Strategic social assessment for catchment planning.

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Introduction

Sustainable management of water resources is an issue that will challenge fully the next generation of impact assessors, in the face of climate change and pressures to increase agricultural production. In New Zealand we are fond of saying no-one is making more land. We are also increasingly aware water is a finite resource, and one that is not evenly distributed across the terrain of mountains and plains. The increasing pressure on New Zealand's fresh water resources from urbanisation and irrigation, coupled with growing awareness of the links between declining water quality and agri-intensification, has signalled an urgent need for a "fresh start for freshwater" management, as advocated by the Land and Water Forum (LWF, 2010). The Forum is a central government initiative aimed at developing "a shared [national] vision and a common way forward among all those with an interest in water, through a stakeholder-led collaborative process" (www.landandwater.org.nz/). The National Policy Statement (NPS) for Freshwater Management came into effect in 2011. The policy has a specific requirement for regional councils to set water quantity and quality limits within their land and water regional plans. Authorities at all levels have responded by exploring, developing and adopting new pathways for water policy and plan making, with an emerging preference for collaborative, inclusive and integrated approaches.

Strategic Environmental Assessment (SEA) practice is widely accepted amongst impact assessment practitioners as the preferred approach to applying impact assessment to policies, plans and programmes, contributing both to the planning processes and the decision making process (Tetlow and Hanusch, 2012). Baines and Taylor (2002) point out that strategic application of social assessment can assist by developing more socially sensitive policy and plans, and by setting the context for project-level assessments. Applications of strategic assessment can be at a spatial level, as with a catchment or at a sector level, as with water management, hydro-electricity or irrigation. With water, the catchment makes considerable sense as both a spatial and systemic integrating framework for assessment practice (Taylor et al., 2008). International examples, such as planning for the Severn River catchment (Environment Agency, 2008) , have seen the application of SEA in a broad way, weighing up different policy options for water management plans. In these strategic assessments, however, the social component appears to be an implicit component rather than an explicit social assessment input throughout the process.

This paper considers experience applying strategic social assessment in the Canterbury region located in the South Island of New Zealand, where the authors have practical experience integrating social assessment into the planning process for several catchments. These catchments set challenges to catchment planning that require innovative solutions including the application of integrated assessment methods as part of a collaborative planning process.

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The planning context

Under environmental management legislation in New Zealand known as the Resource Management Act (RMA) there is a tiered system whereby regional and local councils set the policy and planning framework, with applications for resource consent (project level) being evaluated in the context of those frameworks. A national policy statement provides the highest level of guidance. Below that water management is generally handled at the regional level through policies and plans developed by regional councils, who also must monitor outcomes. Social analysis is included in a broad requirement to consider people and communities, health and cultural elements as part of the sustainability objectives of the Act. The assessment of effects under the RMA takes place at strategic (ie SEA) and project levels as part of planning and decision making, although there are no specific requirements for either SEA or sustainability assessment.

Catchment planning in New Zealand has tended to be adversarial under the RMA, involving contested objectives and disputed information from key stakeholders at the levels of both plan preparation and resource consents. Examples of contested issues for water planning include hydro-electricity development versus recreational uses of wild rivers; irrigation reservoirs considered to cause undue negative social effects on landowners and communities; effluent and nutrient leachates from dairy farming causing damage to downstream ecosystems; and, loss of cultural resources for Maori (indigenous people) in many waterways.

The adversarial nature of catchment planning has resulted in calls – such as from the Land and Water Forum, and also key NGOs, sector groups and regional government for the development and adoption of new policy and plan making procedures, with a growing preference for those which involve key water stakeholders in and throughout the decision, policy and plan making process. At a regional level, various collaborative approaches are being piloted and adopted, following an international trend (Lamers et al., 2010; Sabatier et al., 2005; Pahl-Wostl et al., 2007). In New Zealand this is indicative of a general shift in policy and planning practice for water management from top-down government decision making, to a more participatory and inclusive governance approach. "The former involves elected government authorities making decisions and regulations for the community, while the latter has emerged as a preferred process of collective policy-making, involving authorities working in partnership with some range of industry groups, NGOs and community representatives" (Mackay and Kelly, 2012, p.2; Cheshire et al. 2006).

