

COMMUNITIES, CATCHMENTS AND COUNCILS – BUILDING CAPACITY FOR SUSTAINABLE CHANGE

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INTRODUCTION

Environmental education is conventionally framed as 'out there' in 'the community'. It has tended to be problem-specific, and generally assessed in terms of project-level community educational outcomes, without similar consideration of organisational and institutional educational outcomes.

However, new education for sustainability approaches demand a re-positioning of community education, a re-valuing of the way community education can operate to help shape organisational and institutional responses to complex environmental issues. This relies on integration and coordination as strategic drivers for sustainable environmental management and education outcomes.

Community education operates 'in here' as well as 'out there', as SWEEP, a community education initiative in the Hastings LGA recently discovered.

EDUCATION FOR SUSTAINABILITY

Environmental education is any process or activity that assists the development of awareness, knowledge, skills and attitudes leading to environmentally responsible behaviour (NSW Government Environmental Education Plan 2002-05). It has significantly developed in recent years, away from narrowly-focussed, didactic approaches towards more holistic and interactive approaches for sustainability.

This is most particularly evident in the increasing influence of Education for Sustainability (EfS) as a critical new approach in environmental education.

EfS is holistic education, focusing on how people interact with the total environment and how environmental problems can be addressed in a way that transcends the boundaries of formal education (Tilbury 1995). Huckle (2003) describes EfS as a process, which revolves around:

- systems thinking – enabling people to understand the interconnected nature of life;
- transdisciplinary teachings which increase awareness of the complex intersection of social, political, cultural and environmental spheres and how they impede sustainable development;
- improving peoples' capacity to work toward an equitable and sustainable future; and

- encouraging different approaches to environmental educational and the further integration of sustainability issues.

EfS has been heralded as the way ahead, an approach to environmental education which aims to critically engage all sectors of society, exploring the complexities of sustainability (Huckle 1996). EfS is said to be interconnected and thoughtful, drawing on collective responsibility (Stevenson 2002). It is pro-active and holistic instead of reactive (NSW CEE 2001), breaking away from reductionist teaching of the past. It aims to address social development, ecological well-being, and economic prosperity and incorporates modern and indigenous ways of knowing, local and global perspectives, and all education sectors (Stevenson 2002). Education for sustainability is concerned with the source and underlying causes of environmental problems.

If education is to catalyse an attitudinal shift towards the concept of sustainability, it is thought to be imperative that it focuses on participation, critical reflection, empowerment, organisational and institutional change, capacity building, evaluation and integration.

BUILDING CAPACITY – THE IMPLICATIONS FOR ORGANISATIONS, COMMUNITIES AND CATCHMENTS

Capacity building is increasingly defining new approaches to policy, planning and management processes at national, state and local levels of government. It is a core component of community development, participation and environmental initiatives. However, there is often a lack of clarity in how one defines ‘capacity’. Nor is it clear how you ‘build’ it, demonstrate it and measure it. The concept has not been ‘operationalised’ or applied in a way that is meaningful - most particularly not at the local government and community level where the language of capacity building is most prevalent (and in its present form, least helpful). The following conceptual overview of capacity building was developed to try to explore these issues (Ryan and Rudland, 2002).

What is capacity-building? There are many different ways to look at this, and there are no clear answers. A dictionary definition of ‘capacity’ refers to ‘the ability or power to contain, absorb, or hold’; ‘the ability to understand or learn’; ‘the ability to do or produce.’¹ These are essentially self-referential and self-limiting notions that do not consider a capacity to interact, engage, respond, develop or change. In addition, they focus on the individual, rather than the organisational (within and across a council) or institutional (in partnership with other organisations).

Capacity building involves:

- Programs or initiatives aimed at enhancing the effectiveness of individuals, organisations and systems to achieve or define outcomes, by strengthening the knowledge-base, competence, resources, networks, infrastructure and other forms of support.
- Expanding possibilities of doing things together, finding ways to engage with problems that go beyond program goals.

¹ The Collins English Dictionary (1986), Collins, London and Glasgow.

