"When one tugs at a single thing in nature, he finds it attached to the rest of the world."– **John Muir**

One of the most critical roles within the profession of Environmental Management is bridging the gap between development initiatives and protecting the environment. Merriam-Webster defines the word development as a "project in development". Projects in development are associated with socio-economic and environmental impacts. While the environment encompasses all surrounding features within nature. This article attempts to provide a practical scenario of bridging the gap between promoting development and protecting ecological sensitive systems, so that a win-win situation can be achieved.

Recently, I was tasked with undertaking a Water Use Licence Application (WULA) and an Environmental Impact Assessment (EIA) on behalf of the KwaZulu-Natal Department of Transport (Applicant), for the proposed construction of a bridge over the Thukela River. The proposed development was requested by the Honourable MEC for Arts, Culture, Sports and Recreation, who had visited the Makhabeleni community as part of his Imbizo programme. At the same meeting, the community raised various concerns including scholar transportation, crossing over the Thukela River and poor road infrastructure in the area. Such concerns were then referred to the MEC for Transport, Community Safety and Liaison. Nankhoo Engineers was appointed as designs engineers for the project, who then engaged the services of Hanslab (Pty) Ltd to undertake the environmental assessment for the proposed development. **The project entailed designing a low-level bridge 208 m in length with 12 piers over the Thukela River.**

Photo 1: Proposed Master Layout Plan of the development site.

The project site (Photo 1) was screened at a desktop level, and the outcome of this process prompted the need for further assessment in the form of ground truthing. Subsequently, a Wetland Assessment and an Aquatic & Ecology Impact Assessment was undertaken. The findings of the Wetland & Riparian Impact Assessment indicated that there would be several environmental impacts to the Thukela River.

However, these impacts could be minimised with the implementation of stringent mitigation measures during the construction and operational phases of the project. Furthermore, the Aquatic & Ecology Impact Assessment was conducted to assess the baseline conditions of the aquatic systems associated with the proposed site over two seasons (high-flow and low-flow). The Thukela River is the largest river in KwaZulu-Natal and originates in the Drakensberg Mountain Range along the border between Lesotho and the KwaZulu-Natal Province of South Africa. The river meanders through central KwaZulu-Natal and discharges into the Indian Ocean (Britannica, 1998). According to DWAF (2003) development must take cognisance not only of the sensitivity of the receiving ecosystem but also of the resource requirements or ecological reserve of the aquatic communities it supports. In this case the aquatic community is the Thukela River.

Photo 2: Thukela River *(Source: Offset Industries. 2018)*

Photo 3: Presence of crocodiles within the Thukela River. *(Source: Offset Industries, 2018)*

Photo 4: Presence of crocodiles in freshwater systems *(Source: Mezzofiore, 2017)*

One major finding of the assessment indicated the presence of crocodiles (*Crocodylus niloticus*) within the sampling area of the Thukela River as depicted in **Photo 3**, therefore, don't be fooled by the still waters depicted in **Photo 2**. Although crocodiles and humans often do not coexist peacefully, they are known as **keystone species** within the aquatic environment. The presence of a keystone species within a system would appear to indicate that the system is in a healthy condition. However, crocodiles are known to migrate up and downstream and their presence within the site may only be in passing. As **apex predators** they are important **ecosystem indicators** and much of their diet is made up of fish, therefore their presence within the system indicates loosely that **sufficient fish are present to support them within this section of the Thukela River** under consideration (Offset Industries: Aquatic Ecology Impact Assessment, 2018).

After consideration of the positive and negative environmental impacts, the EAP recommended that based on their assessment the development may proceed provided that stringent mitigation measures are implemented during the construction phase. As the appointed EAP on this project, my role was to identify the "balance" between ***Development*** – i.e. construction of the bridge over the Thukela River, and the ***Protecting the Environment*** – i.e. protection of the aquatic communities within the aquatic system. Working with a team of "open-minded" engineers and specialists we were able to achieve a win-win situation. This project is therefore a testament to the fact that development does not necessarily take priority over the environment or vice versa, but that development and the environment can be integrated successfully to establish the "balance" towards the overall goal of sustainable development.

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