



SESSION 2 Regional Social and Economic Profiling

At the end of this session, you will be able to:

- > Understand the relevance of Regional Social and Economic Profiles for the NRM process
- > Understand the relevance of other customised Regional Social and Economic Profiles
- > Understand the limitations of Regional Social and Economic Profiles
- > Tailor regional social and economic profiling exercises for maximum benefit for planning, implementation and monitoring phases
- > Interpret regional social and economic profiling for social and economic impact assessment purposes



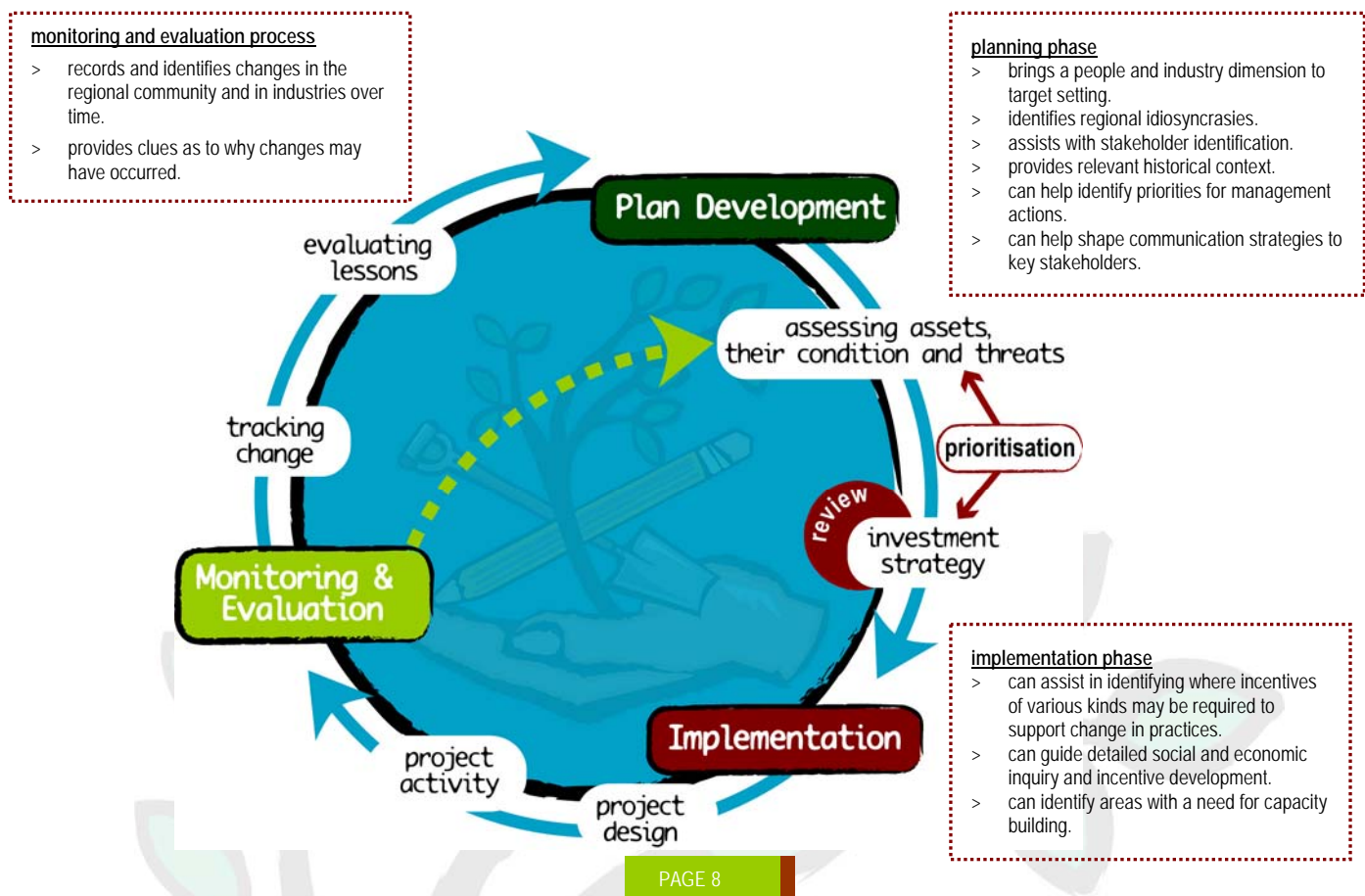
1. Why is this tool relevant?

What are regional social and economic profiles?

