The uMngeni Ecological Infrastructure Partnership (UEIP)

A STRATEGY

July 2016
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1. BACKGROUND

The uMngeni River catchment, although occupying less than 5% of the surface area of the KwaZulu-Natal province, supplies water to 42% of the population of the province including the major cities of Durban and Pietermaritzburg. Economic development and the growing population in the catchment have led to demand for water services rapidly exceeding the system’s ability to supply. The uMngeni River catchment consists of four major in-line dams as well as other dams associated with inter-basin transfers to facilitate water supply to the cities of Pietermaritzburg and Durban and surrounding towns. These interventions of investing in engineered or built infrastructure have not been sufficient to adequately address the issue of water security in this catchment, and more investments are planned to address the growing demand. While built infrastructure remains essential for providing water to large populations, there is a growing call for exploration of the potential role of ecological infrastructure (EI) to supplement and enhance, and in some cases substitute for, built infrastructure.

**Ecological infrastructure** is defined as “naturally functioning ecosystems that produce and deliver valuable services to people” (SANBI 2013).

The uMngeni Ecological Infrastructure Partnership (UEIP) is a dynamic and vibrant partnership comprising government, business, academia, and civil society committed to finding ways of better integrating EI solutions into water resource management in the greater uMngeni River catchment. The primary focus of the UEIP is on the role ecological infrastructure can play in improving water security in the catchment.

In February 2013 a workshop, led by the eThekwini Metropolitan Municipality and the South African National Biodiversity Institute (SANBI) together with Umgeni Water and the KwaZulu-Natal regional office of the Department of Water and Sanitation (DWS), resulted in the formulation of a catchment-wide partnership. The idea of the workshop was to take stock of the state of the catchment and explore and demonstrate the potential positive contributions that the rehabilitation and management of EI could make in enhancing and sustaining water service delivery. In November 2013 the UEIP was launched with the signing of a Memorandum of Understanding (MoU) by a number of partner organisations. The partnership currently comprises over twenty key organisations who have signed the MoU (see list of partner organisations in Appendix A).

The purpose of this strategy is to provide clear purpose and coherence to the UEIP, outlining what the UEIP is and what it does. It has been developed in collaboration with the various stakeholders in order to promote collegiality, inclusiveness, ownership, advocacy and transparency. The strategy defines objectives of the UEIP as well as approaches towards achieving those objectives. The strategy also defines the institutional arrangements of the UEIP as well as the roles and responsibilities within the UEIP. This strategy also takes into account and is aligned with other national and regional strategies associated with water resource management in the catchment. Such strategies include the National Water Resource Strategy (2013), the National Development Plan (2011), the KwaZulu-Natal Provincial Growth and Development Strategy (2011) and the Water Reconciliation Strategy of the KwaZulu-Natal Coastal Metropolitan Area (2009) that is currently being updated, as well as the Catchment Management Strategy for the Pongola-Umzimkulu Water Management Area that will be developed by the Catchment Management Agency.
2. MISSION STATEMENT

The uMngeni Ecological Infrastructure Partnership (UEIP) is dedicated to harnessing the potential of intact, functioning ecosystems to complement built infrastructure in an integrated approach to managing water resources in the greater uMngeni River catchment. Strategic investment in the rehabilitation and management of ecological infrastructure in the catchment will be enabled by coordination, collaboration and joint learning through the partnership. The partnership will strive to support more integrated and effective governance for land-use and water resource management, a deeper common understanding of the benefits of an ecological infrastructure approach, and improved capacity at all points along the science-society-policy-practice continuum.

3. OBJECTIVES

The objectives of the UEIP are as follows:

3.1 Strategic investments in ecological infrastructure that are contributing to enhanced water security in the uMngeni catchment

Just as built infrastructure requires initial capital investment followed by ongoing investment in operations and maintenance, the same holds true for ecological infrastructure. In the case of ecological infrastructure, capital investment may be required in the form of rehabilitation where degradation has taken place. Maintenance involves the implementation of management actions required to keep healthy ecosystems in a good condition or maintain rehabilitated ecosystems in the desired state. Drawing attention to the need for investment in ecological infrastructure is important, as there has generally been a tendency to overlook the services provided, their value to people and the need for ongoing investment to ensure the continued flow of these services. Investment in ecological infrastructure does not only imply the allocation of financial resources, but may also take the form of human resources and/or making decisions in support of a particular undertaking with the expectation of a worthwhile result. While it is necessary to increase the level of investment in ecological infrastructure in the catchment, it is also vitally important to derive the best value from existing investments, by influencing where and how existing budgets can be spent in order to achieve optimal, sustainable results for funders and beneficiaries of the water-related services derived from ecological infrastructure. A systems-based and systematic approach to improving water quality and quantity in the catchment will therefore be advocated.

