approach to engaging and communicating with other researchers will be through existing research networks.

Stakeholder Engagement and Communication Tools

All key NAIF project research will be published through normal CSIRO procedures and will be available to a broad national and international audience. Existing networks of researchers and research organisations will be utilized to raise awareness of the NAIF project and opportunities for presenting NAIF research to conferences will be sought on an ongoing basis. Regular meetings of leaders of key projects across the north (NAIF, Tropical Rivers Inventory etc) will be established to share knowledge, ensure relevant linkages are built between projects and duplication is minimised. Summaries of the meetings will be posted on the websites for each project to inform the wider community about the collaboration and outcomes.

Key Issues

Some stakeholders have expressed concerns about potential for contradiction between the LWA Tropical Rivers Inventory and Assessment Program (TRIAP) and the NAIF project. Meetings to ensure strong linkages and collaboration between these projects and Charles Darwin University have been established on a regular basis, chaired by NAIF.

The Stakeholder Engagement and Communication Plan for Researchers is given in Table 3.

Table 3: Stakeholder Engagement and Communication Plan for Researchers

Action	Responsibility	Timeframe
Chair NT research collaboration tele-meetings (NAIF, TRIAP, CDU, NT Dept. of NRETA)	Jeff Camkin	Bi-monthly
Tropical Rivers Program membership on NAIF Steering Committee and vica versa	Keith Bristow	Ongoing
Publication of NAIF reports in scientific journals	Keith Bristow	Various
Presentations at key scientific conferences, workshops and meetings as opportunities arise	Keith Bristow	Various
Regular communications between NAIF and SKI proposal proponents	Keith Bristow	Various

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18. SUB-STRATEGY 4: NON-GOVERNMENT INTEREST GROUPS

Non-Government Interest Group Stakeholders

- Environmental NGOs
- Indigenous organisations
- Irrigation industry organisations
- Fishing NGOs
- Pastoral industry organisations

Primary Objectives of Sub-Strategy

- To identify issues of importance to key stakeholders for consideration in NAIF activities

General Approach

The main approach to stakeholder engagement and communication with non government interest groups is the development of direct relationships between NAIF project team and representatives of stakeholder organisations.

Stakeholder Engagement and Communication Tools

The SRG is a primary mechanism for engaging and communicating with key stakeholder groups and for seeking feedback on the NAIF research and future research. A copy of the Terms of Reference for the SRG is at Attachment 4. The SRG will provide an important point of reference for feedback on current research and guidance on future research.

Opportunities for the project team to meet with representatives of key stakeholder organisations will be taken throughout the course of the project. The purpose of these meetings will be to update stakeholder organisations on progress, to identify issues that need to be addressed and, where appropriate, to encourage membership on the SRG.

Key Issues

Stakeholder Reference Group – A request for Expressions of Interest for membership of the SRG was advertised nationally in August 2005. The SC subsequently endorsed all nine nominations as members of the SRG. While the current members of the SRG bring significant knowledge and skills relevant to the NAIF project, some key stakeholder groups remain unrepresented. Membership of the SRG will remain open and the unrepresented key stakeholder groups will continue to be encouraged to join.

Indigenous stakeholder needs - The specific needs of indigenous communities in stakeholder engagement and communication are recognised. The Northern Land Council is represented on the SRG and the project team will also work with the North Australian Indigenous Land and Sea Management Alliance to address the need for effective engagement with indigenous communities.

ANCID 2006 – The Australian National Committee on Irrigation and Drainage Annual Conference will be held on 15-18 October 2006 in Darwin. The Conference will focus national attention on irrigation in northern Australia and should draw participants or interest from a range of key stakeholder groups. It provides a major opportunity to raise awareness of the NAIF project. A face to face meeting of the SRG and other NAIF activities will be developed around the Conference.

The Stakeholder Engagement and Communication Plan for Non-Government Interest Groups is given in Table 4.

Table 4: Stakeholder Engagement and Communication Plan for Non-Government Interest Groups

Action	Responsibility	Timeframe
<i>General</i>		
Presentations at the following forums: - ANCID 2006 -	- TBA	October 2006
<i>SRG</i>		
Establish SRG	Keith Bristow	30/09/05
Review of SRG membership	Jeff Camkin	28/2/06
Encourage unrepresented sectors to join SRG	Jeff Camkin	Ongoing
Face to face meeting during ANCID conference	Jeff Camkin	18/10/06
<i>Indigenous community needs</i>		
Work with SRG and NAILSMA to identify and address specific needs of northern aboriginal communities as they relate to NAIF project engagement and communication	Jeff Camkin	
<i>Environmental NGOs</i>		
Meet with NAEA to address and resolve any misunderstandings about the NAIF project	Keith Bristow / Jeff Camkin et al	By 30/4/06
<i>ANCID conference</i>		
Proposed NAIF activities during ANCID conference to SC for approval	Jeff Camkin	31/05/06

19. SUB-STRATEGY 5: CASE STUDIES

It is essential that the research project deliver a sustainability framework that is demonstrably a practical tool. Three case study sites are proposed to help achieve this. The three case study sites will provide insights to inform the development of the sustainability framework.

The case studies will also:

- Allow the NAIF project to link closely with and draw from other activities taking place in the case study areas
- Help ensure that the sustainability framework can provide for the incorporation of ecological, social, economic and cultural values by those wishing to use the framework
- Ensure that risks and limitations of irrigating in northern Australia are clearly identified
- Ensure the Stakeholder Reference Group has the opportunity to understand the direct relevance of decisions about irrigation in northern Australia to the future of those individuals and communities.

Case Study Stakeholders

Level 1, 2 and 3 stakeholders relevant to each case study area. These stakeholders will be identified in conjunction with the SC member for each jurisdiction.