They are a compilation of mostly statistical descriptors from a diversity of sources of the state (and past changes) of the regional community and regional industries in NRM regions with specific emphasis on:

- information that is relevant to NRM.
- a spatial representation of social and economic facets of the NRM region.

Links to the NRM Cycle





2. The Basics

Key steps in Regional Social and Economic Profiling

- Define the purpose of the profiling activity
- Identify key information and data sources
- Specify new data/information to be generated
- Decide on the methodology and undertake the profiling
- Ensure interpretation of data supports the purpose of the profiling exercise
- Apply the information as part of NRM processes

Data, Information and Expertise Needs:

Information about the **people living and working in the region** in relation to both the current situation and changes over time on matters of:

- Population size, spatial distribution, age and gender structure
- Regional community at large and rural community
- Aboriginal and Torres Strait Islander population
- Employment, unemployment
- Personal and family incomes
- Occupations
- Family structure
- House ownership
- Education
- Indicators of relative advantage or disadvantage
- Health indicators (eg. life expectancy, suicide rates, etc.)

Expertise:

- Accessing the QRBIS information for the agricultural profile is typically done in house. If this is to be expanded upon, then external expertise is usually sought for time, access to relevant ABS and primary data sources, and interpretation skills.

Information about the **businesses and industries operating in the region**

- in relation to both the current situation and changes over time
- with specific emphasis on natural resource based industries

- Size of economic activity
- Relative importance of industries – and scale at which activity occurs.
- Employment generated.
- Multiplier effects – ie. the extent to which an industry sources its inputs (services, materials) from within the region and delivers the goods and services it produces for consumption in the region.
- Industry structure – eg. farm sizes for different agricultural industries; fishing boats operating in an area
- Industry profits/losses – specifically for agricultural industries

Other **relevant context and detail**

- Institutional analysis (1): what are the key government and non-government organisations that operate in the region, and how do they relate to / interface with the NRM body
- Institutional analysis (2): what are the key legislative and policy factors interfacing with and affecting NRM and its stakeholders in the region
- Surveys can provide information on important aspects of social and economic inquiry: eg. To what extent have landholders implemented NRM practices? What do landholders perceive to be impediments to adoption? What are landholder perceptions on various aspects of NRM and related matters? What are the key media in the region and other communication vehicles preferred by various stakeholder groups?

Possible Applications:

Regional Social and Economic Profiling is mandatory at the planning stage. Updating the RPs on a regular basis (thereby establishing a longitudinal profile of the region) will further assist investment priority-setting and is critical as part of monitoring and evaluation. RPs will provide you with a social and economic 'base line', to determine the likelihood and the extent of NRM impacts. It also will provide you with the ability to track changes to the region over time – and help interpret whether these changes may have been caused by NRM-related activities/investment.



Strengths and Limitations:

- The strength of RPs lies in their ability to provide relevant context about the regional community and regional industries into what is commonly a biophysical-centred NRM process.
- RPs collate and compile quantitative ("objective") data. To assist the interpretation of this data, it is often useful to have qualitative ("subjective") data, which can be collected, eg. through surveys.
- Their weakness is the coarse nature of the data. While new emerging ABS data is concorded to NRM regional boundaries – and older data is concorded to regions through the development of QRBIS - the resolution of much of the social data remains an issue as it is limited to "collection districts" or sometimes "local government areas", which in rural areas can be very large. Economic data often has to be inferred from information available for "statistical divisions", which are commonly larger than NRM regions and not aligned. Due care is required when interpreting the data.
- Another point of consideration is the currency of the data, ie. how long ago they were collected. Economic situations, specifically, can change drastically and quickly due to environmental (eg. drought) or market conditions.



In regional profiling it is as important to look the changes over time as it is to understand the context of the here and now.

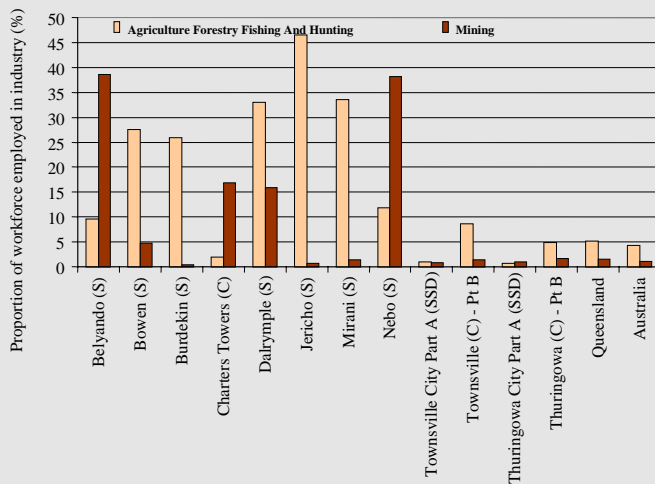


3. Out in the Real World

Case Study - The extent to which people's jobs depend on natural resources

In Queensland (during 1996), 6.8% of the workforce were employed in *Agriculture, Forestry, and Fishing and Mining*. This contrasts markedly with the much higher proportion of workforce employed in natural-resource based sectors in shires within the Burdekin Dry Tropics.