Role of the UEIP:

- Drawing attention to the need for investing in ecological infrastructure to supplement built infrastructure investments in the catchment, through effective dialogue and stakeholder engagement.
- Identifying funding gaps and funding opportunities. Facilitating discussions with agencies that are funding strategic investments in ecological infrastructure to minimise duplication of efforts and optimise outcomes from these investments.
- Supporting the implementation of existing mechanisms and the development of new mechanisms, where appropriate, for investing in ecological infrastructure.
3.2 Improved governance that is contributing to slowing the rate of degradation of ecological infrastructure and enhancing the sustainability of investments in ecological infrastructure

Water security challenges cannot be resolved without understanding the social context from which they arose. Collaborative water governance attempts to bridge the gap between the social and the ecological by promoting awareness of water security problems both in technical and social terms. It is less costly to maintain healthy ecosystems in good condition than to rehabilitate them once they become degraded. There is also the political context to be taken into consideration, which requires an understanding of the economic, political and cultural processes that relate to the socio-ecological patterns that affect water security. A large part of investing in ecological infrastructure involves managing activities that are negatively impacting on it, including supporting efforts by regulatory authorities to improve compliance with land and water use authorisations. There is thus a need to support municipalities, provincial departments and agencies and national authorities involved with planning and regulation in improving their capacity to undertake these functions.

Role of the UEIP:
- Mobilising capacity to support private and public sector governance institutions involved in managing activities that negatively impact on ecological infrastructure in the catchment.
- Supporting these governance institutions in their efforts to improve their capacity to undertake their functions, including through the generation of information to support improved planning and decision-making.
- Bringing together a wide range of multi-sector stakeholders to identify key issues in order to consider priorities and solutions to challenges in the catchment.
- Encouraging a common understanding of the pressures and opportunities associated with ecological infrastructure in the catchment and creating an enabling environment for multi-sector views and management options.
- Confronting intractable governance issues through advocacy.
- Promoting regulatory compliance in the catchment.
- Engaging with authorities at political level to ensure that decision making incorporates and where appropriate prioritises investing in ecological infrastructure to enhance water security in the catchment.

3.3 Strengthened institutional capacity for the rehabilitation, maintenance and protection of ecological infrastructure

There is a complex institutional landscape, consisting of a wide range of organisations that play a role in the management of ecological infrastructure to varying degrees. The capacity of these organisations to carry out these functions also varies widely. Sufficient capacity in the right places is critical in order for the UEIP to achieve its objectives, which implies improving capacity at all points along the science-society-policy-practice continuum. The UEIP will support increasing the capacity of individuals and organisations in the catchment to work towards water stewardship and to the conservation and rehabilitation of ecological infrastructure.
Role of the UEIP:

- Supporting a vibrant, focused community of practise that enables the sharing and building of knowledge and skills and provides a forum for engagement on matters of mutual concern.
- Supporting individuals from partner organisations to function as effective advocates for ecological infrastructure within their own organisations.
- Building capacity through education and awareness campaigns to stimulate local interest and capture local views on issues related to rehabilitation, maintenance and protection of ecological infrastructure.
- Identifying capacity building needs and co-creating training programmes with partners that have the capacity to address these needs.
- Assisting in unblocking access to training.
- Raising awareness of the potential benefits from services delivered by healthy and functional ecological infrastructure.
- Encouraging the development of practical and effective projects/programmes that promote the rehabilitation, maintenance and protection of ecological infrastructure.
- Encouraging approaches that take into account local conditions through the use of both local and scientific knowledge in the rehabilitation, maintenance and protection of ecological infrastructure.
- Enabling stakeholders to work together in establishing a common agenda in terms of rehabilitation, maintenance and protection of ecological infrastructure.