Primary Objective of Sub-Strategy

To ensure that practical issues of importance to local stakeholders are identified for inclusion in the development of a sustainability framework, thereby ensuring that it is of practical use.

General Approach

Existing state/territory government networks will be used to identify relevant stakeholders and issues of importance to them. Where possible, existing government processes will be used as the mechanism for stakeholder engagement in each case study area.

Stakeholder Engagement and Communication Tools

The stakeholder engagement and communication tools for each case study will be developed in collaboration with the SC member from that state government jurisdiction and outlined in the Case Study work plans.

Key Issues

The success of the case studies will be very dependent on contributions from the relevant state governments and on stakeholder engagement in the case study areas. Operational Plans and Case Study Stakeholder Engagement and Communication Plans are being developed in consultation with the relevant SC member from each of the QLD, NT and WA governments.

The Stakeholder Engagement and Communication Plan for Case Studies is given in Table 5.

Table 5: Stakeholder Engagement and Communication Plan for Case Studies

Action	Responsibility	Timeframe
Finalise QLD Case Study Operational Plan and Stakeholder Engagement and Communication Plan	Jeff Camkin/QLD SC member	14/2/06
Finalise NT Case Study Operational Plan and Stakeholder Engagement and Communication Plan	Jeff Camkin/NT SC member	28/02/06
Finalise WA Case Study Operational Plan and Stakeholder Engagement and Communication Plan	Jeff Camkin/WA SC member	28/02/06

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20. SUB-STRATEGY 6: GENERAL COMMUNITY

General Community Stakeholders

- General scientific community
- Northern Australian residents
- Other Australian residents

Primary Objective of Sub-Strategy

To raise awareness of the NAIF research project intent, activities, outputs and benefits across Australia.

General Approach

The use of mass media and electronic information will be the primary mechanism for reaching the largest possible audience in the general community across Australia.

Stakeholder Engagement and Communication Tools

A Northern Australia Irrigation Futures Newsletter will be produced every two months for distribution through the Stakeholder Network. Brief simple language fact sheets will be prepared to summarise key project outputs, such as technical reports.

Key Issues

Nil.

The Stakeholder Engagement and Communication Plan for General Community is given in Table 6.

Table 6: Stakeholder Engagement and Communication Plan for General Community

Action	Responsibility	Timeframe
Establish and maintain Stakeholder Network database	Di Popham	Completed
Distribute NAIF Project Newsletter to Stakeholder Network	Jeff Camkin / Di Popham	Quarterly
Fact sheets on key project research activities	Jeff Camkin	According to Work Plan
Maintain NAIF website with regular updates on project plan, activities, outputs and communications.	Keith Bristow/Di Popham	Ongoing

21. SUB-STRATEGY 7: MEDIA

Media Stakeholders

- National media
- QLD, NT and WA state media
- Regional and local media

Primary Objectives of Sub-Strategy

To provide opportunities for national, state and local media to present positive stories about the NAIF project intent, activities, outputs and benefits.

General Approach

The general approach to engagement with media stakeholders is to proactively prepare a range of products relating to key project activities and milestones, and to respond to media opportunities as they arise.

Stakeholder Engagement and Communication Tools

A list of standard NAIF project Q&As will be available for the SC and project team to respond to media interest. There will be at least one media release every six months about the status of the project, key milestones, key issues or project outputs.

Key Issues

The following opportunities/options for media statements have been identified:

- Item on changes to SC membership to increase environmental and indigenous expertise – 1st quarter 2006
- Item on commencement of case studies – 2nd quarter 2006
- Item on research leading to report *Overview of Irrigation in northern Australia* – 3rd quarter 2006
- Item on NAIF activities at ANCID Conference – 4th quarter 2006
- Item on research leading to report *State of knowledge of groundwater flow systems in northern Australia* – 4th quarter 2006
- Item on research leading to report *Current understandings of irrigation mosaics* – 1st quarter 2007
- Item on research leading to report *Research findings, modelling results and applications for irrigation mosaics in northern Australia* – 2nd quarter 2007
- Item on completion of case studies – 2nd quarter 2007
- Item on release of NAIF Final Report / sustainability framework – 3rd quarter 2007
- Other opportunities that arise as the project progresses.

Potential media target list

The following list identifies potential targets for proactive media activity. For each individual media activity, a more refined target list will be produced to ensure the relevance and appropriateness of each target to the media activity.

- National Newspapers - The Australian, The Australian Financial review
- Regional and Country Newspapers – eg the Bowen Independent, The Northern Miner (Charters Towers), Townsville Bulletin, Katherine Times, Broome Advertiser and Kimberley Echo

- Local newspapers in each case study area
- Metropolitan Newspapers - The Daily Telegraph, The Sydney Morning Herald, Herald Sun, The Age, The Courier Mail, The Advertiser, The West Australian
- Trade - Water (Australian Water Association), Irrigation Australia, Habitat Australia, Ecos Magazine
- Radio - ABC, ABC Country Hour and local radio in each case study area

The Stakeholder Engagement and Communication Plan for Media is given in Table 7.

Table 7: Stakeholder Engagement and Communication Plan for Media

Action	Responsibility	Timeframe
Q&As provided to SC and project team	Jeff Camkin	31/03/06
Communications protocols and key messages approved by SC	Jeff Camkin	28/02/06
At least one media statement every 3 months	Jeff Camkin	Each financial quarter
Agree communications tactics and protocols with ANCID, LWA and NPSI prior to ANCID conference in October 2006	Jeff Camkin	30/06/06
Maintain watching brief on issues of interest (media/stakeholder) and report relevant issues to SC	Jeff Camkin	Ongoing
Direct contact will be made with key northern Australia media to explain the intent, activities and deliverables of the NAIF project	Jeff Camkin	Ongoing

22. RESPONSIBILITIES AND PROTOCOLS

Responsibilities

Role of the Steering Committee

The role of the Steering Committee with respect to stakeholder engagement and communications will be to:

- Review and agree on the SE&C Strategy
- Facilitate briefings for relevant Government Minister's and their agencies
- Facilitate awareness
- Decide on a communications approach to significant issues as they arise and are identified by the communications manager
- Approve media statements (note – CSIRO media approval processes will also need to be met)
- As individuals, assist the development of relationships between the project and key stakeholders.