Figure: Proportion of workforce employed in agriculture and mining
(Source: ABS, 2001, data for 1996)



Nebo, Belyando and Charters Towers are heavily dependent on mining with 38%, 38% and 17%, respectively, of the workforce employed in that industry. The Jericho, Dalrymple, Mirani, and Burdekin shires are all heavily dependent upon agriculture, that sector employing 47%, 46%, 33% and 26% of the workforce, respectively. In contrast, the urban parts of Townsville/Thuringowa are much less dependent upon natural resources – their most significant industries being retail, government, health and community services.

While the importance of industries is generally measured in terms of their share of GRP, they contribute most directly to a region and the social welfare of a community through the employment of members of the community.

Between 1986 and 1996 the proportion of total workforce employed in natural resource-based industries has remained relatively constant, but there have been some interesting spatial and inter-industry variations. For example, in Belyando shire the proportion of total workforce employed in both *Mining* and *Agriculture* fell from about 65% to under 50% during that period. In Charters Towers, *Mining* has re-emerged as a major employer.

Interpretation offered

The economy of the Burdekin Dry Tropics is heavily reliant upon natural resource-based industries, particularly agriculture. Agriculture is by far the most important employer in the rural areas of the Burdekin region and is therefore even more important socially than economically. The fact that so many people and families derive their livelihoods from "the land" provides a very strong tie between the natural resource base of the region and the community.

If the individuals who live and work in the area do have a strong 'desire to remain', then this may provide a very strong motivation for ensuring sustainable development.

The issue: Employment in agriculture (and mining) across the region

Does the presentation of data work? Are there better ways of presentation?

Key data spelled out

Link between regional economy and community

Consider what the data says about the importance of agricultural industries in the region

How things have changed over time (and why)



The relatively high employment multipliers of agricultural sectors (particularly when compared to mining) mean that revenue changes in that sector have a large impact on other sectors of the economy. The more important is the agricultural sector, the larger will be that effect. Some shires within the Burdekin Dry Tropics have fairly diversified economies, and are therefore less susceptible to boom-bust cycles in response to boom-bust cycles within the agricultural sector. Others, specifically Nebo, Jericho and Belyando shires, are much less diverse and may therefore be considerably less 'robust'.

Natural resource based industries are heavily linked into the regional economy. This means that changes in these industries affect other industries through 'multiplier' effects.

Conclusions for NRM (policy)

Specifically, it needs to consider ways of:

Managing the social and economic pressures and dependencies on the natural resource base. Actions may include:

- (1) encouraging diversification of regional economies particularly into secondary and tertiary industries;
- (2) conducting scientific research into ways of using natural resources more effectively and sustainably; and
- (3) facilitating farm-level structural adjustment (be it enterprise diversification, expansion, changes to management, etc), while recognising and where possible mitigating the social, economic and environmental consequences.

Maximising the benefits of policy implementation for the region as a whole by tailoring incentives to sub-regional and site-specific circumstances. Actions may include:

- (1) refining 'blanket-type approaches' such as environmental regulation and tax incentives for NRM,
- (2) developing a suite of incentive mechanisms, by:
 - (a) drawing on the full suite of potential policy instruments available;
 - (b) taking into consideration the likely acceptability by the community and landholders;
 - (c) tailoring policy to biophysical and ecological conditions in certain areas; and
- (3) co-ordinating public investment into NRM from programs such as the National Heritage Trust (NHT), Bushcare, Greening Australia, and others, in a strategic manner.

adapted from Burdekin Dry Tropics Regional Profile: Greiner et al (2003).

Interpretation of the data offered by the report. Note how various types of data are integrated to support a conclusion. Note how different types of data are required to illustrate an economic aspect from various perspectives.

**ANSWER
Q1-2 NOW**

What does all this mean for NRM? Note how the data support a variety of recommendations for NRM policy in general, but also for NRM planning and plan implementation.

**ANSWER
Q3-4 NOW**



Group Exercise

- (1) Consider what the data does not say
What would you like to have known about employment that is not shown?

- (2) Does the description and interpretation of the results from the above figure change – or does it need expanding – when you receive additional data, shown in Tables 1 and 2? If yes, how?