- More broadly, the process by which these abilities are mutually developed in an ongoing and sustainable fashion.

Capacity building can occur on an individual, organisational, and/or institutional level (i.e. between organisations and stakeholders).

We are particularly concerned with organisational and institutional capacity building, as the basis for sustainable and integrated policy and planning. We maintain that organisational capacity is not principally about an individual worker gaining knowledge and developing skills. Rather, it is about the interaction with organisational process and the way in which increased awareness, creativity and communication is supported and institutionalised.

Organisational capacity building therefore involves:

- Breadth of ownership, commitment and responsibility throughout an organisation;
- Participative capacity, reflected in broadly based organisational participation;
- Building a knowledge base to include the whole of the organisation;
- Coherence of management planning, and links to key organisational outcomes i.e. budget processes and Key Performance Indicators for senior staff;
- Clear communication of ideas, initiatives and progress of planning and implementation between levels of organisation; and
- Development of initiative, imagination and proactive thinking throughout an organisation.

Institutional capacity is about the relationships between different organisations and stakeholders. It involves:

- Breadth of networks and effectiveness of liaison;
- Scope of inclusiveness and effectiveness of participatory inputs at all levels;
- Openness of processes; and
- Sustainability of institutional networks throughout planning, implementation & evaluative processes.

OVERVIEW OF A BEST PRACTICE CAPACITY-BUILDING MODEL

We have worked with a number of different communities, councils, and institutional stakeholders regarding these issues. Their perspectives have informed the development of a broadly based model of integrated environmental management and planning. This model offers a general framework to assist ongoing processes of organisational review and development in local government.

A best practice capacity building model is:

- Based on an identification of the underpinning vision for the catchment, with a well-developed understanding of community expectations and values.
- Grounded in a rigorous and accessible set of evidence of water quality and key sources of contamination.
- A clear process for strategic planning within councils and between all catchment managers to coordinate and facilitate the delivery of objectives. This recognises the significance of coordination and the resources dedicated to these activities.

- Closely linked with business, management and strategic planning, to provide organisational integration within councils. These processes must be directly related to the budget cycle of councils and incentives to influence senior staff and councillor behaviours.

AN INTEGRATED APPROACH – PRINCIPLES AND CHALLENGES

Sustainable solutions to complex environmental issues are most effectively and efficiently developed through integrated policy, planning and management. This relies on integration and collaboration, using an holistic approach to achieve strategic management outcomes, rather than functionally-defined, issues-specific outcomes (Margerum 2001). However, implementation of an integrated approach is often identified as one of the key difficulties facing councils, communities and catchments. This view is supported by extensive work with local government undertaken by the authors in recent years.

An integrated management approach has been described as based on four principles:

- An holistic or systems-wide view of processes, rather than a disciplinary, jurisdictional or single issue focus;
- Recognition of interconnections within these systems, including between the biophysical, organizational/institutional and socio-economic;
- Agreement and clarity regarding management goals so that areas of agreement and disagreement can be identified;
- A strategic and adaptive approach decision-making that is able to focus participants on key actions (Margerum 2001).

These principles take integration and collaboration beyond information, communication and coordination of separate and parallel initiatives. Rather, they require an interactive, interconnected, reflective and collective responsiveness, framed by and assessed against an agreed strategic management framework.

There is significant literature addressing the challenges of such an approach, with particular emphasis on the role of organisational values, cultures, structures and priorities, in shaping organizational responses. Margerum (2001) identifies key determinants of organizational involvement as including:

- Legislation and mandates – a particular issue in a context where local government is increasingly delegated to address complex regulatory and management responsibilities, and where mandates are often defined by narrow jurisdictions and geographic boundaries;
- Resources – integrated initiatives are process-based and have immediate transaction costs which are often not recognized in budgets configured around capital works expenditure. In addition, there may not be adequate staff for regular participation, or staff may be allocated insufficient time to participate.
- Organisational perception – the administrative perception of the issue and its relevance to the organisation is often as important as resources. This may be influenced by perceptions regarding independence/interdependence, strategic drivers and political interests, as well as organisational focus in a context of multiple and complex priorities.
- Organisational guidance and training – administrators and managers may not know how to respond to integrative and collaborative approaches, particularly where there is little guidance regarding the relationship of these approaches to prevailing decision-making structures.