Role of the Stakeholder Reference Group

The stakeholder reference group is a key to how we manage our external relationships. The aim of the SRG is to facilitate greater understanding about the project with stakeholders and providing a mechanism for them to give feedback. We do not expect participants to necessarily agree with or support the project and the aim is not to convince members of the SRG to support or endorse the project. The SRG will provide advice on the project, in particular, how to convert the learnings from local case studies into a framework that has applicability across northern Australia.

Role of the Principal Investigator

Dr Keith Bristow, the Principal Investigator, has overall responsibility for the NAIF project. Dr Bristow will have primary responsibility for Sub-Strategy 3 – Researchers.

Role of the Sustainability Specialist/Communications Manager

Jeff Camkin will assist Dr Bristow in building and maintaining effective engagement and communication with various Australian, WA, NT and QLD Government Departments, key local Governments, and various environment and community groups, including regional NRM bodies.

Responsibility for managing communications should rest with a single point of contact within the Project Team. As project communications manager, Jeff Camkin will provide that point of contact for the NAIF project.

The communications manager will be responsible for:

- Making decisions about media interview opportunities
- Identifying forward-looking media and communications opportunities
- Developing and managing the implementation of the SE&C Strategy
- Drafting media statements
- Drafting project updates
- Drafting fact sheets and summary presentations (as PowerPoint presentations)

- Ensuring compliance of Project Team with communication protocols (including CSIRO and other partner protocols if appropriate).

Project Media Spokesperson

The number of spokespeople should be limited to as few as possible to minimise the risk of straying off-message and to provide a sense of continuity to the project. Where media communications are proactively developed or where there is sufficient time to develop a written statement, Jeff Camkin will typically be the media spokesperson as communications manager for the project. Dr Keith Bristow will be the spokesperson where the focus is on detailed scientific issues. Either party, as appropriate, will take the role of media spokesperson where short timeframes are available prior to responding or where local content is particularly important (for example, where there is media interest following a meeting or presentation). Where possible, the Communications Management Team will discuss the proposed responses.

Approvals

Media Statements

Require approval of the Communications Management Team, which consists of the SC Chairman Greg Claydon, Dr Keith Bristow and Jeff Camkin

NAIF web page updates

Additions and changes to be approved by Dr Keith Bristow and Jeff Camkin

Scientific publications

To be approved by normal CSIRO procedures. Publications which include potentially sensitive material of a scientific or political nature require the approval of the communications team. SC members will be given the opportunity to comment prior to publication of material that is scientifically or politically sensitive.

Project updates and communiqués

Project updates and communiqués are to be approved by the Communications Management Team.

Correspondence

Correspondence of a general nature will be approved by Dr Keith Bristow or Jeff Camkin. Correspondence that includes or responds to potentially sensitive material of a scientific or political nature will require approval of the Communications Management Team. SC members will be given the opportunity to comment on such correspondence.

23. MONITORING AND EVALUATION

The NAIF Monitoring and Evaluation Plan requires reports against the SE&C Strategy to be included in each Milestone Report, including evidence of NAIF taking a proactive approach to identify key audiences, issues and strategies to address them.

This SE&C Strategy itself will be considered by the SC on 14 February 2006. The Strategy will be reviewed informally on an ongoing basis and formally during January 2007.

Recommendations from the review will be put to the SC for consideration at its first meeting in 2007.

24. CONFIDENTIALITY

This SE&C Strategy will be publicly available on the NAIF project website. The Strategy is subject to the Copyright and Disclaimer information on page 2.

25. LIST OF ATTACHMENTS

The following are provided as attachments to this report:

NUMBER	DESCRIPTION
Attachment 1	Stakeholder engagement and communication activities to date
Attachment 2	Key messages and Q&A
Attachment 3	Steering Committee Terms of Reference
Attachment 4	Stakeholder Reference Group Terms of Reference

Updated 6-1-05

STAKEHOLDER ENGAGEMENT & COMMUNICATION ACTIVITIES TO DATE

NAIF Publications:

Kellett, B.M., Walshe, T. & Bristow, K.L. 2005. Ecological Risk Assessment of the Wetlands of the Lower Burdekin. CSIRO Land and Water Technical Report No. 26/05. 30 pp.

Bristow, K.L. & S. MacKinnon. 2005. Northern Australia Irrigation Futures (NAIF) - Research, Frameworks and Sustainability. IAA Journal, Vol 20 No. 2 pp. 54-55.

Kellett, B., Bristow, K.L. & P.B. Charlesworth. 2005. Indicator Frameworks for Assessing Irrigation Sustainability. CSIRO Land and Water Technical Report No. 01/05

NAIF Presentations at Conferences, Workshops and Meetings

Bristow, K.L., Petheram, C. & Kellett, B.M. 2005. Irrigation in northern Australia – is it worth the risk? ASA-SSA national Conference, 6-10 November, Salt Lake City, Utah, USA (Agron. Abstr. 2005 CD-ROM)

Kellett, B.M., Bristow, K.L., Moore, G., Beilin, R. and F.h.s. Chiew. 2005. Reflecting on stakeholders' perceptions in an ecological risk assessment workshop. In: Proceedings of the Environmental Research Event Conference. 29th November – 2nd December, 2005, Hobart, Tasmania.

