water & sanitation
Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA

WATER RESEARCH COMMISSION

TERMS OF REFERENCE FOR A SOLICITED WRC PROJECT

THEME	**Water Availability**
TITLE	**Catchment Assessment Study and Water Allocation Plan towards compulsory licensing in the Middel and Klein Letaba River catchments**
TOR NUMBER	**1010041**

Rationale

The National Water Act (NWA) enables the Minister of Water and Sanitation to initiate a process of compulsory licensing to review, reallocate, or confirm existing water use entitlements in a particular area. Sections 43-48 of the NWA set out the framework and triggers for compulsory licensing. These include areas where the demand for water exceeds, or will soon exceed, the available supply, or where it is necessary to protect the quality of water resources. Compulsory licensing also provides a mechanism for reviewing and addressing inequalities that exist in how water is allocated between existing users, or to make provision for the entrance of new users.

Ultimately, it provides a tool for the Minister to facilitate more efficient water resource management and use, protect the quality of water resources, and address problems of over-allocation and inequitable allocation. This enables the country's limited water resources to be allocated in a way that redresses race and gender inequalities, addresses poverty, generates economic growth, creates jobs, promotes social stability and stimulates investor confidence.

The Water Research Commission (WRC) is working with the Department of Water and Sanitation (DWS) to accelerate the implementation of compulsory licensing. The scope of work outlined in these terms of reference focuses on the development of a Catchment Assessment Study (CAS) and a Water Allocation Plan (WAP) to support compulsory licensing in the Middel and Klein Letaba River catchments (quaternary catchments B82A-J), hereafter referred to as Letaba, in Limpopo Province (Appendix A).

Reallocating water through compulsory licensing requires intensive studies that provide detailed information on water availability, water use, socio-economic attributes etc. These preparatory/prerequisite

studies, which take the form of a CAS and WAP, provide a critical foundation for decision-making processes towards compulsory licensing.

The CAS and WAP will compile, analyse and summarise information necessary for compulsory licensing through a transparent, participatory approach. The key point of departure is that stakeholders can only participate meaningfully in compulsory licensing if they have a good understanding of historical and current water use, the socio-economic situation, future water requirements in the catchment and potential scenarios for more equitable and sustainable sharing of water.

Drafting of the CAS and WAP will rely on existing secondary data available from a range of sources, including:

- National Water Resource Strategies (NWRS 1-3)
- Integrated Development Plans (IDPs) for local governments in the study area
- Integrated Sustainable Rural Development Plans (ISRDPs) for the catchments under assessment
- The most recent Census data
- DWS studies on water conservation and demand management in the study area
- Reserve determination studies and gazettes
- Relevant DWS reconciliation studies
- DWA databases including WARMS, Existing Lawful Use and others
- Relevant sectoral plans
- Stakeholders within the study area

Catchment Assessment Study

The purpose of the CAS is to provide a historic and status quo overview with respect to water availability, water use, likely future scenarios for water demands, and possible opportunities to reconcile water demands with the system's water yield. Particular care should also be taken to account for possible informal or customary users of water, and the problems being faced by the rural poor with respect to assurance of water supply for their basic needs (including basic food security needs).

The CAS must also outline the present state of infrastructure in relation to its current and planned capacity and the stakeholders' indications of the required infrastructure needs. Lastly, work must outline the present socio-economic status of the population of the study area, including current levels of poverty, income, and employment.

In addition to providing a more complete report on the above, a simplified 5-10 page summary in the main local languages is required.

The assessment must make use of existing data. An important initial stage of CAS development will be to identify, in collaboration with DWS, the Limpopo-Olifants Catchment Management Agency (LOCMA) and

WRC, what data is required and what data is available. The completeness and appropriateness of existing data will need to be assessed. Where data gaps are identified, strategies for addressing these gaps will need to be developed by the research team.

The CAS must include at least the following components:

1. Historic overview of the catchment

   Historic overview of the study area, using existing data, to provide a picture of historic allocations and trends in supply and demand for water.

2. Current water use in the catchment

   Water use in the study area with respect to current users of water, use by sector, volumes and the purpose of water use. This should include licensed water use, Existing Lawful Use, General Authorisations, Schedule 1 and unauthorised use. Estimates of the extent of unauthorised use should be generated, using existing data or desktop analysis. Particular attention must be paid to the needs of the rural poor and historically disadvantaged individuals (HDIs) currently using water for irrigation. Analysis of current water users must include a breakdown by race and gender in the case of water use by individuals.

   This work must draw on the existing information on water use available in Water Use Authorization and Registration Management System (WARMS) database, Existing Lawful Use database and compliance monitoring and enforcement databases.

