Environmental Management Framework for the Richards Bay Port Expansion Area and Industrial Development Zone

STATUS QUO REPORT

October 2009

A joint initiative between the City of uMhlathuze and the KwaZulu-Natal Department of Agriculture, Environmental Affairs and Rural Development (DAEARD), in association with the Department of Water and Environmental Affairs (DWEA) and the Danish International Development Agency (DANIDA) through the Urban Environmental Management Programme.

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REPORT DETAILS:

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Scope of this report: The Status Quo Report provides the context and background for the preparation of an Environmental Management Framework for the Richards Bay Port-IDZ area, and serves to identify issues for further analysis. The report serves as a platform for engagement with project stakeholders and is therefore a "living document".	
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ACRONYMS USED IN THIS REPORT

CARA	Conservation of Agricultural Resources Act
DAEA	Department of Agriculture and Environmental Affairs
DAEARD	Department of Agriculture, Environmental Affairs and Rural Development.
DANIDA	Danish International Development Agency
DEA	Department of Environmental Affairs
DEAT	Department of Environmental Affairs and Tourism
DED	Department of Economic Development
DSoE	Desired State of Environment
DTI	Department of Trade and Industry
DWA	Department of Water Affairs
DWAF	Department of Water Affairs and Forestry
EIA	Environmental Impact Assessment
EKZNW	Ezemvelo KwaZulu-Natal Wildlife
EMF	Environmental Management Framework
GGP	Gross Geographic Product
GIS	Geographical Information System
IDP	Integrated Development Plan
IDZ	Industrial Development Zone
LUMS	Land Use Management System
NEMA	National Environmental Management Act
NPA	National Ports Authority
PDF	Port Development Framework
PPES	Public Participation and Stakeholder Engagement Strategy
SACS	South African Committee for Stratigraphy
SANBI	South African Biodiversity Institute
SDF	Spatial Development Framework
SEA	Strategic Environmental Assessment
SEA	Strategic Environmental Assessment
SEMP	Strategic Environmental Management Plan
SoE	State of the Environment

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EXECUTIVE SUMMARY

The baseline assessment in this report translates environmental information of the Richards Bay Port Expansion Area and Industrial Development Zone into data categories and features to create context and background for the preparation of an Environmental Management Framework (EMF). The purpose of this information is twofold. It uncovers the inherent sensitivity and environmental potential of the resource base in the study area and it defines the problems that should be managed in the area in order to promote sustainability.

The human-nature interface in the study area over the last 30+ years illustrates an area of tremendous progress and rapid economic growth. Large-scale landscape transformation took place since the development of the Port of Richards Bay in the late 1970s. To date ecosystems in the area coped well with this change but there are problems. The environment has deteriorated and resources are depleted. The boundaries and potential of the resource base have subsequently changed and will influence the extent to which future development can be accommodated.

Government's macro economic development policies recognise the study area as an international investment destination and expect progress and economic growth in Richards Bay to continue. The population of the area, which has increased in association with past growth, will also continue in conjunction with rural-urban migration trends. These trends are placing huge demands on the local municipality for creating jobs and delivering appropriate infrastructure and adequate services. The implications of these demands are becoming apparent. For example there is already insufficient land within the existing urban footprint to accommodate the housing demand. A shift is also needed to promote labour intensive business sectors as oppose to the capital intensive industries that provide few employment opportunities.

The first impression of the baseline situation is the inherent environmental sensitivity of the study area due to its position in the landscape. The area falls predominantly within a floodplain consisting of interconnected coastal lakes. This system has been exposed to large-scale transformation. It has significantly altered ecosystems, landscapes and their associated processes, and compromised species diversity patterns. Land-based activities in the study area are also compromising marine and coastal systems. Existing development pressures and trends are worsening the situation. In the face of continued transformation and human use of the area's resources, as well as global change, there is little doubt that Richards Bay will in the very near future be recognised as an area that has pushed integrated systems over 'thresholds of sustainability'. This potential scenario will have to be avoided at all cost. The risks are however very high. For example, the report shows that:

- The biodiversity richness in the study area is of global significance and vulnerable to change. Terrestrial, aquatic and estuarine ecosystem types are closely connected and spatially related to each other and to processes that happen at the landscape level. Together they constitute an ecosystem that plays a significant role in the maintenance of ecosystem goods and services, including maintenance of the adjacent marine environment. These systems are under pressure due to existing and planned developments and will require careful management of the open spaces to enable the system to sustain itself and the social and economic systems of the area.

- Industrial and related activities in Richards Bay have fully developed its air quality capacity and predictions were made to indicate that, in order to stay within "air quality limits", no more air pollution activities should be allowed in the area. If these limits are exceeded it will increase pressures on the social, ecological and economic subsystems of the area and there is no reason to believe that these systems will be able to moderate potential damages or cope with the consequences. As regards this situation there is a real risk that Richards Bay may push integrated systems over thresholds of sustainability.

- The urban, industrial and mining sectors in Richards Bay have fully developed the local water supply capacity. Water is however being augmented from sources outside the catchment, while changes within the hydrological regime of the study area are compromising social and ecological subsystems. Predictions are that the demand for water will grow and there are questions around the adequacy of water to sustain the ecological reserve. These water limits cannot be exceeded without increasing pressures on the social, ecological and economic subsystems of the area. If this happens it will in effect mean that Richards Bay would have pushed integrated systems over "thresholds of sustainability".

Past and current development pressures have changed the boundaries and potentials of the inherently sensitive resource base in the area. There are a number of development constraints. For example:

- Geotechnically most of the study area is unsuitable for development.
- Shallow groundwater levels and contamination risks make most of the area highly sensitive to development.
- Critical endangered grasslands are irreplaceable and should therefore not be made available for further development.
- Ecologically significant features such as intertidal mudflats and sandflats, and canal habitats, in the Richards Bay Port Estuary are critical for system maintenance, including sustenance of the prawn trawling industry off the KwaZulu-Natal east coast.

The second impression of the baseline situation is that Richards Bay and its inhabitants are very aware that they are progressing sustainable development in a very risky environment. This is particularly evident in the number and types of studies that have been undertaken over the last 5 years and the prevailing approaches to development planning. There is also an awareness of the need for eco-

efficient growth as is evident in the types of industrial responses in the area. Public contributions to date reiterate the need to give more attention to vulnerable groups in the area when developments are planned. Stakeholders have also raised concern about the small and rather artificial boundaries of the study area highlighting the need to respond to ecosystems and development pressures on a broader landscape level rather than a part of a system that is only focused on certain types of development.

The key message that is coming out of the status quo report is that future plans that are on the table may be in conflict with the environmental potential of the area as well as with each other. These plans need very careful consideration because the demand for land and resources may before long exceed supply. A risk-averse approach is especially required in future development planning considering that scientist can't say with certainty where the limits or thresholds of ecosystems are, an uncertainty that is exacerbated by the increasing threats posed by climate change. Reducing risks require urgent attention to the current uncoordinated and conflicting land use planning by the various developmental agencies with an interest in the area. These plans present divergent expectations and a deviation between the "what is" vs the "what should be". The undesirable development pressures in the study area must be kept within limits to avoid drastically reducing the flow of ecosystem services as this may increase pressures on the social and economic subsystems. The purpose of the EMF is to become the key informant for development planning. Its task is to close the gap between the current state and the desired state and to provide strategic guidelines to transform the current state into a desired one that represents a sustainable state. The next phase of the project will be focused on overcoming the obstacles that are presented.