Bristow, K.L. & C. Petheram. 2005. Irrigation and groundwater systems in northern tropical Australia. ANCID Conference, Mildura, Victoria (24-26 October 2005)

Bristow, K.L. 2005. Northern Australia Irrigation Futures. Land and Water Australia Sustainable Irrigation Program Investors Forum, Mildura, Victoria (23 October 2005)

Bristow, K.L. 2005. The Northern Australia Irrigation Futures Project. Environmental Research Institute of the Supervising Scientist (ERISS), Darwin, Northern Territory (7 October 2005)

B.M. Kellett & K.L. Bristow. 2005. Risk and Resilience for Adaptive Irrigation Planning. CRC for Irrigation Futures Annual Forum, Mildura, Victoria (19-21 September 2005)

Bristow, K.L., C. Petheram & B.M. Kellett. 2005. Northern Australia Irrigation Futures: An update. CRC for Irrigation Futures Annual Forum, Mildura, Victoria (19-21 September 2005)

Bristow, K.L., Jolly, P., Smith, I., Petheram, C. & P.B. Charlesworth. 2005. Groundwater systems and their potential role in irrigation in northern Australia. Workshop on Groundwater Surface Water Interaction in the Tropics, Darwin, NT, Australia (26-27 May 2005)

- Kellett, B.M. Bristow, K.L., Charlesworth, P.B., Malano, H., Moore, G. & F. Chiew. 2005. Accounting for stakeholders' assumptions and cultural understandings in environmental risk assessment for irrigation: A groundwater nitrate case study. Irrigation Association of Australia (IAA) Conference on Restoring the Balance. Townsville, QLD, Australia (17-19th May 2005)
- Bristow, K.L., Charlesworth, P.B., Thayalakumaran, T., Narayan, K.A. & C. Petheram. 2005. Water and irrigation management on the Burdekin coastal floodplain. OzWater WaterShed Conference, , Townsville, QLD, Australia (5-7th May)
- Bristow, K.L. 2005. Northern Australia Irrigation Futures. Northern Australia Environment Alliance, Brisbane, QLD (22 February 2005)
- Kellett, B.M. 2005. A Sustainability Framework to Guide Irrigation Development in Northern Australia. BBIFMAC Office, Ayr (14 February 2005)
- Kellett, B.M. 2005. A Sustainability Framework to Guide Irrigation Development in Northern Australia. The University of Melbourne, Melbourne (4 February 2005)
- Bristow, K.L. 2005. Northern Australia Irrigation Futures. SunWater, Ayr, QLD (1 February 2005)
- Bristow, K.L. 2005. Irrigation within a broader sub-catchment context: The lower Burdekin. CSIRO Floreat Park, Perth, WA (28 January 2005)
- Bristow, K.L. 2005. Northern Australia Irrigation Futures. WA Water Task Force, Perth. (27 January 2005)
- Bristow, K.L. 2004. Northern Australia Irrigation Futures. CRC for Irrigation Futures Sustainability Challenge Workshop, Stamford Airport Hotel, Sydney, (17 November 2004)
- Kellett, B.M. 2004. A Sustainability Framework to Guide Irrigation Development in Northern Australia. PhD Introductory Seminar, CSIRO Land and Water, Davies Laboratory, Townsville (15 October 2004)
- Bristow, K.L. 2004. Northern Australia Irrigation Futures: An Update. ANCID Conference, Barossa Valley, Tanunda, South Australia (10-13 October 2004)
- Bristow, K.L. 2004. Northern Australia Irrigation Futures. Land and Water Australia Sustainable Irrigation Program Investors Forum, Barossa Valley, Tanunda, South Australia (10 October 2004)
- Bristow, K.L. 2004. Northern Australia Irrigation Futures. CRC for Irrigation Futures Annual Workshop, University of Western Sydney, Sydney (20 September 2004)
- Kellett, B.M. 2004. A Sustainability Framework to Guide Irrigation Development in Northern Australia. CRC for Irrigation Futures Annual Workshop, University of Western Sydney, Sydney (20 September 2004)

Bristow, K.L. 2003. Northern Australia Irrigation Futures: Building a basis for developing sustainable irrigation across northern Australia. ANCID Conference, Shepparton, Victoria, Australia (19-22 October 2003)

Bristow, K.L. 2003. Northern Australia Irrigation Futures: Building a basis for developing sustainable irrigation across northern Australia. Land and Water Australia Sustainable Irrigation Program Investors Forum, Shepparton, Victoria, Australia (19 October 2003)

Radio:

Northern Australia Irrigation Futures. ABC North West WA Radio News (6 May 2004)

Water futures. Curtin FM Seeling Solutions with Retirees WA (27/3/2003)

Television:

Tropical river systems and North Australian Irrigation Futures. ABD6 State Television News, Darwin (2 February 2004)

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WORKSHOPS, SEMINARS AND MEETINGS FACILITATED BY OR FEATURING NAIF

(Participant numbers (#) does not include NAIF team members or NAIF consultants)