- Personal commitment – personal commitment is a factor that may both enhance or inhibit an integrated initiative. While the personal commitment of participants is clearly a positive, an over-reliance on it can also inhibit outcomes. This is particularly the case in local government and environmental contexts where staff turn-over is often significant and where participation is more usefully sustained through organisational commitment.
- Organisational power – integration and collaboration rely on inclusiveness, participation, power-sharing and consensus. There can be an implicit (and sometimes explicit) tension between this approach and more traditional hierarchically and functionally structured approaches.

These were some of the factors influencing the design, development and implementation of SWEEP, an integrated community education project undertaken by Hastings Council and Elton Consulting.

THE SWEEP PROJECT

In 2002, Hastings Council was funded by the NSW Government through the Stormwater Trust Stage 4 Grants program, to undertake a multifaceted stormwater program entitled **TEAM UP TO SWEEP & MOP (Treat, Educate And Monitor, Urban Pollution, Storm Water Education & Evaluation Program, Maintenance & Operation Procedures)**. The aim was to undertake a stormwater management program that was integrated, cost effective, built capacity and provided long-term solutions to stormwater pollution by implementing the following measures:

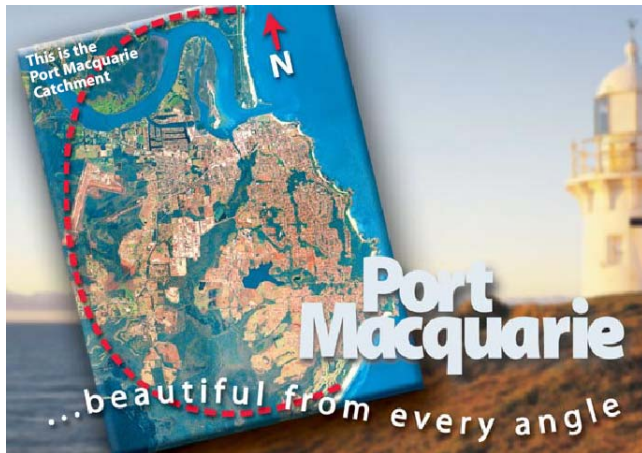
- Hastings SWEEP - An area-wide community education program;
- ‘Builders SWEEP’ – A component of SWEEP which aims to reduce the impact of development on stormwater quality;
- Structural Measures - Structural measures in three urban sub-catchments of Hastings, namely Laurieton, Wauchope and Bonny Hills to reduce the amount of litter and gross pollutants entering estuaries, rivers and oceans; and
- Best Practice Stormwater Quality Improvement Devices Maintenance & Operations Manual and Training.

This paper takes the community education project SWEEP, as its starting point for analysis.

SWEEP was an evidence based environmental education project, designed, delivered and evaluated across 4 urban sub-catchments in the Hastings LGA, located in mid-north NSW. The Hastings LGA is located about 350 km north of Sydney and has four main urban sub-catchments namely, Port Macquarie (population 37,405), Wauchope (population 4,772), Camden Haven (population 6,479) and Lake Cathie/Bonny Hills (population 4293). Land use in the urban areas is generally residential with pockets of commercial and industrial areas. Hastings is a rapidly growing area and is located in one of the most biologically diverse regions in Australia. The receiving waters of Camden Haven and Hastings rivers and estuaries are rich sources of biodiversity including natural wetlands, seagrass, saltmarsh, benthic algae and mangroves.