3.4 An enabling policy environment for investment in the rehabilitation and management of ecological infrastructure in the catchment

A range of sectoral policy frameworks are relevant to the rehabilitation and management of ecological infrastructure. It is important that these frameworks adequately acknowledge the potential of ecological infrastructure to contribute to policy objectives at national, provincial, catchment, district and local scales. The relevant policy instruments are good places to highlight the value of ecological infrastructure in contributing to both water security and sustainable development.

Role of the UEIP:

- Identifying and sharing opportunities to engage with relevant national, provincial and local policy processes.
- Building capacity within partners to engage effectively with these policy processes.
- Planning for research that contributes to policies that take into account investment in ecological infrastructure in the catchment.
- Engaging with local planning policies and processes to include investment in the rehabilitation and management of ecological infrastructure in the catchment.
- Determining priorities that are linked to national and catchment policy objectives when it comes to rehabilitation and management of ecological infrastructure in the catchment.

3.5 An improved knowledge base on ecological infrastructure that informs policy and practice

Despite the degree of interest in ecological infrastructure in the uMngeni catchment, there is still much information that is lacking on aspects such as the location of key ecological infrastructure,
extent of threats, magnitude of water-related services currently being delivered, and appropriate instruments for enabling investments. There is thus a need for research to be done and an important role exists for UEIP to enable such research where possible, together with promoting coordination and integration of efforts where appropriate. This will enable a deeper common understanding of the benefits of an ecological infrastructure approach, acquired through an ongoing process of co-learning between the partners. It will also allow the case to be made convincingly to a range of different audiences. This highlights the importance of extracting policy-relevant lessons from research and integrating them into policy and practice in order to ensure uptake of the research outcomes. Communities have an understanding of their living conditions, enabling them to have better understand water quality and quantity conditions of water resources associated with them. There is much value in integrating and incorporating indigenous knowledge into the knowledge base on ecological infrastructure that informs policy and practice.

Role of the UEIP:
- Identifying sources of information and sharing information in an accessible manner.
- Strengthening research and action through information sharing and facilitating engagement between researchers, research funders and practitioner partners
- Promoting coordination and integration of research and implementation of pilot projects
- Assessing gaps in information on matters related to ecological infrastructure, and identifying potential ways to fill these gaps
- Identifying research that feeds into local priorities and national policy in order to support entities with relevant statutory responsibilities.
- Promoting the integration of indigenous knowledge into the knowledge base on ecological infrastructure.

3.6 **Effective collaboration, coordination and co-learning that enables the UEIP to consolidate, grow and demonstrate its value**

There has been growing awareness of the declining state of the uMngeni River catchment and the resulting water security challenges, but that has not necessarily led to coordinated and effective efforts to address those challenges. The UEIP presents an opportunity for all involved and interested in the catchment to work together cooperatively and in a collaborative manner in harnessing the potential of ecological infrastructure to contribute to addressing water security challenges in the catchment. The platform afforded by the UEIP assists in identifying inter-sectoral linkages that enable effective coordination of actions and policies for enhancing the sustainability of investments in ecological infrastructure. The UEIP currently has 23 organisations from different sectors that have formally joined the partnership by signing the MoU, and there are those that have indicated interest but have not formally joined the partnership. This kind of collaboration offers the required representation and consultation, ensuring effective negotiation, bargaining and compromise when decisions involving ecological infrastructure investments are made. The concept of ecological infrastructure is fairly new, and there is still a need to familiarise stakeholders with it. The UEIP is well-placed to develop stakeholders’ understanding of EI, and build capacity around balancing sustainable management of EI and development in the catchment.
Role of the UEIP:
- Initiation of and support for pilot projects implemented by partners that demonstrate the potential of the ecological infrastructure approach and encourage scaling up and replication, both within and beyond the uMgeni River catchment.
- Increasing publicity and clarity on the functioning of the partnership.
- Encouraging communication and collaboration between stakeholders within the partnership.
- Facilitating communication with external stakeholders and other organisations that have an interest in catchment management or may be interested in joining the partnership.
- Facilitating collaborated and coordinated actions that will result in more effective integrated outcomes.