Seminars Meetings Workshops	Date	#	Organisations Represented
2005			
Meeting, Office of Water Strategy, Perth	7 December	3	<ul style="list-style-type: none"> Office of Water Strategy Dept of Water Dept of Agriculture
Meeting, Water Smart Australia, Canberra	2 December	≈ 30	<ul style="list-style-type: none"> National Water Commission National Farmers Federation Victorian Farmers Federation Cotton Australia Twynam Agricultural Group Ricegrowers Association of Australia Irrigation Association of Australia NSW Irrigators Council South Australian Murray Irrigators SunWater CRC for Irrigation Futures National Program for Sustainable Irrigation SA Murray Darling NRM Board NT Agricultural Association Pratt Water Aust. National Committee on Irrigation & Drainage Cth Dept of Agriculture, Forestry & Fisheries Southern Rural Water CSIRO (Jeff Camkin)
Meeting, CSIRO, Perth	2 December	3	<ul style="list-style-type: none"> Dept of Water
Meeting, Office of Water Strategy, Perth	1 December	10	<ul style="list-style-type: none"> Office of Water Strategy WA Irrigation Review Steering Committee Dept of Water (formerly Dept of Environment) Dept of Agriculture Water Corporation
Cross Project Collaboration tele-meeting	1 December	2	<ul style="list-style-type: none"> NT Dept Natural Resources, Environment & the Arts Environmental Research Institute of the Supervising Scientist
Meeting, CSIRO, Perth	1 December	1	<ul style="list-style-type: none"> Dept of Industry Resources
Meetings, Darwin	23-24 November	10	<ul style="list-style-type: none"> NT Dept Natural Resources Environment & the Arts NT Dept of Primary Industries, Fisheries and Mining Amateur Fishing Association of NT NT Horticultural Association Charles Darwin University Environmental Research Institute of the Supervising Scientist CSIRO Sustainable Ecosystems Aust. National Committee on Irrigation & Drainage

Seminars Meetings Workshops	Date	#	Organisations Represented
Meetings organised by ANCID, Darwin	21-22 November	12	<ul style="list-style-type: none"> • Aust. National Committee on Irrigation & Drainage • NT Dept Natural Resources, Environment & the Arts • Ord Irrigation Cooperative • NT Dept of Primary Industries, Fisheries and Mining • Charles Darwin University • Environmental Research Institute of the Supervising Scientist
Cross Project Collaboration tele-meeting	31 October	4	<ul style="list-style-type: none"> • NT Dept Natural Resources, Environment & the Arts • Environmental Research Institute of the Supervising Scientist • Charles Darwin University
Meeting, Environmental Research Institute of the Supervising Scientist (ERISS), Darwin	7 October	12	<ul style="list-style-type: none"> • SSD • Environmental Research Institute of the Supervising Scientist • NT Dept Natural Resources, Environment & the Arts • NT Dept of Primary Industry, Fisheries and Mining • Cth Department of Environment and Heritage • WWF • CSIRO
Meeting, Northern Australia Groundwater Systems, NRETA, Darwin	3-5 October	6	<ul style="list-style-type: none"> • NT Dept Natural Resources, Environment & the Arts • QLD Dept of Natural Resources and Mines • CSIRO
CRC IF Annual Research Forum, Mildura	19-21 September	>80	<ul style="list-style-type: none"> • CRC Irrigation Futures • CSIRO Land and Water • QLD Dept Natural Resources, Mines and Energy • National Program for Sustainable Irrigation • Land and Water Australia • VIC Dept of Primary Industries • University of Melbourne • University of Southern Queensland • University of South Australia • University of Western Sydney • Charles Sturt University • NSW Agriculture • South Australian Research and Development Institute
Meeting, Sustainability Challenge, North Burdekin Water Board Case Study, Ayr	27 July	14	<ul style="list-style-type: none"> • North Burdekin Water Board • South Burdekin Water Board • CSR • QLD Dept of Natural Resources and Mines • Burdekin Shire Council • Canegrowers • CSIRO • University of New England • BSES
Meeting, Sustainability	30 June	6	<ul style="list-style-type: none"> • North Burdekin Water Board • CSIRO

Seminars Meetings Workshops	Date	#	Organisations Represented
Challenge, North Burdekin Water Board Case Study, Ayr			<ul style="list-style-type: none"> • University of New England • BSES
Workshop, Lower Burdekin Knowledge Platform, Ayr	17 June	≈ 30	<ul style="list-style-type: none"> • North Burdekin Water Board • South Burdekin Water Board • Sunwater • Burdekin Dry Tropics Board • Burdekin Shire Council • Canegrowers • QLD Dept of Natural Resources and Mines • BBIFMAC • QLD Dept of Primary Industry and Fisheries • BSES • James Cook University ACTFR
ERA workshop, Ecological Risk Assessment for the Wetlands of the Lower Burdekin	1 June	25	<ul style="list-style-type: none"> • North Burdekin Water Board • South Burdekin Water Board • Burdekin Dry Tropics Board • Townsville City Council • Canegrowers • Dept of Natural Resources and Mines • BBIFMAC • Dept of Primary Industry and Fisheries • EPA • ACTFR • University of Melbourne • University of Western Australia • Great Barrier Reef Marine Park Authority • Australian Sweet Forage Pty Ltd • Earth Environmental Consulting • Haughton Catchment Committee • Creek to Coral Waterwatch • CRC for Irrigation Futures • Burdekin Productivity Services Ltd • Monash University • CSIRO Land and Water
NT Stakeholder Meeting, Darwin	30 May	≈ 26	<ul style="list-style-type: none"> • NAIF Steering Committee • NT Dept Infrastructure Planning and Environment • NT Dept Business Industry & Resource Development • CSIRO • Environmental Research Institute of the Supervising Scientist • Land & Water Australia • NT Agricultural Association • NT Cattleman's Association
Workshop: Groundwater surface water interaction in the tropics, Darwin	26-27 May	≈ 40	<ul style="list-style-type: none"> • SKM • QLD University of Technology • QLD Dept Natural Resources & Mines • Charles Darwin University • CSIRO • NT Dept Infrastructure Planning and Environment • NT Dept Business Industry & Resource