Table 1

Employment, by sector, of people employed in agriculture
(in per cent; total for agriculture = 100)

Crop production	59.1%
Livestock Production	28.4%
Services to agriculture	5.1%
Fishing	3.5%
Other	3.0%
Forestry	0.9%

Table 2

Persons employed in livestock production sector, by production system (number of persons employed)

Sheep-beef farming	17
Sheep farming	30
Beef cattle farming	1247
Dairy cattle farming	20
Pig farming	11
Horse farming	9
Poultry farming (eggs)	29
Livestock farming	10

Write a revised/expanded description and interpretation.

- (3) Explain what you think the employment data means for the role of NRM and how NRM is conducted. Can you draw additional conclusions and recommendations?
Consider specifically what the data might mean in terms of the vulnerability of regional communities and ability to adapt to change (including NRM). Look for positive and negative changes.

- (4) What other information might you want to look at – in combination with the above employment data – to help you draw helpful conclusions for NRM?



Adding value to your regional profile - the use of surveys

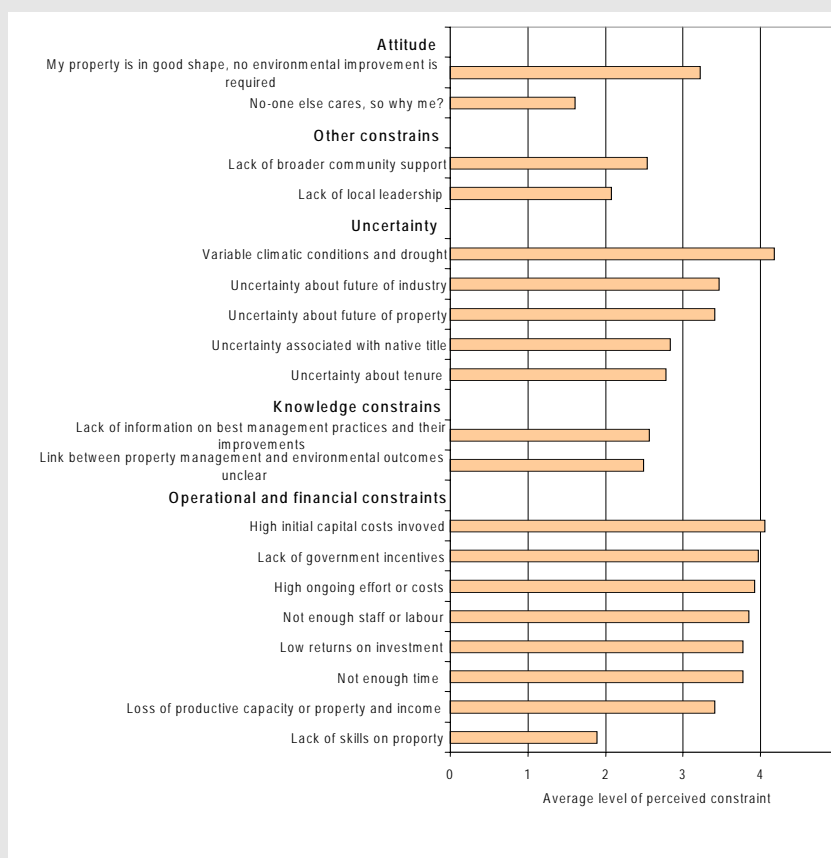
Case Study Impediments to the implementation of NRM practices by landholders

A survey was conducted of landholders across the Burdekin Dry Tropics region in 2002. The survey was administered as a telephone survey (by trained personnel) with prior mail-out of the questionnaire. A total of 82 surveys were completed of 170 landholders who were approached, equalling a response rate of 48%.

The survey asked, *inter alia*, what landholders saw as the constraints they faced to the (further) implementation of NRM practices.

The perceived importance of the constraints was measured on a scale is from 1 to 5, with "1" indicating that this was not a constraint or factor or consideration and "5" indicating a very important factor or constraint. The figure below provides a summary assessment of the importance of various constraints.

Figure: The perceived importance of different impediments to NRM adoption (1 = not a constraint, 5 = key constraint)



How can you use this information to add value to your regional profile

Operational and financial constraints and uncertainty were perceived to be the most important impediments to NRM implementation. The single most important constraint was climate variability. This corroborated previous data that showed that climate variability was a major cause for profit swings and cash-flow problems and that in drought years farmers did not have the financial capacity to invest in the implementation of NRM measures. Other very important impediments were the high initial investment costs involved, a perceived lack of government incentives, and high ongoing effort or costs. All these constraints could be summed up as being financial.