Impact assessment in an integrated planning approach: the case of the CWMS

The Canterbury Water Management Strategy (CWMS) is currently being implemented utilising a collaborative approach. It is broadly defined as "…a partnership between Environment Canterbury [ECAN, the regional authority], Ngai Tahu [the regional iwi or tribe], Canterbury's district and city councils and key water stakeholders. It aims to build community consensus about how Canterbury's precious freshwater resources should be managed, both now and in the future" (ECAN, 2011, Foreword). Innovatively, the CWMS divides the Canterbury Region into 10 water catchments or Zones, each with its own Zone Committee. Each Zone Committee acts as a local water governance group comprising appointed community, local government and industry representatives who are expected to work collaboratively to develop water management implementation programmes for their respective catchment. Under the CWMS, one specific task of each Zone Committee is to explore the implications of various land-use change scenarios on local waterways, social life, culture and the economy and, from this process, derive preferred water quality and quantity standards and limits. Each Zone Committee must involve key water stakeholders and the local community in this process.

In practice, each Zone Committee and "…identified stakeholder groups are meeting [or at least are preparing to meet] over a period of months ... to discuss a range of [local] development scenarios" (Small, 2012, p.1) and then, with the help of technical teams are strategically assessing the social, economic, environmental and cultural (usually assessed separately from social) impacts of each (land-use change) scenario. The authors have now been involved in this process in four of Canterbury's water catchment zones (Hurunui, Selwyn-Waihora, Hinds and the Southern Streams) strategically assessing the social impacts of the various land-use change scenarios on different aspects of catchment life (including recreation), and then integrating findings into the deliberative process.

An integrated process of impact assessment, including social assessment, supports the collaborative approach through the zone committees and other community processes. Here the role of various fields of impact assessment, including social, is to inform the process throughout. Generally the assessment work for each catchment is based on preparing an understanding of the baseline, followed by assessment of a number of land-use scenarios used to stimulate community debate, followed by assessment of a draft package of policy and planning rules. The process requires social assessment to work in an integrated and iterative way alongside the other technical assessments both drawing on those assessments and feeding into them. The remainder of this paper highlights some of the challenges encountered for integrating social assessment into the planning process based on the participant observations of the authors in the four catchments noted above.

Integrating social assessment: practice issues

A number of themes are apparent for integrating social impact assessment into catchment planning. These include practice issues around the nature, availability and timeframes of data used in the impact assessments; comparative case data; the importance of local knowledge; technical indicators; and timing of the assessments relating in turn to process issues and overall management of the planning and assessment programme.

The most obvious data issues for social assessment relate to establishing the social baseline and comparative cases upon which to build scenario assessments. A specific problem encountered in development of the baseline has been the availability of official social statistics. Due to the Canterbury earthquakes, the scheduled 2011 national census was postponed to 2013, meaning that while population estimates were available, there were no official demographic data at the micro level that allowed the team to explore local variations since the 2006 census. Yet some of the catchments were known from anecdotal data to have experienced recent demographic changes driven by shifts in local land use. As a solution, the team employed proxies, where possible, accessing data such as annual school rolls or housing statistics. Otherwise, key informant interviews were used (effectively) to capture the detail of aspects, observations and experiences of local social change, such as the arrival of migrant workers in the dairy sector.

A further problem in development of baselines was a shortage of information on the effects of land use change on river recreation, and rural community recreation more generally. The exception was the National Angler Survey, which provided longitudinal statistical data from which one can extrapolate changes in river and lake use for angling. For nearly all other recreation activities, interviews with local residents and representatives from recreation organisations provided, with the aid of maps, information about the types of recreation activities which occurred in the catchment, and their location, and how these patterns of river use have changed over time, if at all. These insights were then cross-checked in additional interviews and also against secondary data sources, such as recreation guidebooks and internet sites.

Another issue for social data in the assessment process is access to comparative case data. In this respect the team were able to draw on a strong base of comparative case data on the social impacts of land-use change under irrigation (Taylor, et al., 2003). Much of this comparative experience had already been applied to specific irrigation projects and this work provided a strong basis for analysis of scenarios of land-use change in the catchments, including the impacts of more or less irrigation on rural communities. Again, more difficult to locate, was information about impacts of changes in various water management outcomes on recreation (positive and negative).

These data issues (or gaps) are not confined to social matters. For instance, one key river system examined has flow data going back only two years! There are limits to essential data sets on surface and groundwater flows, nutrients and ecological health of river systems. For bio-physical matters there are also problems with sufficient comparative cases, for example documented effects of mitigation measures such as riparian planting. Considering the catchments discussed in this paper, an important observation is that there tends to be far more data (social and bio-physical) on the major braided rivers and wetlands of Canterbury than for smaller streams, creeks and lagoons. Larger water bodies are of national and regional significance, whereas the small water bodies tend to be of local significance, emphasising the importance of local inputs to the planning process.