Seminars Meetings Workshops	Date	#	Organisations Represented
			<ul style="list-style-type: none"> Development EWL Sciences Pty Ltd Australian National University Ord Irrigation Cooperative
ERA Workshop: Irrigation in the Katherine-Daly region, Darwin	18 May	≈ 25	<ul style="list-style-type: none"> NT Dept Infrastructure Planning and Environment NT Dept Business Industry & Resource Development Charles Darwin University NT Horticultural Association Environmental Research Institute of the Supervising Scientist Cth Department of Environment and Heritage CSIRO
Darwin meetings	17 May	7	<ul style="list-style-type: none"> Sue Jackson, CSIRO Peter Jacklyn, CRC Savanna's Peter Jolly et al, NT DIPE
SunWater, Ayr	10 March	1	<ul style="list-style-type: none"> Shaun Davidge – Project Manager: Water for Bowen
Sustainability Challenge Project Meeting, Charles Sturt University, Albury	25 February	≈ 20	<ul style="list-style-type: none"> CRC Irrigation Futures CSIRO Land and Water QLD Natural Resources and Mines South Australian Research and Development Institute University of Western Sydney Charles Sturt University NSW Agriculture
Northern Australia Environment Alliance (NAEA), Brisbane	22 February	4	<ul style="list-style-type: none"> Stuart Blanch – Manager Freshwater WWF Australia Kerryn O'Connor - Wilderness Society Henry Boer - Queensland Conservation Council Matthew Durack – CRC IF
CRC IF Sustainability Challenge, Townsville, Ayr	15-17 February	≈ 10	<ul style="list-style-type: none"> CRC IF Sustainability Challenge (Christen, Shepherd) North Burdekin Water Board BBIF MAC SunWater
BBIFMAC, Ayr	14 February	10	<ul style="list-style-type: none"> Burdekin Bowen Integrated Floodplain MAC
University of Melbourne – Confirmation Seminar, Melbourne	4 February	25	<ul style="list-style-type: none"> University of Melbourne CRC for Irrigation Futures National Program for Sustainable Irrigation
Sunwater, Ayr	1 February	3	<ul style="list-style-type: none"> SunWater
WA Water Task Force, Perth	27 January	≈ 15	<ul style="list-style-type: none"> See minutes of meeting
2004			
CRC IF Sustainability Challenge Project Workshop, Sydney	17 November	23	<ul style="list-style-type: none"> CRC Irrigation Futures CSIRO Land and Water SunWater QLD Natural Resources and Mines South Australian Research and Development

Seminars Meetings Workshops	Date	#	Organisations Represented
			<ul style="list-style-type: none"> Institute University of Western Sydney Charles Sturt University NSW Agriculture
ERA Workshop Townsville	10 November	25	<ul style="list-style-type: none"> CSIRO Land and Water National Program for Sustainable Irrigation Monash University Australia Centre for Tropical Freshwater Research NT Dept of Infrastructure, Planning and Environment QLD Dep. of Primary Industries QLD Dept of Natural Resources and Mines Ord Land and Water Burdekin Bowen Integrated Floodplain MAC Burdekin Dry Tropics Board CSR
Seminar – Kellett; CSIRO Davies Laboratory Townsville	15 October	25	<ul style="list-style-type: none"> CSIRO Land and Water CSIRO Sustainable Ecosystems QLD Environmental Protection Agency QLD Natural Resources and Mines North Queensland Area Consultative Committee Individual Farmers
CRC IF Annual Conference	20 September	100	<ul style="list-style-type: none"> CRC Irrigation Futures CSIRO Land and Water QLD Dept Natural Resource Mines and Energy National Program for Sustainable Irrigation Land and Water Australia Victoria Department of Primary Industries University of Melbourne University of Southern Queensland University of South Australia University of Western Sydney Charles Sturt University NSW Agriculture South Australian Research and Development Institute
Brisbane Workshop	3 August	18	<ul style="list-style-type: none"> QLD Dept of Primary Industries and Fisheries QLD Environmental Protection Agency QLD Dept Natural Resources Mines and Energy QLD Dept State Development and Innovation CSIRO Sustainable Ecosystems CRC Irrigation Futures Land and Water Australia
Darwin Workshop	26-27 May	20	<ul style="list-style-type: none"> Cth Bureau of Rural Sciences CSIRO Land and Water National Program for Sustainable Irrigation Cth Dept of Fisheries, Forestry & Agriculture NT Dept of Business, Industry & Resource Development CRC for Irrigation Futures Land and Water Australia Cth Dept of Environment and Heritage Environmental Research Institute of the Supervising

Seminars Meetings Workshops	Date	#	Organisations Represented
			Scientist <ul style="list-style-type: none"> • QLD Dept of Natural Resources, Mines & Energy • NT Dept of Infrastructure, Planning & Environment • WA Dept of Environment • WA Dept of Agriculture
Kununurra Meeting 2	7 May	2	<ul style="list-style-type: none"> • WA Dept of Agriculture
Kununurra Meeting 1	7 May	1	<ul style="list-style-type: none"> • WA Dept of Environment
Kununurra Seminar	6 May	9	<ul style="list-style-type: none"> • WWF • Ord Cucurbit Growers • WA Dept of Agriculture • Ord Land and Water • Ord Irrigation • Ord Irrigation Coop • Kimberley Primary Industries Association
Broome Seminar	5 May	6	<ul style="list-style-type: none"> • Environs Kimberley • Kimberley Land Council • Gray's Organic Produce • Individual Farmers • Kimberley Area Consultative Committee • Kimberley Sustainable Regions Advisory Committee
Karratha Seminar	5 May	3	<ul style="list-style-type: none"> • WA Dept of Environment • WA Dept of Agriculture
Perth Seminar	4 May	10	<ul style="list-style-type: none"> • WA Farmers Federation • WA Dept of the Premier and Cabinet • Irrigation Association of Australia, WA Region • CSIRO Land & Water • WA Dept of Environment • WA Dept of Industry and Resources • Conservation Council of WA • Pastoralists and Graziers Association of WA