4. OPERATIONAL ASPECTS

4.1 Governance and Institutional Arrangements

4.1.1 The Coordination Committee

The overall function of the Coordination Committee is to derive and co-ordinate the long-term implementation of the UEIP Strategy by the partners and to advance and represent the common interests of the partners in matters concerning the management of the Greater uMgeni River Catchment. It fulfils the need for collegiality, inclusiveness, effectiveness, coherence and flexibility in the partnership. The Coordination Committee is composed of signatories to the UEIP MoU, together with any person/s invited by the Committee to assist it in performing its functions. Each organisation signatory to the MoU appoints a representative and an alternate to represent it at meetings of the Coordination Committee. The representative may be replaced at any time but it is deemed best to maintain continuity of representation on the Coordination Committee by each organisation. Members of the Coordination Committee serve without remuneration but each organisation must ensure that its representative is paid reasonable travelling and living expenses, in line with the organisation’s remuneration policy, while absent from their ordinary places of work as a consequence of participating in the work of the Committee.

The Coordination Committee elects a Chairperson and a Deputy Chairperson, who hold office for a period of three years unless their term of office is terminated earlier by their resignation or by a resolution of the Coordination Committee. The Coordination Committee holds meetings twice a year and must ensure that accurate minutes of the proceeding of each meeting are recorded and preserved. The Chairperson may at any time convene a special meeting of the Coordination Committee and must do so if asked to do so by at least four Parties. The Chairperson ensures that the minutes of the Coordination Committee meetings are circulated to all parties within one month of each meeting.

The South African National Biodiversity Institute (SANBI) has acted as the centre of coordination from the UEIP’s inception and is responsible for appointing a UEIP Coordinator to provide among other things, the secretariat services for the Coordination Committee. The coordinator is also responsible for providing strategic, management and administrative support to the UEIP, as well as coordinating institutional arrangements of the UEIP. The coordinator assists in establishing and maintaining UEIP membership and stakeholder databases, to ensure circulation of information and
keeping members and interested parties updated on relevant issues in the catchment. The coordinator also supports the implementation of projects that support the aims of the UEIP.

4.1.2 Research Sub-Committee

The UEIP has a strong research component that is driven by the academic partners in collaboration with other partners. There is a Research Sub-Committee that consists of representatives from the signatories of the UEIP MoU as well as funders of research undertaken by the UEIP. The Research Sub-Committee may also consist of other invited researchers and individuals with expertise of particular relevance to research being undertaken in the uMngeni River Basin. The Research Sub-Committee is designed to be inclusive of all research interests. It is guided by the MoU between the UEIP partners as a subsidiary structure of the UEIP Coordination Committee.

The Sub-Committee is co-chaired by the Water Research Commission (WRC) and SANBI. It meets twice a year, preferably coinciding with meetings of the UEIP Coordination Committee. The UEIP Coordinator acts as secretariat for the Sub-Committee meetings.

4.2 Pilot projects

The UEIP also uses applied initiatives to demonstrate the benefits of investing in ecological infrastructure in the catchment. Three municipality partners have committed themselves to spearheading and sourcing funding for the following pilot projects to test ‘proof of concept’ of the role of ecological infrastructure in addressing water security challenges:

- Baynespruit Rehabilitation Project - Msunduzi Local Municipality
- Save Midmar Project - uMgungundlovu District Municipality
- Palmiet Rehabilitation Project - eThekwini Metropolitan Municipality

Some of these pilot projects are participatory in their approach, involving citizen science initiatives that generate information from different sources and in various formats around the uMngeni catchment. The UEIP is therefore well positioned to develop an information management system for the uMngeni catchment and be the custodian of such a system. The availability of such a system will enable coordination of information resulting in easier data analysis and reporting.

4.3 Stakeholder engagement

Stakeholder composition, contacts and interests change over time, therefore the UEIP coordinator keeps an updated database of key stakeholders to ensure effective stakeholder engagement. The coordinator assumes the primary responsibility of distributing information to stakeholders as requested. A two-way participatory interaction between the UEIP and its stakeholders is encouraged. The UEIP gives regular updates on its activities and keeps abreast of activities around the catchment at relevant fora.