3. Current economic returns from use of water in the catchment

   This component must include a breakdown of the monetary value generated (or contribution to Gross Domestic Product) per cubic metre of water. Analysis should include related externalities and clearly state any assumptions and data limitations. Employment per sector and related downstream industries, such as food processing related to agricultural production, must also be included.

4. Water conservation and demand management measures at water user level

   Assessment of the potential for water conservation and demand management in each of the water user sectors. Industry benchmarking must be done to determine the potential savings. This must include an assessment of the amount of water this may release, the timing and investment required to release this water.

5. Reserve requirements for the catchment

   The Reserve has been determined for the water resources in the Letaba catchment[1]. This information must be factored into the CAS analysis and presented in a manner that stakeholders can understand and use. This task must also include implications of the Reserve in relation to

[1] https://www.dws.gov.za/wem/currentstudies/doc/usuthu%20reports/inkomati/Olifants%20Letaba%20Gazzetted%20Reserve.pdf

compulsory licensing. Modelling and other tools to be used for this purpose must be specified in the proposal and the approach to be followed will be confirmed with DWS and LOCMA at project inception. Where there are gaps in the existing information, recommendations must be made in this regard.

6. Socio-economic status of communities in the catchment

   This component will provide a summary with respect to average household income for the different communities, current unemployment rates, social structures and ownership of land, and water services provision. Opportunities for productive use of water by Historically Disadvantaged Individuals (HDIs) must be examined, including summarising current national, provincial and local planning initiatives, particularly with respect to municipal Integrated Development Plans (IDPs). Similarly current plans, programmes and strategies for rural development, land reform and other relevant sectoral initiatives must be explored.

Water Allocation Plan

It is clear that there are many competing demands for water for economic growth, social and economic justice, and the environment the uMngeni system. To address this challenge, an allocation framework must be developed to balance the sharing of water between the environment, existing lawful users and new potential productive users of water. It must also make sure there is enough water to support IDPs and local plans to grow the economy. The WAP aims at finding new opportunities where HDIs can use water to alleviate poverty, increase food security and establish larger-scale commercial operations (productive use of water). The final WAP is a legal document that sets out agreed rules and principles for guiding the allocation and reallocation of water in the catchment.

The WAP will have to take into account the hierarchy of priorities outlined in the NWRS-3[2] for allocating water, as well as section 45(2) of the NWA. It will show the impact of allocations on the water resource, which means how the proposed water use will affect the environment and other water users in the catchment. Secondly, it will consider the benefits to the public, which implies how the proposed water use will help HDIs, especially women, how jobs will be created and whether it will support local and regional economic development plan. The process therefore aims to solve the problem of over-allocation, bring about equitable distribution of water, address the plight of the rural poor and promote gender equality.

The study must essentially consist of at two simultaneous and mutually reinforcing processes. The technical and legal process to determine the availability of water, identify opportunities for use, and develop scenarios that will guide the implementation of compulsory licensing. The second process will ensure the involvement of all interested and affected parties in every stage of the development of the plan. These two processes will be executed in parallel. Stakeholder involvement is essential to ensure that all interested and affected parties reach consensus across critical issues in order to allow for a smooth transition towards the

[2] Page 35, section 6.3

compulsory licensing process. This is in line with the NWA, which requires active stakeholder participation in water resources management. It is also particularly important for compulsory licensing given the possible legal implications of re-allocating water.

The main objective of the study is to identify how much water is available in the Letaba system and thereafter to develop a framework for the equitable, sustainable and efficient allocation of this water. The available water must be reconciled with identified options for using this water beneficially by all. The last step is to identify the institutional frameworks and other infrastructure that must be in place to facilitate water allocation uptake by HDIs. In developing the plan, care must be taken to understand the effects of re-allocating water on all economic levels i.e. local, national and international economy, and that the implementation of the plan will not merely shift poverty from one sector to another, (e.g. from the rural poor to farm labourers), but will in fact increase the economy of the region as a whole. In short, the WAP must address the problem of over-allocation, bring about equitable distribution of water, address the plight of the rural poor and promote gender equality.

The WAP must include at least the following components:

1. Water allocation framework

   An allocation framework will give practical ideas for how water allocation can be balanced between the environment, existing lawful users and new potential productive users of water. It must also make sure there is enough water to support IDPs and local plans to grow the economy. The framework must take account of the NWRS-3 prioritisation hierarchy and show how the remaining water can be allocated between different users/sectors, identify the best ways to allocate water to HDIs and other new water users. It will also show if and how curtailing of water to Existing Lawful Users, as defined in section 32 of the NWA, needs to be done and the economic impact curtailment will pose.

2. Opportunities for productive water use with particular emphasis on HDIs

   This component will establish where there may be physical constraints on water use, or where other factors such as land ownership or land claims may influence the availability of land for specific projects. Attention must be given to the full range of enablers to allow HDIs to take up and use water productively. Conversely, this task will also serve to identify land that is eminently suitable for development. Information on the available infrastructure with respect to bulk water supply and water distribution must be gathered in order to identify areas where spare capacity may be available. The efficiency and validity of the existing structures must be reviewed and its applicability to the various aspects of productive water use must be deliberated on and recommendations for competent and valuable platforms for interaction must be put forward.