Uncertainty rated as a secondary issue – in relation to tenure, future of industry, future of property, native title. Landholders also did not consider lack of science or information to be significant impediments. Respondents did not perceive that there was a lack of skills on their properties or a lack of local leadership

Drought and climate variability affected landholders in the Upper Burdekin more than anywhere else. Landholders in the Lower Burdekin were least affected given their access to irrigation water. On the other hand, cane growers rated low returns on investment, lack of government incentives and uncertainty about the industry's future as their main impediments.

The results show that the key barriers to the (increased) adoption of conservation activities are costs associated with risk – primarily climatic risk, but also risks associated with tenure, and the future of the industry. Other key barriers are those associated with expenses and/or opportunity costs of implementation – many landholders feel that they are unable to adopt more with existing budgets.

The results also show that different impediments relate to different conservation practices, although there are no perceivable differences in impediments to vegetation-related NRM activities as compared to other NRM activities. They also highlight the role for community support in conservation and show that non-adopters strongly reject any notion that they might have a stewardship attitude problem. The results have important policy implications for biodiversity conservation and management of grazing land in that region and elsewhere – they re-emphasize the critical importance of financial 'capacity' as a necessary condition for adoption, while suggesting that risk mitigation may also be an important policy target.

Do you have survey data on landholders in your region?

If yes – has it been used or interpreted effectively? Has it added to the quantitative data?

If no – what survey data may be highly useful for your regional profile?



The strength of surveys is their ability to obtain answers to very specific questions which cannot be inferred from published data or other situations.



4. Your region, your projects and this tool

Questions to Consider:

How is a regional profile helpful for NRM planning, plan implementation, impact assessment and monitoring and evaluation?

Has your regional profile been used to date? Would you require different information in future to improve its usefulness– or will interpreting and using the information more effectively be the key?

How much effort will be involved in developing the regional profile – and what resources would you allocate?

What would a specification look like for a regional profile you wish to compile?

Select one of your Resource Condition of Management Action Targets. How has your regional profile assisted in setting the target?
Or how would it be helpful?

Reflect on your regional profile.

- Who has used it? – in what way, for what tasks?
- How useful has it been?
- What could improve its usefulness? (think of any additional or better information, interpretation, additional analysis etc.)



5. Summing up

List two insights you have gained from the session

1

2

List two actions to kick-start a regional social and economic profiling activity

1

2



Further Information

The Queensland Regional Bodies Information System (ORBIS):

<http://www.oesr.qld.gov.au/qrbis/>

(Password protected. Please contact John Mackenzie for access at john.mackenzie@nrw.qld.gov.au)

The Central Queensland Regional Information System (CQRIS):

<http://www.cqris.com.au/opencms/opencms/index.jsp>

Guidance Products

Compiling Regional Social and Economic Profiles: A Practical Guide for Regional Bodies

http://www.regionalnrm.qld.gov.au/research_sips/sips/social_economic/pdf/s_e_profiles.pdf

A limited number of Regional Agricultural Profiles are available from

http://www.regionalnrm.qld.gov.au/research_sips/sips/social_economic/se01_ag_profiles.html

Examples of regional social and economic profiles

Burdekin Dry Tropics: <http://www.cse.csiro.au/publications/reports.htm>

Burnett Mary: http://www.burnettmarynrm.org.au/downloads/NRM_Plan/Vol1aBackgroundReport06Feb05.pdf

Condamine Alliance: <http://www.condaminealliance.com.au/nrm.htm>

Desert Channels: http://www.dcg.org.au/media/dcg_plan.pdf

Fitzroy Basin association: http://www.fba.org.au/plan_investments.htm

Mackay Whitsunday: <http://www.mwnrm.org.au/publications.htm#MWNRM%20Plan>

Northern Gulf: <http://www.northerngulf.com.au/1-3.pdf>



QMDC:

[http://www.qmdc.org.au/index.php?option=com_docman&Itemid=74&task=view_category&catid=16&order=dmdate_published&ascdesc=D
ESC](http://www.qmdc.org.au/index.php?option=com_docman&Itemid=74&task=view_category&catid=16&order=dmdate_published&ascdesc=DESC)

SEQ Catchments: <http://www.seqcatchments.com.au/resources.html>

Southern Gulf: http://www.southerngulf.com.au/site/data_warehouse/reports_plan_index.html

Southwest NRM: <http://www.southwestnrm.org.au/Main.aspx?RootArea=NRM&AreaID=e7ded63b-1d12-44b7-b9f4-6e0517bc112e>

Torres Strait: <http://www.tsra.gov.au/www/index.cfm?ItemID=250>