The UEIP will establish mechanisms for communicating with internal and external stakeholders and publicising information, which will take into account the diversity and complexity of the stakeholder landscape. A broad range of media components will be considered to ensure that information reaches a wide range of stakeholders. Newspapers and general local news are good platforms to disseminate information. Relevant information will be shared in the form of short articles and press
releases. Magazines such as the Water Wheel and Quest will also be used to distribute information about ecological infrastructure in the uMngeni catchment. Scientific findings emanating from UEIP projects will also be showcased at relevant conferences, symposia and other fora.

With the digital age we live in, there is an opportunity offered by the internet and social media for disseminating information to reach a wide range of stakeholders. The UEIP will establish an online presence and identity through a website which will provide updated information on the progress of UEIP initiatives such as project information, research being conducted, and other relevant activities. Social media platforms such as LinkedIn, Facebook and twitter will also form part of the UEIP’s communication strategy. The communication approach needs to raise the public profile and credibility of the UEIP. The coordinator will compile an annual report on the progress of the UEIP activities, including the milestones and challenges. Quarterly updates in the form of newsletters will also be developed for dissemination of information regarding latest activities and events underway associated with ecological infrastructure in the catchment.

5. Monitoring and Evaluation

5.1 Impact of the work of the strategy

The UEIP will develop a monitoring and evaluation plan with defined variables and indicators to measure the performance of the UEIP against its defined objectives. The objective of monitoring and evaluation (M&E) is to look at the extent to which the work of the UEIP contributes to water security in the catchment. As part of the M&E, the pilot projects will be periodically reviewed to understand how they are progressing, what the challenges and successes are, and how those challenges can be addressed. The role of the UEIP in supporting the research and pilot projects must be understood to assess the impacts and outcomes of the UEIP initiatives. Most importantly the monitoring and evaluation plan needs to take into account the review of the implementation of this strategy.

5.2 Implementation of the strategy

The UEIP partners have a collective responsibility to implement this strategy as it was developed collectively by the partners. Priority actions of this strategy must be identified to support its effective implementation. At a participatory workshop conducted by the Coordination Committee members of the UEIP on 16 April 2015, interventions/actions that the UEIP should focus on in the short-term were identified (Table 2 (Appendix B)). An important aspect is how these interventions/actions are connected to the defined objective and how the UEIP can obtain and track the financial resources, as well as ensure the effective functioning of the Coordination Committee in managing the implementation of this strategy. There must be an underlying agreement on how to co-operate, work together and add value to individual partner’s contributions in implementing the strategy, rather than duplicate efforts or compete with one another. It is well understood that the ability of organisations to contribute to the implementation of this strategy may depend on the institutional context of their respective organisations. The roles and contributions of the individual partners in the implementation of the strategy may also be determined by context or area of jurisdiction of the relevant organisation.
Appendix A

Table 1: A list of UEIP signatories to date

<table>
<thead>
<tr>
<th>ORGANISATION</th>
<th>REPRESENTATIVE</th>
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</thead>
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</tbody>
</table>
Appendix B

INTERVENTIONS

A participatory workshop was conducted by the Coordination Committee members of the UEIP on 16 April 2015, where core short-term interventions that the UEIP should focus on were identified. At the UEIP Coordination Committee meeting held on the 20 November 2015, members made progress in defining a set of objectives of the UEIP. Table 1 below shows the overlap between those interventions and the defined objectives. An important aspect of coordination is clarity and agreement on objectives as well as understanding and reaching consensus on the approach to achieve those objectives.

Table 2: Interventions identified by the UEIP partners to achieve the defined objectives

<table>
<thead>
<tr>
<th>INTERVENTIONS</th>
<th>OBJECTIVES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Align the UEIP with existing strategies and inform these strategies</td>
<td>2. Improved governance that is contributing to slowing the rate of degradation of ecological infrastructure and enhancing the sustainability of investments in ecological infrastructure</td>
</tr>
<tr>
<td>1. Strategic investments in ecological infrastructure that are contributing to enhanced water security in the uMgeni catchment</td>
<td></td>
</tr>
</tbody>
</table>
### INTERVENTIONS