3. Local, provincial and national planning initiatives that need water, or that could support the productive use of water by HDIs

   Linked to the above, there is a need to identify strategies, plans and programmes that enable HDIs to take up water for productive use. This must take into account the full range of enabling factors for these opportunities to be taken up and determine the timing of these factors to be in place. It is important to note that the existing planning initiatives may not provide details and discussions with the relevant authorities will be required.

4. Water availability, requirements, and identify possible curtailments

   The main thrust of this task will be to quantitatively understand the water availability, requirements and the extent to which reasonable curtailment strategies can beneficially impact on the water balance as part of the process to reconcile water requirements with available water. This will entail examining the current and future demands of water user sectors in the catchment, identifying opportunities to make more water available and undertaking a scenario analysis of potential curtailments, if such will be required.

5. Socio-economic impacts of water re-allocation

   The re-allocation of water will have positive and negative socio-economic impacts, and decision makers need to be aware of these impacts and factor them into their decision making. The NWA does not provide guidance on how to assess socio-economic impacts but does state that in situations that an existing lawful user receives a reduced allocation through a re-allocation process, compensation can be sought if this results in severe economic prejudice. Guidance on undertaking such assessments of the socio-economic impact of water re-allocation has been developed[3] and can be applied and further developed through this project.

   The task must estimate the economic return relative to the water use for each sector, as well as number of jobs created. In cases where associated industries benefit from a primary water use , for example, the fruit packing industry is directly reliant of the irrigation sector, this must also be quantified and reported on. In developing the plan, care must be taken to understand the effects of re-allocating water on all economic levels i.e. local, national and international economy, and that the implementation of the plan will not merely shift poverty from one sector to another, (e.g. from the rural poor to farm labourers), but will in fact increase the economy of the region as a whole. In short the WAP must address the problem of over-allocation, bring about equitable distribution of water, address the plight of the rural poor and promote gender equality.

6. Water Allocation Plan

   The WAP will outline the principles or rules under which water can be allocated through compulsory licensing to achieve the objectives of redress, equity and beneficial use of the resource. Principles for the transfer or trading of water allocations are also included. The NWA requires that the water

[3] http://wrcwebsite.azurewebsites.net/wp-content/uploads/mdocs/3170%20Final.pdf

needs of the environment (i.e. basic human needs and ecological Reserve) and water requirements to meet international obligations must be taken into account when determining the quantity of water available for allocation for consumptive use.

In carrying out the work of developing the CAS and WAP, it will be essential to work closely with DWS and LOCMA, which will be leading the compulsory licensing process. The approach to be used in developing the CAS and WAP must be specified in the proposal and will be confirmed with DWS and LOCMA at contracting and project inception stages.

Objectives

General

Develop a Catchment Assessment Study and Water Allocation Plan to support compulsory licensing in the Middel and Klein Letaba River catchments

Specific

1. Produce a Catchment Assessment Study for the Middel and Klein Letaba
2. Develop a Water Allocation Plan to support compulsory licensing in the Middel and Klein Letaba
3. Use these processes to publicise and engage interested and affected parties in preparations for compulsory licensing
4. Formulate recommendations for the implementation of compulsory licensing in the Middel and Klein Letaba

Deliverables

The following deliverables are indicative and may be tailored to suit the proposed approach:

1. Inception report including a comprehensive project implementation plan and proposed coordination structures
2. Draft CAS
3. Draft WAP
4. Workshops and other mechanisms for stakeholder involvement
5. Final CAS
6. Final WAP
7. Summary of CAS in at least three local languages, including all necessary editing and design
8. Catalogue and digital archive of all data collected
9. Final project report

Notes:

1. Proposals must be submitted online via the WRC Business Management System (BMS). A user guide to BMS is available here. For technical queries regarding BMS, contact bms-support@wrc.org.za. **Closing date for submission of proposals is 16:00 on 12 August 2025**.
2. Prior to capturing a proposal on BMS, proposers should familiarise themselves with the guidelines for submission of research proposals. Please take note of the section in the guidelines on budgeting.
3. Project team composition must reflect the full range of experience and skills necessary to undertake this assignment. Proposals must include the details of all team members, their experience and expertise relevant to this assignment and their role in the project.
4. Contact person for enquiries on these terms of reference: John Dini (johnd@wrc.org.za)

Time Frame:

Planned project start date: 1 November 2025

Duration: 12 months

Total Funds Available:

R1,500,000 including VAT

Appendix A

Map of the Middel and Klein Letaba catchments