



Impacts and Achievements of the MTSRF

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Showcasing the Australian Government's investment
in the MTSRF for improved sustainability of the
North Queensland region, and Australia

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Abstract

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Regional social resilience: indicators, monitoring criteria and management directions

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The concept of resilience in social-ecological systems has attracted considerable recent interest as a foundation for natural resource management, yet there is a distinct knowledge gap when it comes to the social dimensions of resilience. Our project, working with a range of partners in environmental management and social development, is exploring the nature of social resilience in far North Queensland. Research results have informed development of a *Social resilience monitoring and reporting framework* for use by managers working at the regional scale. The work complements and links to other MTSRF studies relating to social and cultural resilience, and contributes to the State of the Region reporting framework. Combined with MTSRF's biophysical and other human research, it provides direction for North Queensland agencies to proactively manage towards resilient communities.

Our research, supported by results from work at a more localised community scale (Gooch et al, project 497a) identifies six key social resilience factors: People-place connections (including social-ecological thinking); Knowledge, learning and skills; Community networks; Engaged governance; A diverse and innovative economy; and Community infrastructure (services and facilities). These factors can be viewed as both 'indicators' of social resilience, and suggest intervention opportunities for managing towards social resilience. This paper will define these six social resilience indicators, present a set of associated 'monitoring criteria', and outline identified data collection sources and strategies. Opportunities for incorporating social resilience enhancement strategies in future regional planning and environmental management will be explored.



***Regional social resilience:
indicators, monitoring criteria
and management directions***

**Michael Cuthill, Helen Ross, Kirsten
Maclelean and Bradd Witt**



This work has been undertaken to develop *A framework for regional monitoring and reporting of social resilience*. Geographically, the project focuses on north Queensland, Australia, where government and non-government environmental managers and Aboriginal Traditional Owners seek to improve their understanding of the social dimensions of resilience in order to enhance their planning and capacity building interventions.

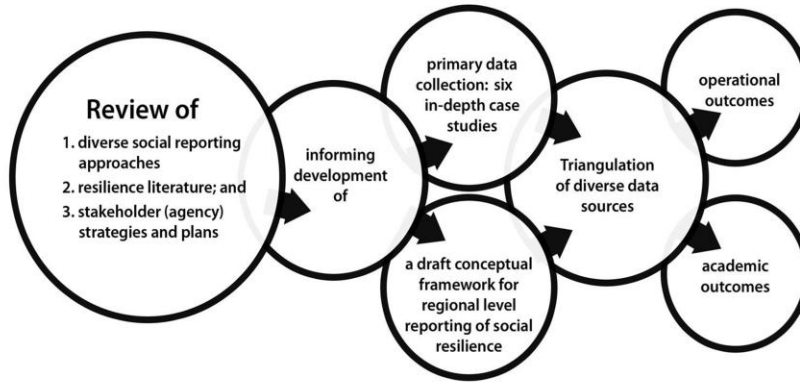
This framework will guide these natural resource management organisations regards both their planning and reporting processes, and evaluation of progress in implementing actions related to the social aspects of their plans. While resilience is not a new concept, there is a distinct knowledge gap when it comes to social resilience, and especially so at the regional scale in which we are interested.

This research moves the management of social resilience, which is an emerging area of interest for NRM agencies, from a set of assumptions to an evidence base.



... how individuals, communities and societies adapt, transform, and potentially become stronger when faced with environmental, social, economic or political challenges





Reviews informed our conceptual understandings of social resilience – case studies allowed us to test our conceptual understandings and thereby develop social resilience indicators with a strong theoretical and practical value.



Case Study Approach



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- 1. Crown of thorns starfish**
- 2. Restructure of the dairy industry**
- 3. Declaration of the WTWHA**
- 4. Girringun Aboriginal Corporation**
- 5. Water allocation processes - Barron River**
- 6. Urban expansion in and around Cairns**



Crown of thorns starfish (near shore area off Cairns)

Restructure of the dairy industry (upper reaches of Johnstone River)

Declaration of the Wet tropics World Heritage Area (impacts on communities in the Ravenshoe area)

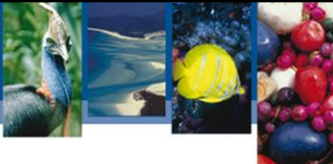
Girringun Aboriginal Corporation (Caldwell?)

Water allocation processes in the upper zone of the Barron River


Urban expansion in and around Cairns

~10-15 interviews for each case study.


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Social resilience domains	‘Draft’ regional level indicators of social resilience – case studies	‘Draft’ community level social resilience concepts	Regional level indicators of social resilience
Human	Knowledge and skills	Knowledge and learning	<i>Knowledge, skills and learning</i>
Social	Social networks and community building	Social networks and collaboration	<i>Community networks</i>
Natural	People-landscape connection (social-ecological thinking)	People-place connections	<i>People-place connections</i>
Cultural		Futures thinking	
Physical	Community infrastructure and services	Community infrastructure and services	<i>Community infrastructure</i>
Financial	Diverse and innovative economy	Diverse and innovative economy	<i>Diverse and innovative economy</i>
Governance	Engaged governance	Empowering governance	<i>Engaged governance</i>



