



TERMS OF REFERENCE FOR A DIRECTED WRC PROJECT

KEY STRATEGIC AREA (KSA): International Cooperation and Partnerships

TITLE: From theory to practice: developing a case study and guidelines for Water – Energy – Food (WEF) nexus implementation in Africa

1. Objective

The general aim of the project is to develop a nexus modelling approach for the African continent that can be used to explain and interpret the cross-sectoral complexity of resources; and support the transformation required to meet the increasing demand of WEF resources in the context of climate change.

2. Goals

The specific goals are to:

- (a) Conduct a state-of-the-art WEF nexus assessment for any region in the African continent focused on identifying status, opportunities and identifying possible regional case studies for the WEF nexus.
- (b) Develop an applicable and scalable WEF nexus modelling approach for the region that can be applicable at national, basin or regional levels.
- (c) Apply the model and framework to assess rural livelihoods, health and wellbeing at national, basin and regional level.
- (d) Apply the WEF nexus model for scenario planning and to assess SDG performance for at regional and basin level,
- (e) Apply the model and framework to develop recommendations for implementation of the WEF nexus and propose suitable scale of application.
- (f) The review will also highlight opportunities for linking the WEF nexus to the Sustainable Development Goals (SDGs).

3. Rationale

You can apply any of the below rationale in your response to this call:

3.1 Rationale A

In response to the global trend in adopting the WEF nexus approach, in 2012, the Water Research Commission (WRC) initiated its WEF Nexus Lighthouse with a goal to start championing water, energy and food planning and development for South Africa in an integrated and sustainable manner. Since then, the WRC through its Research & Development (R&D) branch, has organised various activities under the banner of this lighthouse. The WEF nexus presents an opportunity to promote integrated planning in a sustainable manner. It also presents a framework for directly achieving some of the SDGs, such as Goals 2, 6 and 7, with indirect potential to achieve SDGs 1, 8 and 9 through job creation and innovations linked to WEF nexus sensitive planning. The WRC, for its part, will continue to drive research, development and innovation linked to knowledge generation on the WEF nexus. The translation of this knowledge into an actionable plan that can be adopted by policy makers, researchers, academic institutions and community of practice across the African continent remains the next frontier.

3.2 Rationale B

The continent is going through a transformative phase of unprecedented economic changes at a time when resources are fast depleting in the advent of climate change. Most regions in the continent are experiencing a steep population growth (Southern African region expected to increase to 551 million people by 2050), unparalleled urbanisation, diversifying and changing diets and increased consumption demands due to improved standards of living. These drivers are exerting pressure on already depleting resources because of climate variability and change. The increasing scarcity in resources is the greatest threat to the attainment of the 2030 Agenda of the Sustainable Goals as well as regional targets. The WEF nexus approach is envisaged to integrate inter-sectoral strategies aimed at adapting to these challenges and translate to savings from costs associated with duplication of developmental projects, increased efficiencies due to streamlining of activities, and higher likelihood of success due to consideration of WEF nexus trade-offs and synergies. Thus, ensuring water, energy and food security has been the main point of discussion in the continent focusing on improving livelihoods, building resilience, and regional integration. Achieving these developmental targets has been hampered by sectoral approaches to resource management and utilization. water, energy and food resources are vital for human wellbeing, poverty reduction and sustainable development and their management is vital for sustainable development.

4. Relevance to the African continent

As a knowledge generating organisation, the WRC has a responsibility to drive alignment of its international cooperation initiatives or focus areas linked with SADC Secretariat programme on WEF nexus, regional food and energy securities and other African programmes. The challenges that the continent is facing makes it urgent for the continent to adopt sustainable development approaches such as the WEF nexus approach.

These include, but are not exclusive to:

- (a) The poverty-unemployment-inequality nexus.
- (b) Rapid population growth across the region.
- (c) Rural to urban migration due to lack of job opportunities in rural areas.
- (d) Water scarcity, which is being exacerbated by climate variability and change.
- (e) Increasing demand for food due to population growth and dietary transitions and increasing food insecurity among the rural poor, increasing energy demand to meet regional and the continent's economic development goals.

5. Deliverable Guidelines

- (a) Conduct a state-of-the-art WEF nexus assessment for southern Africa focused on identifying status, opportunities and identifying possible regional case studies for the WEF nexus. This will include a review of existing water, energy and food policies and strategies at regional level with a view to identifying current and available knowledge for alignment based on the water -energy -food nexus. The review will also highlight opportunities for linking the water-energy-food nexus to the Sustainable Development Goals.
- (b) Develop an applicable and scalable WEF nexus modelling approach for the region that can be applicable at national, basin or regional levels. Mechanisms for identifying local research champions for the water-energy-food nexus and strengthening of the current database of professionals working on the water-energy-food nexus.
- (c) Apply the model and framework to assess rural livelihoods, health and wellbeing in southern Africa at national, basin and regional level.
- (d) Apply the WEF nexus model for scenario planning and to assess SDG performance for at regional and basin level.
- (e) Apply the model and framework to develop recommendations for implementation of the WEF nexus and propose suitable scale of application.
- (f) Develop research agenda for funding research and development on the water-energy-food nexus. Identify policy and research gaps, and make specific actionable recommendations for promoting the water-energy-food nexus approach in southern Africa.

6. Alignment to the WRC Knowledge tree objectives

The project should also include one or more of the WRC Knowledge tree objectives of:

- Informing policy and decision making.
- Developing new products for economic development.
- Empowering local communities.
- Driving sustainable development solutions.
- Enhancing human capital development.

7. Time Frame: R 36 months

8. **Budget:** A maximum of R2 000 000. 00 per project over a period of three years. This is for the whole project and not only for the SA partners. The proposal must reflect the overall project budget and a breakdown for each partner as per contribution in the project.

9. Eligibility criteria

9.1 Eligible institutions from South Africa and other African countries

- (a) Universities;
- (b) Science Councils/Research Institution; and
- (c) Private sector/companies conducting research and development.

9.2 Eligible applicants

A South African lead partner from any of the above-mentioned institutions and the project should also include at least one additional partner/s from any other African country also from the above-mentioned or equivalent institutions. All projects proposals must be coordinated by a South African partner who will also be responsible to submit the proposal to the WRC by the due date and ensure that all project deliverables are met including those implemented by the non-SA partners.

9.3 Eligible cost

Direct project related cost - personnel, project activities and procurement of equipment.

Other direct costs: consumables and travel costs to participate in the project related meetings.

All projects that do not comply with any of the eligibility criterion will be disqualified.

There must be a clear distinction of new elements and value addition to projects that have been previously funded by the WRC through national calls. Failure to clearly distinguish the new elements will lead to the project being rejected.

10. Application process

All proposals must be submitted by the SA partner/Coordinator on behalf of the consortium to the WRC through our new and improved project management system, **“the BMS portal”** <https://wrc.microsoftcrmportals.com/> by the deadline of 31 May 2019 at 16:00 SA time. Applicants that have not submitted proposal using the previous system (FMS) will be required to register first before they can upload their proposal. The WRC will further enter into contract with the SA partner on behalf of the consortium. The SA partner will be expected to establish a consortium agreement with all partners which further reflect the budget breakdown per partner deliverables and transfer timetable.

Portal link to register and apply: <https://wrc.microsoftcrmportals.com/>

System Support Requests should be directed to: bms-support@wrc.org.za

Call related questions and requests should be addressed to **Mr Tiyani Chauke** at E-mail: TiyaniC@wrc.org.za or Telephone: +27 12 761 9304.