

A longitudinal, catchment-wide, research base for strategic and project social assessments

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Abstract

Strategic and project social assessments benefit from longitudinal research into regional social change. Often, assessments are undertaken with limited understanding of their wider social-environmental context, arising from a combination of planned interventions and unplanned and unforeseen social changes. A review of social research over 40 years relating to the Waitaki River in New Zealand offers an example of the research base that can be utilised for assessment purposes. This catchment provides a major component of the country's hydro-electricity production. It is also important for farming, dry-land and irrigated, recreation, tourism and nature conservation. The review found considerable utility in the integrating function of a catchment-system perspective, to organise the extensive base of applied, academic and community research. The review provides a longitudinal understanding of regional characteristics such as population, employment, land-use, economy and community. Actual and potential applications to social assessment include hydro electricity and irrigation projects, cumulative effects of tourism development, changes in cultural landscapes, recreation planning, district land use plans, and regional natural resource plans. The thematically organised findings demonstrate how social assessors should utilise fully the existing research base, or ensure key stakeholders build one beyond the needs of particular assessments.

Introduction

Social impact assessment (SIA) analyses and manages intended and unintended consequences of planned interventions on people. It focuses on the likelihood, duration and possible distribution across geographical areas and within communities of impacts, or social consequences, of planned interventions. SIA combines social research, public involvement, planning and management of social change, focusing on affected individuals, groups, communities, their immediate environments and wider regions. The analysis of social impacts usually includes consideration of mitigation possibilities for any significant effects and likely post mitigation outcomes (Taylor et al., 2004, Burdge, 2004, Vanclay 2002).

SIA focuses typically on a range of natural resource management issues and, along with the wider impact assessment process, on creating human environments that work well for their inhabitants. Applications of SIA are at both project and strategic levels, with the two levels ideally integrated so that well informed policy guides socially responsible project development (Taylor, et al., 2004). For strategic applications it becomes more difficult to separate social impacts from generalised change processes.

SIA's also have a regional focus when impact variables such as labour market changes or regional economic development are considered. Social research often demonstrates, however, the multi-functional characteristics of economic regions and the cyclical nature of these economies over time (Taylor et al., 2001). Applications of SIA at both strategic and project levels can therefore benefit from longitudinal research into regional social change (Taylor, et al., 2003a). Often, assessments are undertaken with limited understanding of their wider social-environmental context, arising from a combination of planned interventions and unplanned and unforeseen social changes (Slootweg, et al., 2001). Indeed, criticisms are often made that SIA practice lacks sufficient social theoretical underpinning, although it may be more accurate to say such underpinnings are poorly articulated (Lockie, 2001).

We reflected on these issues in a review of social research over 40 years relating to the Waitaki River catchment in New Zealand. The work offers an example of the research base that can be utilised for assessment purposes. The review included preparation of an extensive, annotated bibliography, covering social changes due to natural resource development in the Waitaki Valley. The bibliography comprised 101 references drawn from a variety of sources such as theses and dissertations, conference papers, refereed journal articles, books, book chapters, edited books, government reports, consultancy reports and university reports. Of these references, 47 were selected and annotated for the thematic review.

The Waitaki River catchment

Social researchers have been interested in the Waitaki catchment because it has experienced a high level of natural resource development. The Waitaki is one of New Zealand's largest river systems, rising in the Southern Alps of the South island, running east from Aoraki/Mt Cook to the coast between South Canterbury and North Otago. Within the catchment there are a number of geographical areas including mountain lands with permanent snow fields and glaciers, high and hill country dry grasslands, a dry inter-montane basin, and irrigated river flats. The catchment

provides a distinct regional focus for planning purposes (O'Conner and Ackley, 1981).

Farming has been the principal land use of the Waitaki, with large-scale pastoral farming for fine wool and meat production on the hill and high country areas and the dry inland basin. Intensive farming, predominately dairy farming, has utilised irrigated areas since the 1970s, especially on the lower Waitaki, with a boost to local populations (Taylor et al., 2003b). Dry-land farming faces successive droughts, and weed and pest management, and soil conservation are key issues. Until the 1980s, New Zealand agriculture was actively supported by the state through a system of subsidies, advisory and marketing services. Agriculture in the Waitaki catchment benefitted considerably from this support.

The state also built and managed a significant hydro electricity generation infrastructure on the Waitaki River beginning with construction of the Waitaki dam in the 1930s followed by a series of hydro-electric projects (Sheridan, 1995). The river has eight power stations interlinked by canals and storage lakes. Some of the obvious social changes from past hydro projects were relatively short term and focused around initial disruption to land holders and river-based recreation and location of construction workforces. Yet the Waitaki experience also shows that construction of these projects has had long-term implications for communities and their townships, with places such as Twizel, Omarama, Otematata and Kurow all having experienced substantial upheaval. Construction workforces moved between locations and "temporary" housing evolved into a mix of holiday homes and permanent housing (Taylor and Bettesworth, 1983). These communities have also benefitted in the long-term, however, from recreation and visitor activity associated with hydro lakes becoming an important component of the local economy (Fitzgerald and Taylor, 2000; Fitzharris and Kearsley, 1977).

International and domestic tourism and recreation are also a feature of the Waitaki catchment, based around alpine activity in the Aoraki/Mt Cook area and fishing, boating, hunting and tramping in the rivers, lakes and remote high country of the region. Nature and heritage conservation have also occurred, particularly in the high country and mountainlands. Again, the state played an important role, building, and then for many years managing, the iconic hotel at Aoraki/Mt Cook, and also being primarily responsible for the management of public conservation and recreation lands and waterways in the region.