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The process for verifying the ‘final’ six social resilience indicators drew on three data sources. First, a set of 7 social resilience domains were identified through the social reporting literature review (Cuthill *et. al.* 2008). At that early stage of research we hypothesised “... that each of these seven domains has the potential to contribute to or detract from social resilience, usually both” (2008:17). Second, analysis of six regional case studies suggests six social resilience themes. Third, emerging themes from our regional focus were compared against results from a concurrent project focusing on indicators of social resilience at the community level (Gooch *et. al.* 2010). This process enabled us to verify our final social resilience indicators across multiple data sources, and ensures a high level of confidence in the final indicator set. As such, these six indicators provide a theoretically and operationally valid foundation for monitoring and reporting social resilience outcomes at a regional level. They are intended as a broad set of indicators that are of relevance across diverse sectors and different levels of government. Information within the framework paints a broad regional picture of social resilience which can inform NRM management planning and decision making.

- Knowledge, learning and skills - Individual and group capacity to respond to local needs and issues.
- Community networks - Processes and activities that build and support people and groups in a place.
- People-place connections – We define this as communities that acknowledge human-environment interdependencies and connections.
- Community infrastructure - Appropriate services and facilities to support identified community needs
- Diverse and innovative economy - Regional economy comprises a good selection of industry and services, and supports new and exciting opportunities
- Engaged governance - Collaborative approaches to regional decision making

Under each indicator we have a set of monitoring criteria (in total 45 criteria). As part of the social reporting review process, over 2500 individual monitoring criteria were identified. These criteria were grouped into similar theme areas, scanned for overlaps and eventually trimmed down to a core group of 300 criteria of potential interest to the project. Results from our field work allowed us to cull this to 45 monitoring criteria for our social resilience monitoring and reporting framework. Monitoring criteria will enable NRM agencies to review and track outcomes from their management decisions and interventions through a social resilience lens.



Monitoring criteria

e.g. Engaged governance

- Agencies have strategies/guidelines relating to engaged governance
- Agencies provide appropriate resources to support engaged governance
- A diverse range of local groups are actively engaged in local governance
- Engaged governance initiatives use culturally appropriate methods
- Input from local people influences decision making
- Different types of knowledge inform decision making processes



Monitoring criteria were assessed and selected using a SMARTT framework (adapted from Doran, 1981). As such, criteria must be **specific, measurable, achievable, reviewable, time lined** and must **talk** with and across horizontal and vertical reporting processes. The last element 'talk' is specifically relevant within the regional governance landscape, particularly regards integrated planning across government agencies. We are currently developing appropriate ways to present monitoring data.

Some examples....

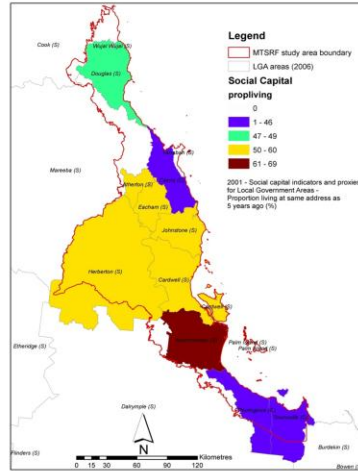
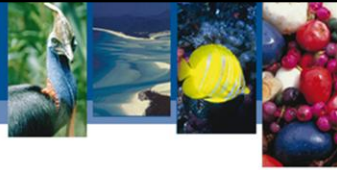


Figure: Petina Pert, CSIRO



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GIS – people living at same address as five years ago – mapping at LGA scale, can do down to SLA if required.

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Social Resilience Indicator: People-place connections

Monitoring Criterion: Stewardship

Data Collected: Education Queensland: total schools
GBRMPA: total Reef Guardian (RG) schools

***Proportion of schools that currently participate in the Reef Guardian Schools program.**

Local Government Area	Schools	RG Schools
Wujal Wujal (ASC)	1	1
Yarrabah (ASC)	4	0
Cairns (RC)	57	21
Cassowary Coast (RC)	27	8
Hinchinbrook (SC)	19	2
Palm Island (ASC)	3	2
Townsville (CC)	61	43
Total:	172	77

Across the study area an average 44% of schools currently participate in the Reef Guardian Schools program. (For details see Appendix)

Interpretation:

*Includes; State and Non-State; primary, secondary, special and distance education schools.



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Summary statements for monitoring criteria – detailed statistical information to be included in technical report appendices (~90 pages!)



- **Data sources**
- **Next steps**



Not all criteria have available data – consider data options – survey, interviews or possibility for community report card process (deliberative process)



Management options

- 1. Pursue existing mandates in consciousness of social characteristics, without trying to intervene**
- 2. Take advantage of resilience characteristics in management strategies**
- 3. Pursue organisational mandates in a new way that enhances social resilience**



Management options

1. pursue existing mandates in consciousness of social characteristics, without trying to intervene
E.g. recognise variations in people-place attachment
Possibly vary communication strategies accordingly
2. take advantage of resilience characteristics in management strategies
E.g. invoke strong people-place connections, and recruit and support existing community networks, towards stewardship behaviour (landcare groups?)
3. pursue organisational mandates in a new way that enhances social resilience
E.g. Facilitate stewardship groups in a way that seeks to enhance social capital
Develop new, more engaged, governance forms (e.g. co-management)
Explicitly build governance capacity, e.g. Indigenous organisations, projects and research collaborations.



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