1. Strategic investments in ecological infrastructure that are contributing to enhanced water security in the uMgeni catchment
2. Improved governance that is contributing to slowing the rate of degradation of ecological infrastructure and enhancing the sustainability of investments in ecological infrastructure
3. Strengthened institutional capacity for the rehabilitation, maintenance and protection of ecological infrastructure
4. An enabling policy environment for investment in the rehabilitation and management of ecological infrastructure in the catchment
5. An improved knowledge base on ecological infrastructure that informs policy and practice
6. Effective collaboration, coordination and co-learning that enables the UEIP to consolidate, grow and demonstrate its value

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<td>1. Strategic investments in ecological infrastructure that are contributing to enhanced water security in the uMgeni catchment</td>
<td>2. Strengthen linkages between various land-use planning initiatives.(\checkmark)</td>
</tr>
<tr>
<td>2. Improved governance that is contributing to slowing the rate of degradation of ecological infrastructure and enhancing the sustainability of investments in ecological infrastructure</td>
<td>3. Incorporate the Alliance for Water Stewardship (AWS) Standard process, criteria and indicators(\checkmark)</td>
</tr>
<tr>
<td>3. Strengthened institutional capacity for the rehabilitation, maintenance and protection of ecological infrastructure</td>
<td>4. Ensure better coordination of ‘NRM’ (natural resource management – alien invasive plant clearing and similar) projects in the catchment.(\checkmark)</td>
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<td>4. An enabling policy environment for investment in the rehabilitation and management of ecological infrastructure in the catchment</td>
<td>5. Encourage key stakeholders to join the partnership.(\checkmark)</td>
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<tr>
<td>5. An improved knowledge base on ecological infrastructure that informs policy and practice</td>
<td>6. Maintain the commitment and involvement of existing members.(\checkmark)</td>
</tr>
<tr>
<td>6. Effective collaboration, coordination and co-learning that enables the UEIP to consolidate, grow and demonstrate its value</td>
<td>7. Review and strengthen stakeholder analysis (‘power-mapping’) so as to identify key partners and strengthen collaborative action.(\checkmark)</td>
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<td>6. Effective collaboration, coordination and co-learning that enables the UEIP to consolidate, grow and demonstrate its value</td>
</tr>
<tr>
<td>8. Implement a system where individual partners can report on progress.</td>
<td>✓</td>
</tr>
<tr>
<td>9. Promote and report on those projects that demonstrate the benefits of ecological infrastructure</td>
<td>✓ ✓</td>
</tr>
<tr>
<td>10. Establish an online presence for the UEIP including a website which provides ‘popular’ versions of the research being conducted and includes policy pieces.</td>
<td>✓ ✓</td>
</tr>
<tr>
<td>11. Ensure use of various social media platforms (Facebook, twitter etc.) as part of the UEIP communication strategy.</td>
<td>✓</td>
</tr>
<tr>
<td>12. Encourage the catchment’s citizenry to become involved.</td>
<td>✓</td>
</tr>
<tr>
<td>13. Identify and implement citizens’ science programmes.</td>
<td>✓</td>
</tr>
<tr>
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<td>OBJECTIVES</td>
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<td>2. Improved governance that is contributing to slowing the rate of degradation of ecological infrastructure and enhancing the sustainability of investments in ecological infrastructure</td>
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<tr>
<td>3. Strengthened institutional capacity for the rehabilitation, maintenance and protection of ecological infrastructure</td>
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</table>

<p>| 14. Foster a culture of information sharing in the community of practice. | √    |
| 15. Translating science into practical solutions. | √    |
| 16. Harness key lessons from action research, demonstration projects and large scale implementation. | √    |
| 17. Promote the uptake of new tools and systems. | √    |
| 18. Identify research needs and funding gaps. | √    |
| 19. Identify funding opportunities for research. | √    |
| 20. Update the research project inventory. | √    |
| 21. Establish awareness, education and training programmes on ecological | √    |</p>
<table>
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</table>

22. Use proof of concept to grow the UEIP.                                      | ✓                                                                           | ✓ |

23. Repairing and maintaining ‘hard’ infrastructure in the river basin,        | ✓                                                                           | ✓ |
     particularly waste water works and linked sewer systems.                   |

24. Tackle water borne diseases.                                               | ✓                                                                           |   |