Since the mid 1990s, an additional level of activity has developed in the catchment to supplement the established activities discussed above. Stimulated by relatively liberal environmental regulation, land-tenure reform and emerging opportunities to generate profit, rural and urban investors have combined forces to open up new market opportunities. Variations of established practices have occurred such as intensified pastoral agriculture based on irrigation. New horticultural products have been introduced, the most notable being grapes and wine. Areas of high amenity in the catchment have experienced a growth in land subdivision, rural residential development and the establishment of lifestyle farms. Commercial recreation, tourism, hospitality and associated accommodation developments have emerged, in or near a range of protected natural areas, amenity landscapes, small towns and heritage features. These changes have had a notable flow-on effect on work and employment

in the Waitaki and have underpinned the development of diverse landscapes of consumption. Perkins (2006) interpreted these changes as a new round of rural commodification stemming from restructuring and neo-liberal re-regulation in the mid-1980s (Le Heron and Pawson, 1996). The result has been an increased level of multi-functionalism (Holmes 2006) in the Waitaki catchment.

Findings of the review

The purpose of our review was to ‘connect the dots’ in the research base through a longitudinal, catchment-focused approach. The review was able to identify themes throughout this material, allowing for a broader theoretical analysis of social changes due to natural resource use than any single publication provides. The themes identified are illustrated in the organisational framework in Figure One.

Unsurprisingly, the existing base of empirical social research was found to be ad-hoc and fragmented, with many items narrowly focused. There was some integration of research in the period 1970-90 through the work of the Man and the Biosphere programme based in the Tussock Grasslands and Mountain Lands Research Institute, and later the Centre for Resource Management, at Lincoln University.

The review also identified broader theoretical issues, underlining the potential conceptual weakness in project or policy specific SIAs. These theoretical issues centre on the importance of interconnections within natural resource systems and processes of landscape and social change. Three key theoretical issues emerged with implications for specific SIAs:

- the ongoing role of the state in social change; although there is evidence for changing direction of state-managed and facilitated change with less direct intervention through agencies such as the Ministry of Works, pest management or subsidy to agriculture and more indirect intervention through state-owned enterprises and policy tools such as the Resource Management Act
- the tension between developments, local autonomy and community aspirations as evidenced by public debates over landscape futures, including: forestry, viral control of rabbits, irrigation and conversion to dairying, rural subdivision and further hydro-electric production
- the emerging recognition of the importance of understanding multi-functional rural regions with a diversified economic and social base.

Overall the review found considerable utility in the integrating function of a catchment-system perspective, to organise the extensive base of applied, academic and community research. The review also confirmed the importance for ongoing SIA work of having a longitudinal understanding of regional characteristics such as population, labour markets and employment, land-use, economy, social services and community change.

Application of the findings to social impact assessment

Actual and potential applications of an integrated review of the research base to SIA in the Waitaki catchment include:

- hydro electricity development – a proposed new project called the North Bank Tunnel Concept is currently going through early stages of resource consents with SIA input phased alongside the applications for water and land use consents. Clearly this work can utilise comparative case studies in the catchment, research on recreational uses and a dynamic understanding of land use and community change
- irrigation projects - currently being developed and proposed for both upper and lower parts of the catchment. SIA can utilise previous research on irrigation and social change including an up-to-date understanding of the likely uptake and rate of change with a new project such as the proposed Hunter Downs Irrigation scheme.
- cumulative effects of tourism development – many small scale developments make a wider and longer-term view essential to interpret the ways project impacts accumulate to make new landscapes, social relations and community dynamics
- changes in cultural landscapes – epitomised by irrigated pasture, dairying, grapes and forestry in dry landscapes, residential subdivision around towns such as Tekapo and Twizel, and tourism infrastructure. As with cumulative effects, the formal requirements for SIA are weak though
- recreation planning – new conservation areas released to public ownership through the tenure review process for crown pastoral leases require planning for asset development and conservation management such as access points, walkways and huts, and visitor interpretation, with SIA having an important potential input
- district land use plans – tend to lag behind actual change as epitomised by rural subdivision and landscape changes in recent years. SIA should be applied at the strategic level during plan reviews and also for any plan changes proposed
- regional natural resource plans – also tend to lack sufficient proactive analysis including strategic environmental assessment incorporating SIA.

The thematically organised findings of the review indicated that social assessors should utilise the existing research base when scoping an SIA, to develop a conceptual framework for analysing social impacts, and during the detailed projection of effects through comparative cases. While this is a specific finding for the Waitaki catchment we consider it a finding that is generally applicable to SIA practice.

Implications for SIA best practice and future trends

For both strategic and project level SIA social researchers need to look beyond the immediate impact areas or specific strategic issues to consider and understand the dynamics of the wider setting utilising theoretical understandings available in the social sciences. This approach will assist practitioners to understand the context of broader social change processes in relation to project or policy specific changes. It will also assist assessments to develop a stronger conceptual basis for their analysis, particularly at the scoping stage.

For the Waitaki, the catchment is the key integrating framework due to the predominant issues of water resource management. The catchment also fits the major jurisdictional boundary for regional resource management although the river itself is a boundary for other administrative purposes. It is likely that for an integrating level of analysis for SIA the boundaries necessarily will be wider than local jurisdictions, for instance a catchment, regional economic or labour market area, or an ecological area.

Where the research base for an SIA is unavailable or unclear, then a bibliographic search and literature review become an essential component in defining the scope of work. If successive or extended SIA practice is likely, then key stakeholders such as major developers and administrative agencies should ensure they build an understanding of the existing social research base beyond the needs of particular assessments.

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Figure One: Themes in the Literature Centered On the Waitaki catchment

