Just add Mauri

Water-sensitive design meets tikanga Maori

When it comes to stormwater engineering, how do we ensure cultural and social outcomes are not swept aside by the dollars delivered through cost-benefit analysis? **Troy Brockbank** uses the concept of mauri to bridge the worlds of water-sensitive design and tikanga Maori.

Troy Brockbank (Te Rarawa, Ngati Hine, Ngapuhi) is a civil engineer, stormwater practitioner and design manager at specialist stormwater management company Stormwater360. In his work, he faces conflict between the objectives of core water-sensitive design and the principles of tikanga Maori (or traditional Maori practices). However, he sees that the concept of mauri can help assess, manage and bridge these two world views.

According to Troy, the ideas behind mauri, which is often described as representing a holistic view of wellbeing, align well with the RMA definitions of environmental, social, economic and cultural wellbeing.

In his opinion the use of mauri in decision-making, in place of traditional monetary-based cost benefit and multi-criteria analysis tools, allows for a better assessment and calculation of the impact on these wellbeings.

"The use of a mauri model also tends to help reconnect all involved groups – whether it be mana whenua, council or stormwater practitioners – back to the land and, more appropriately in this context, back to water," he says.

Yet, as he points out, very few local authorities take the mauri of the community and its surroundings into consideration when they commission stormwater work. This is, he asserts, a discussion that needs to be had.

We asked him to tell us more.

In practical terms, how do you handle any conflict between water-sensitive design objectives and tikanga Maori in your work as a stormwater specialist?

I tend to look at the end goal or objective, and assess the project or task alongside mauri ideology to achieve the best environmental outcome.

Integrating core water-sensitive design values with matauranga Maori (indigenous knowledge) and principles of tikanga Maori (traditional indigenous practices) would provide a holistic culturally-enhanced approach to water management.

I believe this would be to the benefit of the wider environment (people and natural) as it prioritises the mauri of the community and their surroundings. This would ensure that cultural and social outcomes are not diminished as a result of monetary-focused cost-benefit analysis.

On a broader scale, I am helping to raise wider awareness of mauri and matauranga Maori (Maori knowledge) within the New Zealand stormwater industry through attending national forums and involvement through the Water New Zealand Stormwater Group committee.

Recently I had the opportunity to attend a water-sensitive design forum at the 14th International Conference on Urban Drainage in Prague, Czechia, and spoke on the need to implement indigenous cultural values in worldwide water-sensitive urban design objectives.

I am passionate about the widespread adoption of culturally-enhanced water-sensitive design and will continue working towards raising awareness as a leader in this field both nationally and internationally.

Are there other ways in which local authorities and external consultants can protect the mauri of a site and also create robust stormwater systems?

They can work to align Te Ao Maori (Maori world views), and particularly tikanga Maori (traditional Maori practices), alongside a solution that can mimic natural processes, ie green infrastructure, to ensure the mauri of the site is not diminishing. The solution may not always be achieved by using green infrastructure alone: hence the use of hybrid (green / grey) solutions.

What are the characteristics of these hybrid systems?

A hybrid system is an integrated stormwater management approach that blends innovative engineered technologies (more aligned with grey infrastructure) with more traditional land-based water-sensitive design practices and / or conventional landscaped areas (green infrastructure).

In simple terms, it uses the best of both grey and green infrastructure to achieve environmental objectives whilst overcoming space and cost constraints.

Three examples in Auckland are:

1. The Edmonton Road residential development in Henderson (where an underground proprietary media filtration cartridge device was installed in a landscaped pre-treatment garden);
2. Carol Lee Place, Albany, (where a traditional rain garden lies over a proprietary modular plastic storage system); and
3. The Waimahia Inlet Housing Development in South Auckland (where a gross pollutant trap was installed upstream of a constructed wetland).

What more could be done?

The first step would be to arrange a 'Kanohi ki Kanohi – face to face' meeting with mana whenua to discuss the project and involve them as a stakeholder. This way, the environmental and cultural wellbeing of the site can be discussed and assessed in full. Whakapapa (genealogy), historical events and important places such as waahi tapu (sacred places) can be discussed and will play their part in determining a good balance between cultural, social, economic and environmental outcomes.

Auckland University senior lecturer Dr Kepa Morgan created the mauriOmeter as an alternative to other decision-support tools such as cost-benefit analysis. Could this be a workable solution within the local government sector?

Yes. The mauriOmeter integrates qualitative and indigenous values and measures mauri in four dimensions – environmental wellbeing (taiao mauri), cultural wellbeing (hapu mauri), social wellbeing (community mauri) and economic wellbeing (whanau mauri).

The mauriOmeter was used in determining actions to restore the mauri of the environment following the MV Rena disaster in October 2011.

Auckland Council's Healthy Waters department has also been trialling a modified mauri decision-making framework, with the mauriOmeter, to determine sustainability indicators and assess the RMA's economic, social, cultural and environmental wellbeing dimensions of a project.

This has been done to complement traditional cost-benefit and multicriteria analysis, and provide a more accurate representation of environmental outcomes. **LG**

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