KEY MESSAGES RELEVANT TO ALL STAKEHOLDER GROUPS

KEY MESSAGES	DETAILS
The aim of the NAIF research project is to provide knowledge and tools for sustainable decision making	<ul style="list-style-type: none"> • The NAIF project will provide knowledge and tools to support debate and decision-making about the future of irrigation in northern Australia. • The major output of the project will be a sustainability framework, which will help ensure any decisions about irrigation in northern Australia can be made according to the principles of ESD. • The sustainability framework will also provide knowledge to assess existing irrigation systems in northern Australia with the aim of making those systems more sustainable. • The NAIF project will not make decisions about current or potential irrigation in northern Australia – these decisions will remain the responsibility of the relevant governments and communities. The sustainability framework aims to support that decision-making.
The sustainability framework is being developed in consultation and cooperation with the people of northern Australia	<ul style="list-style-type: none"> • The end-users of the sustainability framework – community groups, governments and individuals will participate in its development through a series of on-ground case studies across northern Australia. • The NAIF project recognises the important role of indigenous communities in debate and decision-making about the future of irrigation in northern Australia and will provide for the incorporation of indigenous knowledge and considerations. • A Stakeholder Reference Group, including environmental, indigenous, community, agricultural and irrigation interests, has been formed to provide knowledge and express points of view about irrigation in northern Australia to the project.
The sustainability framework will be practical and robust	<ul style="list-style-type: none"> • Case study sites have been selected to represent a range of geographic, economic and social factors present across northern Australia: the Kimberley in WA, the Daly in the NT and the Burdekin in QLD. • Important and technically complex aspects of the sustainability framework will be subject to peer review. • A case-study approach combined with peer-review ensures that the sustainability framework will be practical, objective, transparent and best practice. • The NAIF project acknowledges other important research examining irrigation and sustainability in northern Australia and will work closely with these programs, including the LWA Tropical Rivers Program and the CRC IF Sustainability Challenge.

KEY MESSAGES	DETAILS
The NAIF project will deliver the sustainability framework by July 2007	<ul style="list-style-type: none"> • The sustainability framework will be developed through the case study process, which will run from January 2006 until March 2007, and finalised by July 2007. Further follow on projects are expected. • As part of the development of the sustainability framework, the project will also deliver a range of reports and tools, which will provide knowledge on the current state of irrigation in northern Australia, ecological risk assessments and bio-physical information about surface and groundwater interactions.
The NAIF research project is a co-operative effort between Australia's leading federal research organisations and the governments of QLD, NT and WA	<ul style="list-style-type: none"> • The NAIF project is funded through a partnership between LWA and the NT, QLD and WA governments, and is being managed by CSIRO. • The project is being overseen by a Steering Committee which aims to have both representation of the funding partners and expertise in key project areas, including the environment, sustainable irrigation and indigenous communities.

NAIF PROJECT QUESTIONS AND ANSWERS

The following are a series of potentially negative or ambiguous questions that may be asked about the project. These questions and answers are provided to improve understanding of the project and to correct misunderstandings.

Q. Isn't this just a pro-irrigation project?

A: No, not at all. The aim of the NAIF project is to provide knowledge and tools for sustainable decision-making about irrigation in Northern Australia. The major output of the project, a sustainability framework, will help ensure that any decisions made are consistent with the principles of ecologically sustainable development.

Q: What is LWA doing being involved in a pro-irrigation project?

A: Firstly, this is not a pro-irrigation project. While I cannot speak on behalf of others, the driving motive for partners in this project is *sustainability* – to ensure that any decisions about irrigation in Northern Australia are made according to the principles of ESD.

Q. Isn't this project all about making maps that will identify areas for future development?

A: No, it isn't. The project will develop a framework so that future decisions about whether or not to irrigate can be made based on actual knowledge of river and groundwater systems and according to the principles of environmental, economic and social sustainability.

Q: How can you say the sustainability framework is comprehensive when it only covers bio-physical factors?

A: The sustainability framework will incorporate social, economic and cultural linkages, which will be identified and incorporated through the case study process, in addition to bio-physical factors. We recognise that our knowledge is continually building, and so the framework will be specifically designed to allow for incorporation of future data across all these factors as it becomes available.

Q: Why does the steering committee have representatives of two irrigation organisations and no environmental representative?

A: The sustainability framework must take into consideration current knowledge of irrigation systems. The Steering Committee includes members who have broad expertise about irrigation systems and techniques and as such provide an important source of knowledge to the project.

Q: You have been accused of “collaborating with agricultural industries”. Is this the case?

A: We are collaborating with all stakeholders to develop the sustainability framework. This includes environmental groups, community groups and indigenous groups as well as agricultural and irrigation groups, research groups and government.

Q: How can you say the project is independent when it is being funded by government and has government representatives on the steering committee?

A: The project is guided by a Steering Committee which aims to have both representation of the funding partners and expertise in key project areas, including the environment, sustainable irrigation and indigenous communities. The NAIF project also includes a number of mechanisms to ensure it is transparent and objective, such as an open and consultative case-study process to develop the framework, independent peer review of important and technically complex aspects of the framework and collaboration with other independent research projects and initiatives.

Q: Who are the relevant experts on the SC for: (i) environmental issues; (ii) indigenous issues; (iii) economic issues; (iv) social issues?

A: We are currently reviewing the SC membership to ensure that it has appropriate expertise. Any changes to the SC membership will be announced ASAP.

Q: The NAEA has been very vocal about this project. Why aren't they on the steering committee or reference group?

A: We aim to have a Steering Committee with both representation of the funding partners and expertise in key project areas, including the environment, sustainable irrigation and indigenous communities. The NAIF project also includes a number of mechanisms to ensure it is transparent and objective, such as an open and consultative case-study process to develop the framework, independent peer review of important and technically complex aspects of the framework, collaboration with other independent research projects and initiatives and a Stakeholder Reference Group. NAEA has been formally invited to join the stakeholder reference group and we encourage them to do so.