SWEEP was developed and implemented using extensive social research, catchment analysis and organisational learning. It involved:

- Preliminary catchment analysis – a review of biophysical data, observational audits, Council policy and practices, to target questions for social research.
- Pre-test social research - targeted outreach and a Community Survey to identify community values and environmental concerns, establish baseline measures of knowledge, attitudes and behaviour, and identify community preferences for communicating with them regarding these issues.
- Education – a broad-based campaign directly targeting 22,000 households was developed on the basis of the above, to raise awareness and increase understanding of key catchment connections and water education messages. Education strategies were defined by community preferences for directly addressed mail, letter-boxed material, and information in local newspapers. In addition, posters were publicly displayed and a series of community cultural development activities sponsored through Aquasculpture, a community arts and environment event.
- Post-test evaluation – a Community Survey was conducted across the sub-catchments to assess changes in objective measures of knowledge and awareness as a result of the education campaign. The evaluation found increased awareness and statistically significant improvements in knowledge regarding key education messages.



Port Macquarie...lifestyle and environment

91% of Port Macquarie residents choose to live here for the lifestyle.

Port Macquarie residents were surveyed for a study into the local environment. Results confirm that residents value their community because of the natural environment, the friendly people, and a shared concern to protect the local environment.

Local Environmental Concerns...
Port Macquarie residents are especially concerned about clean beaches and stormwater, water supply, water re-use and the loss of native wildlife.

Do you know where rainwater run-off drains to its local area?
Stormwater drains carry water from outside our homes and streets straight into the Hastings River and to our local beaches like Four Beach, Jervis Beach and Light House Beach. So when it rains the run-off picks up and carries pollution straight to local waters like fishing and recreation places.

Ask your run-off where pollution from outside our homes and streets into the Hastings River and local beaches

Stormwater pollution can be like rubbish, grass cuttings, leaf litter, soil or any chemicals used outside the home when washing cars or gardening.

Port Macquarie is part of a unique interconnected system of land and water. Our homes, streets and neighbourhoods are all linked to the local environment, beaches and stormwater to form our catchment.

Community Spirit
Water restrictions in recent times have demonstrated how the Port Macquarie community came together to manage the limited water supply, and 86% of residents now say they are willing to change their lifestyle to improve local water quality.

Working Together...
We are all part of the environment so let's keep working together to help protect it.

For further information:
Call Hastings Council on 6521 8811
Call NSW EPA Pollution Line 131 555, or visit epa.nsw.gov.au

Wauchope - beautiful and clean...isn't it?

Almost... Rainwater run-off carries pollution from outside our homes and streets straight to the Hastings River, Kings Creek and Wiggins Creek.

Why is that a problem?
Water from your toilet, kitchen and laundry all drains into the sewerage system for treatment.

But! Rainwater falling on homes, gardens and streets drains into the stormwater system and then directly to local stormwater and beaches. You live in a catchment, an area of land which catches rainfall and directs it to local water bodies that we use for recreational activities.

Potential Pollutants in the Stormwater System...
Potential pollutants which are picked up by rainwater and carried direct to local waterways include litter, rubbish, oil chemicals, fertilisers, weedseed and pesticides. Surprisingly natural organic matter such as leaves, garden waste and lawn clippings can harm stormwater too. Decaying organic matter even just oxygen, suffocating and the marine life.

What can you do? Simple!

- Put your litter in the rubbish bin - or take it with you. Litter can block stormwater drains and cause flooding.
 - Sweep up leaves and grass clippings from your driveway and gutters and compost them before they reach your.
 - Remember to use your boom net your house for oil or car cleaning.
 - Pick up your dog's droppings.
 - Wash your paint tins in a container, not over the drain.
 - Wash your car on the lawn or over grass. Use minimal detergent and water.
- We can all help keep Wauchope's waters clean**
- what is going down your street drain?**
- Let's all work together to keep our local water ways clean!
- For further information on waterwise tips:**
Call Hastings Council on 6521 8811
Call NSW EPA Pollution Line 131 555, or visit epa.nsw.gov.au

Postcard Message 1 – Port Macquarie

Postcard Message 2 – Wauchope



Aquasculpture – Stormwater and Environment Community Arts Event

CONCLUSIONS

This paper has discussed a number of key issues facing all environmental managers and local governments regarding integrated approaches to water education and management. An issues-specific focus, functional emphasis, narrow jurisdictional boundaries, organisational structures and institutional relationships are all factors that can impede management approaches. Education for sustainability, capacity building and integration are approaches that offer useful strategic frameworks to support sustainable outcomes and future directions.

