Strategic Catchment Assessment in uMhlathuze municipality, South Africa

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Short title: Strategic Catchment Assessment in uMhlathuze municipality, South Africa

Key Message: By focusing on ecosystem services that the environment provides for free to the municipality of uMhlathuze, local planners can realize that environmental services have an economic value, and are then in a better position to influence sustainable development.

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Reviewer: Myles Mander, Guy Preston

What was the problem?

The towns of Richards Bay and Empangeni are situated approximately 200 km north of Durban, Kwazulu-Natal, overlooking the Mhlathuze Estuary. Richards Bay is the closest port to Johannesburg, South Africa's economic center. In 2002, Richards Bay and Empangeni as well as the surrounding rural and tribal areas merged to form the City of uMhlathuze, with 300 000 inhabitants, covering 796 km². Unemployment is high (41%). However, economic activity in tribal areas such as production for own use, arts and crafts and informal sales are generally disregarded (uMhlathuze Municipality, 2004). The tribal population creates their own informal employment, thus highlighting the importance of an environment providing free ecosystem services to sustain their livelihoods.

With the natural environment already 75% transformed, it is evident that conflict between the environment and development will continue to grow in uMhlathuze, unless proper planning takes place. The classic "development" versus "conservation" situation exists, with the local municipality mostly in favour of development as a result of the poor social-economic climate that exists in Kwazulu-Natal. The area has, however, been identified as a biodiversity hotspot, and in order to alleviate the conflict and time delays that arise during Environmental Impact Assessments (EIA), the uMhlathuze Municipality opted to undertake a Strategic Catchment Assessment.

At this moment, the Municipality had no means or criteria to judge the role or usefulness of any particular land parcel in terms of its use for sustainable development or conservation. This lack of direction gives critics ample scope for litigation and legal challenges. Therefore, in order to ensure sustainable land use planning and decision-making, the City of uMhlathuze appointed FutureWorks as consultants, who developed a catchment-based process for assessing, incorporating and monitoring environmental sustainability into strategic planning.

All municipalities in South Africa are required by the Municipal Systems Act to undertake an Integrated Development Planning (IDP) process to which SEA can add value, by providing a

practical guide to integrating the concept of sustainability into the planning process. The Performance Management Regulations of this Act states that the Spatial Development Framework, reflected in the IDP, must "contain a strategic assessment of the environmental impact of the spatial development framework." In terms of the White Paper on Spatial Planning and Land Use Management each Municipality must compile a spatial development framework of which one of the components must be an SEA.

Which ecosystem services were examined?

The Strategic Catchment Assessment Process accounted for the balance between supply of environmental goods and services by the natural environment, and the demand for these goods and services by people. These ecosystem services are currently used free of charge. It was estimated that, in uMhlathuze, the overall value of the ecosystems supplied is approximately 278 Million USD (R1.7 billion) per annum. Nutrient cycling and waste management, water supply, water regulation, flood and drought management are some of the most highly valued services. The assessment made clear that the value of ecosystems in uMhlathuze is being eroded by unsustainable practices. If the Municipality wants to ensure the continuation of free service delivery by the environment, it would have to put in place management actions.

How was this analysis undertaken?

The Strategic Catchment Assessment aims to plug key information gaps such that Municipal Planners and Land Managers will have a strategic decision-making tool. Formerly, urban planning has focused primarily on the finance, skills and infrastructure available for development, but there was no focus on the environment. The Strategic Catchment Assessment therefore focused on evaluating the environmental sustainability status only; it did not assess social and economic issues in the area.

The SCA followed a four-step approach:

- For reasons of transparency and to encourage cooperation, a Catchment Forum Group was formed consisting of local specialists as well as interested parties, 20 persons in all. Feedback meetings ensured continued stakeholder interaction and decision-making.

- Hydrological units were defined that contain both the surface and sub-surface drainage systems of specific land areas, and ecosystem services were defined in a landscape assessment.

- A status quo assessment of the catchment units provided information on the current environmental sustainability of the catchment areas.

- Strategic land use planning and management interventions were developed in response to the observations from the present status of each catchment unit. This information should be used to proactively inform strategic and sectoral planning.

The balance between supply of, and demand for environmental goods and services in each Catchment Unit was determined based on a key set of environmental goods and services demanded by people in the catchment. Each catchment was then rated RED, ORANGE or GREEN. Green catchments are in good condition and currently developed within environmentally sustainable limits. They are generally environmental opportunity areas under proper management and proactive action. Orange catchments are in moderate condition and are a nearing unsustainable state. These catchments are being stressed by current land use, and environmental quality is declining. A combination of remedial, management and proactive action is required. Red catchments are in poor condition and

already unsustainable. These catchments are under stress and the environmental quality has already declined significantly. Remedial and management action is required.

The Status Quo Report is presented in four full-colour posters:

- Pictorial Catchment View
- General Catchment Information: summary of the Sustainability Status Quo including different land covers, catchment population, levels of engineering services, key environmental services and their value; positive and negative environmental aspects of the catchment;
- Environmental Sustainability Status Quo contains colour coded indicator information for the catchment: RED, ORANGE, GREEN. When comparing different Catchment Units, this page is very useful.

Implications & Interventions / Guidelines: provides the implications for land use planning and management, including key environmental opportunities and constraints, legal and other implications for current development scenarios.

How was this information used to change local/regional policy?

Instead of identifying and declaring conservation-worthy areas as "no-go", the study stresses the need to manage natural assets to sustain the supply of ecosystem services that provided free of charge to this Municipality. The experience has been positive. Politicians reacted negatively to the term "biodiversity", but more positively once they realized that environmental services have an economic value.

The land cover mapping produced for the SCA, provides the relevant information that could be used to identify sensitive habitats and linkages between ecosystems that need to be maintained. The Municipality embarked upon a process to negotiate these areas in an effort to identify (1) sensitive ecosystems that should be conserved, (2) linkages between ecosystems and (3) areas that could be developed without impacting on the area's ability to provide environmental services. More importantly, (4) it would identify the management actions that need to be implemented in the area in order to ensure not only the survival for key biodiversity assets, but also the sustainable use of biodiversity resources to benefit all residents of uMhlathuze.

An Environmental Services Management Policy and Plan has been established with the aim to include provincial conservation targets into local biodiversity planning; to resolve conflict between "conservation" and "development" parties; to alleviate delays during EIA's as a result of biodiversity concerns; to identify sensitive areas upfront in planning and to avoid impacts; to define functional spatial management units for management to optimise the delivery of environmental services; and to develop management plans to secure these services.

The municipality staff in charge of the process indicated that the use of ecosystems services and focus on the value of these services for society was of key importance to convince local councils that biodiversity conservation makes economic sense; and that planners are in the best position to influence sustainable development, so there is a need to educate them.

References:

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