Q: But they refused, right? Doesn't this undermine your credibility if the peak ENGO is not on board?

A: No, not at all. Whether the NEAE decides to be part of the process is a matter entirely for them, but we have made the invitation and would encourage them to participate. In any case, we will always listen to stakeholder concerns and welcome any useful contributions they may wish to make to the project.

Q: There have been criticisms that the project management of the NAIF is not sufficient to ensure the project will be delivered on time. Is this correct?

A: We have recently revised our work plan for Stage 2 of the project and have significantly bolstered the resources dedicated to project management and engagement with stakeholders. We are confident the project will achieve its stated aims.

Q: There has been a lot of turnover in staff within the project – why has this been?

A: The level of staff turnover within the project has not been any greater than average for similar-sized research projects. The project leader has been with the project since its inception, and it is good to have some staff turnover which brings new skills and ideas to the project.

Q: On what basis were the case study sites chosen?

A: Case study sites have been selected through discussions with the steering committee and others to represent a range of geographic, economic and social factors present across Northern Australia: the Kimberley in Western Australia, the Daly in the Northern Territory and the Burdekin in Queensland. These largely represent an undeveloped, partially developed and fully developed system, respectively.

Q: It has been suggested that the senior project staff do not have sufficient experience in sustainability issues and are effectively pro-irrigation. Is this correct?

A: No, that is not correct. The project staff have a range of skills and experience and together have expertise in all aspects of sustainability, including the bio-physical, environmental, social and economic factors of irrigation. In addition and to ensure transparency and objectivity, technically complex aspects of the sustainability framework will be also subject to peer review. We have also developed close links with the Tropical Rivers Program and will draw on their knowledge and expertise as appropriate.

Q: It is unclear how this project will work with related research projects and policy initiatives. How will you ensure this will happen?

A: The NAIF project acknowledges other important research examining irrigation and sustainability in Northern Australia. The work plan specifically identifies and specifies linkages to other programs such as including the Land & Water Australia's Tropical Rivers Program, the CRC for Irrigation Futures Sustainability Challenge and CSIRO's Land and Water Policy and Economic Research Unit. For example, NAIF chairs monthly meetings of NAIF, Tropical Rivers Inventory and Assessment Program, Charles Darwin University and the NT Department of Natural Resources, Environment and the Arts to ensure cross-collaboration between researchers and government policy makers.

Q: What decisions will the NAIF project be making about irrigation in northern Australia?

A: The NAIF project will not be making any decisions about irrigation in northern Australia - communities and governments have and will continue to make those decisions. The NAIF project is about providing the knowledge, tools and processes so that communities and governments can make the best informed decisions to achieve long term sustainability.

Q: Will the NAIF research really make a difference?

A: Clearly many past decisions have not adequately addressed environmental issues. This can be seen from the many problems experienced in southern Australia and elsewhere around the world. In some cases, the problems currently being experienced have been caused by inadequate understanding of the potential impact of irrigation on catchments and communities. Our aim is to help governments and communities to learn from and avoid repeating those mistakes in northern Australia by providing them with better knowledge, tools and processes than they currently have.

DRAFT

NAIF STEERING COMMITTEE – TERMS OF REFERENCE

Objective:

The Steering Committee will provide strategic advice and guidance to the project to ensure that it secures adequate resourcing to develop, test, and deliver an acceptable framework to stakeholders to ensure sustainable development, management and improvement of irrigation systems in tropical Australia.

It will do this by:

- Maintaining a close working relationship with the Project Leader and project team.
- Ongoing review and approval of project goals and objectives, timelines and implementation / delivery strategies.
- Identifying strategic project risks and approving actions to address these risks
- Identifying, influencing and securing appropriate funding for the project to meet its goals.
- Identifying key data sources and activities (competing & synergistic) important to the success of the project.
- Assisting with communication between the project and key stakeholders in line with advice received from the Stakeholder Reference Group.
- Identifying comparable work being undertaken by other agencies/organisations.
- Collaborating closely with the Stakeholder Reference Group.

Composition:

A small (8-10) skills based committee to provide strategic advice and guidance to ensure the NAIF project meets its goals. To be headed by an 'independent' Chair

Key skills required: *(need to match potential members to these skills and through this process pick up some broad 'representation')*

- Knowledge of and skills in project management and delivery (governance)
- Knowledge of and ability to influence / secure resource opportunities (resources)
- Knowledge of and skills in stakeholder engagement and communication strategies (engagement/communication)
- Knowledge and understanding of north Australian landscapes, environment and irrigation systems (technical aspects)

Current Steering Committee Membership:

- Greg Claydon (Chair)
- Murray Chapman
- Ross Dalton
- Kevin Devlin
- Mathew Durack
- Andrew Kelly
- Jos Mensink (replacement to be identified)
- Ian Smith
- Tom Aldred (replacement to be identified)

STAKEHOLDER REFERENCE GROUP - TERMS OF REFERENCE

The Stakeholder Reference Group will advise and assist the Northern Australia Irrigation Futures Project to ensure the project has a robust Stakeholder engagement strategy which meets the requirements of a broad network of stakeholders.

The Stakeholder Reference Group will act as a conduit in:

1. Working with stakeholders to identify key environmental, economic, social and cultural sustainability issues of relevance in meeting project objectives
2. Collaborating closely with the Steering Committee
3. Maintaining regular communication with the Sustainability Specialist, Project Leader and Steering Committee on key issues affecting stakeholder engagement and stakeholder issues
4. Identifying stakeholders and their requirements to assist the project in developing and delivering a robust stakeholder engagement strategy
5. Identifying opportunities for effective partnerships between the project and other stakeholders
6. Helping facilitate interagency and inter organisational collaboration and cooperation