Here the importance of local knowledge should be emphasised. Typically in social assessment this knowledge is gained through a combination of key-informant interviews, workshop discussions, local histories and manuscripts and also internet sources, such as websites and blogs about recreational use over time. Of particular importance in a collaborative approach is local knowledge available through community and stakeholder workshops, including validation of information gained from multiple sources. Local people are an essential way of filling gaps in the data used for assessment purposes, including building a picture of changes over time. Examples include a farmer encouraged to write down his observations of changes in a river system over 60 plus years, and a digger driver who observed the ecological health over time of drains he was clearing.

One successful technique for addressing ways that the technical experts can discuss these data problems amongst themselves, and with planners, zone committees and stakeholders has been through a framework of catchment outcomes and technical indicators agreed between the zone committees and the technical advisors. For social assessment agreed indicators can provide an important tool for integrating social analysis into the wider assessment. The best indicators are those that are useful from a technical point of view but also provide a means for scientific communication. E xamples of useful social indicators have included employment on and off farm and school rolls. Such indicators provide points for debate and testing of data with a lot of time spent validating data sets and explaining technical terms and data issues in technical teams and at community meetings.

Measurability is an important issue when selecting an indicator. Social assessment practitioners are generally familiar with the use of both quantitative and qualitative measures of change. While numbers can be placed on many indicators, others require a narrative approach. Examples of qualitative data include descriptions of patterns of local recreational use and views of stream values over time. Similarly, much of the ecological analysis requires a narrative of change. Sometimes stakeholders can place undue emphasis on quantitative data that are not necessarily robust.

Another crucial issue is the phasing, timing and delivery of particular technical areas of assessment work. Given social assessments are interested in the social consequences of bio-physical effects, the social assessment team will rely, for example, on receiving timely assessments of ecological effects on streams and water bodies in order to make an assessment of likely effects on recreation activity. Similarly, information on likely nitrates in ground water is necessary to make any assessment of potential effects on drinking water standards and consequently on human health. In order to

integrate social assessment fully into an integrated assessment it is important to recognise, when setting up a planning and assessment process, the interdependence of inputs from different technical areas and modelling activities. These linkages can create stresses in a necessarily time-bound, participative process, if there are delays in obtaining particular results

The collaborative process itself can create potential issues. There is inherent tension between planning for and planning with communities and stakeholders (Stoeglehner et al., 2009). Process issues include selecting who participates (see Mackay and Kelly, 2012), a point where social analysis should assist through knowledge of social context and catchment stakeholders. Whether shoulder tapping or self-selection are used it is difficult to avoid an uneven influence of particular individuals, groups or points of view in a collaborative process. There is also a tendency for participants used to adversarial approaches under the RMA to drift back into that mode of thinking and behaviour; for example, people choosing to withhold useful information from the process because they believe they might use it themselves at a later point to legally challenge findings or plan content.

A planning period of 50 years plus, say 30 years into the future on baseline trends of at least 20 years, poses another inevitable problem for social analysis. Dynamic rural communities exhibit a host of interrelated changes driven by external factors that are local, regional, national and international. There is also a mix of public policies that vary over time. Distinguishing longer-term social trends from those driven by explicit policies and plans therefore becomes a key challenge, one that relies on the availability of longitudinal data (Taylor et al., 2008).

Concluding comments

Experiences with application of social assessment in catchment planning in Canterbury, New Zealand, have demonstrated that social assessment should be an integral part of the planning and assessment process throughout. There are real advantages evident in a catchment based approach utilising collaborative planning processes and integrated, strategic impact assessment as part of policy and planning design.

The Canterbury experience has identified the importance of people to lead integration, those who are skilled at working in the interface between science and communities and are sensitive to a range of political influences. Skills needed include the ability to communicate and integrate technical matters, the ability to conceptualise bio-physical changes through to their social consequences, abilities at listening to various points of view and valuing local input. There are also the usual project management skills around coordination, time planning and ability to work to deadlines as the process can easily become bogged down in data, meetings and endless deliberation.

Tetlow and Hanusch (2012) found that in the field of SEA there is a need for better integration of assessment into the processes of planning and decision making. Key to this happening is the skills of technical people and planners who take part in these processes and act as leaders in the process of integrated assessment. As Baines and Morgan (2006) identified, “Good integrative practice requires attention to personnel selection, disciplinary and inter-disciplinary capabilities, process management and leadership”. Practice issues considered in this paper confirm that integrated practice of impact assessment requires explicit attention be paid to managing the process of integration.

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