



NINTI ONE: CRC REMOTE ECONOMIC PARTICIPATION

CRC for Remote Economic Participation

Program 2 – Enterprise Development

Precision Pastoral Management Tools Project

CRC for Remote Economic Participation
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Notes for workshop on 23 February 2011

The Broughton Room, National Wine Centre of Australia,
cnr Botanic and Hackney Roads, Adelaide

9:00 a.m. to 4:00 p.m.

Background to CRC-REP

The CRC for Remote Economic Participation (www.crc-rep.com.au) is a public good research centre established to deliver solutions to economic disadvantage in remote Australia. It started in July 2010 and will run for seven years. Three research programs encompassing 13 projects will systematically investigate regional economic systems, developing enterprises industries and education and employment systems. The CRC-REP is supported by the Commonwealth government and has 54 partner organisations that contribute \$110M in cash and in-kind resources to achieve the goals.

The CRC-REP is governed by Ninti One Limited and its Board of ten people. Jan Ferguson is the CRC-REP Managing Director. Other members of the Board are Paul Wand (Chair), Tom Calma (Deputy Chair), Glenise Coulthard (Adnyamathanha woman and Manager Aboriginal Health for the Port Augusta Hospital Cluster), Ian Davey (Emeritus Professor, University of South Australia), Harold Furber (Arrernte man, and Chair of the Desert Peoples Centre), Tanya Hosch (Social Policy Consultant), Alison Page (Tharawal woman and designer, artist and cultural planner), David Ritchie (CEO NT Department of Lands and Planning) and Tony Tate (Director, Research and Development, Curtin University).

The CRC-REP research Programs are outlined below:

Research Program 1 – Regional Economies: This Program aims to build robust and strong regional economies throughout remote Australia through our partners in government, industry and communities. Remote regions have unique characteristics that affect their economies. The projects comprising Program 1 are:

- Population Mobility and Labour Markets
- Enduring Community Value from Mining
- Climate Adaptation and Energy Futures

Research Program 2 – Enterprise Development: This Program will create models for successful medium and small enterprises that best suit remote locations, Aboriginal culture and industry opportunities. It will explore barriers to growth, such as distance from markets, fragile or faulty supply chains and ways to overcome high production costs. The Projects in this Program are:

- Aboriginal and Torres Strait Islander Art Economies
- Aboriginal and Torres Strait Islander Tourism Product
- Aboriginal Cultural Enterprise
- Carbon Economies in Remote Australia
- Bush Tomato Improvement
- Precision Pastoral Management Tools

Research Program 3 – Investing in People: This Program is about finding and getting the very best from all the talent, ability, skills and potential of two thirds of a million people who live in remote parts of Australia. The current education and training pathways have largely failed to deliver what is needed by remote people, which in turn limits their later ability to participate in local, national and world economies. Our aim in this Program is to find ways to overcome this and deliver the employment, livelihoods, education and training most needed in remote communities and enterprises. The Projects in the Program are:

- Interplay Between Health, Wellbeing, Education and Employment
- Pathways to Employment
- Remote Education Systems

Over 20 workshops with a wide range of stakeholders were conducted in 2008 and 2009 to determine the topics to be researched in the CRC-REP. Since these workshops were held, an application for the CRC was submitted; it was successful in December 2009 and the legal and administrative start-up procedures have been completed (Jan–Nov 2010). The time has finally come when stakeholders and researchers can reconvene to plan and commence the projects of the CRC-REP.

Precision Pastoral Management Tools Project background

The 21st century pastoralism project under the Desert Knowledge CRC set out to develop technologies that would assist pastoralists to increase efficiencies and reduce costs on the large properties that they manage. The concept was to develop robust systems that increased the 'precision' of data used to make management decisions. Precision in this case is both increased frequency and accuracy of recordings.

The 21st century pastoralism project achieved this goal with the development of a Remote Livestock Management System that can weigh and draft cattle as they approach a watering point. The system collects data on individual animals up to five times per week and with an accumulated accuracy of 99% of the animal's average weight. This system is now undergoing refinement and is in early stage commercialisation.

Objectives of the project

The CRC-REP project Precision Pastoral Management Tools will expand on the concept of precision pastoralism by developing systems that bring information on vegetation cover and trend to a pastoral manager at higher frequency, higher accuracy and with greater coverage than is currently used by most managers to make decisions.

The project will develop new management tools that integrate precision animal data with precision spatial data to match livestock performance to environmental conditions for more efficient pastoral management. This project is highly innovative as the delivery of regular remote-sensed

groundcover products for pastoral managers in rangeland landscapes has never before been attempted. The linkage between groundcover change and stock performance is new and an area of technological challenge for the research. An additional challenge in this project is the adoption pathway for the research products, as the systems and technologies proposed are generally new to remote pastoral enterprises.

Approach

The Precision Pastoral Management Tools research project will be conducted in partnership with state and territory government agencies, pastoral producers, pastoral companies, pastoral industry organisations, several research organisations, and businesses in the communications technology, engineering and software sectors.

As the goal is to develop new tools to assist pastoralists to make decisions that impact on efficiency and resource use, the basis of the project must be in developing very practical tools that are guided by pastoralists themselves. Hence, the conduct of the project should be in an adaptive research methodology: that is, being steered at each step by consultation and feedback from pastoralists. This will entail a period of initial consultation, engagement and recruitment of pastoral groups with which the project will work and regular workshops to discuss progress and relevance of different approaches.

It is also important to recognise that pastoralists already have a substantial tacit knowledge of the vegetation cover and trends on their property from a history of observation and adaptive management. The tools planned from this research must recognise the skills and systems already in use by pastoralists and aim to augment these with new tools that add value to what is already done. Perceived value of the end results will be critical to successful uptake in an industry where adoption of new technology is challenging. The value needs to be in the form of greater effectiveness and risk management in the use of forage with little additional computing or other overheads.

It is likely that a commercial entity will be developed to deliver the final product. This is because a commercial entity is more likely to be client-focused and service-driven, thereby ensuring ongoing service. The nature of the commercial entity should be explored as part of the project (e.g. market research and business planning).

Project product(s) / outputs (from EIPT and Commonwealth Agreement)

The product(s) of the project are a Precision Pastoralism Management System (PPMS) that operates at a resolution, and on a geographic scale, that allows pastoralists to integrate precision animal data with precision spatial data to match livestock performance to environmental conditions, leading to more efficient pastoral enterprises.

Project outcomes / benefits (from EIPT and Commonwealth Agreement)

The PPMS will improve decision making on large spatial scales in relation to environmental variability, resulting in greater control over groundcover (feed) and stocking rate responsiveness. The benefits to Australia from a successful result in this research will be:

- Improved decision making and reduced costs of monitoring and evaluating land cover information
- Better control over groundcover with ability to monitor trends and avoidance of unwanted conditions
- Improved decision making on animal condition, resulting in better market price

- Reduced operating costs and improved OH&S from less physical monitoring of remote assets
- Managers with more time to optimise their business performance.

Workshop format

The workshop will be the first full meeting of all partners of the CRC-REP that are interested in this project.

The goals of the workshop are to meet other people, discuss the goals and objective that are set out in the CRC's contract with the Commonwealth Government and plan the start of the project.

See you there,

Craig James and Kevin Williams

15 February 2011.