The SWEEP project was an opportunity to explore these approaches, evaluate the outcomes, and identify lessons learned.

An holistic, total water-cycle approach to evidence-based community education

- Broad reach community education had not previously been undertaken by Council regarding water pollution issues.
- The project undertook extensive social research to establish community values and attitudes in relation to water quality issues. This highlighted the importance of a total water cycle focus, where issues such as water re-use, conservation and quality of drinking water were key issues of local environmental concern.
- Analysis of council policies and data highlighted overlapping concerns and key organisational strategic priorities regarding total water cycle management.
- As a result, the project adopted an holistic, values-based, total water cycle approach, to design and implement community education.

- This was supported by the establishment of the Integrated Environmental Education Committee, a working group involving officers and managers from all sections of Council, and chaired by a Councillor.
- The project delivered locality-specific stormwater community education to 22,000 households across all urban sub-catchments in Hastings LGA.
- The project demonstrated significant improvements in community knowledge and attitudes regarding causes of pollution and catchment connections as a result of the community education campaign.
- Within a relatively small timeframe, this project reached a significant number of people across a range of forums.
- Council now has an extensive range of resources that they are able to use as part of future educational activities.

A mechanism for building organisational capacity and sustainable integration

- SWEEP was a significant and broad-based project, funded to deliver education directly to 22,000 households. It was of sufficient size and complexity to encourage new forms of management and coordination.
- It offered an important opportunity to extend the traditional project-level need for coordination and sustainable outcomes, into more strategic organisational policy and practice. It has since been identified by Council senior managers and officers as the critical driver in helping to shape key initiatives and future directions for Council.
- The project collated existing data and research from a range of disparate Council policies and reports, to present a previously undeveloped profile of environmental, community and organisational priorities relating to each of the urban sub-catchments.
- SWEEP additionally collected new and detailed data on community environmental concerns, knowledge, awareness and communication preferences.
- This resulted in a new, integrated and rigorous evidence base, tested and analysed at each stage of the project through the project working group.
- This was used to inform several ongoing initiatives (eg. education with builders conducted through Environmental Services, water-wise and water restrictions initiatives through Water Supply, a cross-Council review of planning controls and instruments, City of the Arts initiatives Confluence and Aquasculpture, litter campaigns in urban CBDs, a regional mass media stormwater campaign).
- This information has also helped shape future directions (cross-Council case study research into a total water cycle management strategy, the development of a strategic framework for water cycle management involving Hastings and Greater Taree councils, and integrated environmental education strategies in the Hastings LGA).
- Detailed evaluation has allowed SWEEP to demonstrate success to the community and Council by improving knowledge and awareness regarding key messages.
- SWEEP raised awareness among Council officers and managers who engaged with the project both as local residents receiving educational material, and as staff designing, managing and implementing related Council initiatives. This is a particular feature of regional and rural local government, where staff are often not only involved in a professional capacity but also, critically, as local residents. This contributed to raising the profile of stormwater within the organisation.

- Interviews conducted across Council and involving staff, managers and directors as part of the development of a strategic framework for water cycle management have documented the impact of SWEEP in raising the organisational profile of stormwater and the importance of integrated water cycle management approaches.
- In addition, the SWEEP project has informed a meta-evaluation of Stormwater Trust funded education projects and the development of a strategic planning package for community education in local government, both for the NSW EPA.

Lessons learned

- The importance of in-depth planning and research. It is critical that education programs be grounded in locally specific knowledge and community values and attitudes.
- It is vital that strategies be informed by current events and issues.
- The high value of a collaborative approach from within Council, when a steering committee is established where members from all departments can communicate, participate and use information to improve environmental management tools in an integrated manner.
- The importance of using available reporting mechanisms within Council such as existing committees, Council meetings, Council newsletter, website, media releases etc to raise awareness, disseminate information and support strategic profile.
- The cumulative benefits of project learnings and outcomes that support ongoing integrated environmental management and planning.

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