



**MINISTER  
WATER AND SANITATION  
REPUBLIC OF SOUTH AFRICA**

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Ms Irina Bokova  
Director-General  
UNITED NATIONS EDUCATIONAL, SCIENTIFIC AND CULTURAL ORGANISATION

Mr Christian Friis Bach  
UNITED NATIONS ECONOMIC COMMISSION FOR EUROPE  
Palais de Nations  
8-14 Avenue de la Paix  
1211 Geneva 10  
**SWITZERLAND**

Dear Ms Bokova and Mr Friis Bach

**SOUTH AFRICA: MONITORING OF SDG INDICATOR 6.5.2 ON TRANSBOUNDARY  
WATER COOPERATION**

I refer to your correspondence dated 23 February 2017.

I acknowledge your request for South Africa to submit a national report pertaining to indicator 6.5.2 of the Sustainable Development Goals (SDGs) using the Template forwarded to us by yourselves.

Please note that the required task has been completed by my Department and that the final report was submitted to the United Nations Economic Commission for Europe (UNECE) by email on 15 June 2017 as requested.

For further clarity feel free to contact Ms Deborah Mochotlhi at [MochotlhiD@dws.gov.za](mailto:MochotlhiD@dws.gov.za) or +27 12 336 7255. Alternatively, Ms Lindiwe Lusenga at [LusengaL@dws.gov.za](mailto:LusengaL@dws.gov.za) or +27 12 336 8726.

Yours sincerely

**MRS NP MOKONYANE  
MINISTER OF WATER AND SANITATION**

DATE: 27.07.17.



**water & sanitation**

Department:  
Water and Sanitation  
REPUBLIC OF SOUTH AFRICA

# **SOUTH AFRICA**

## **DEPARTMENT OF WATER AND SANITATION**

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### **Monitoring Of SDG Indicator 6.5.2 On Transboundary Water Cooperation**

Compiled By The Branch  
Planning And Information Management

**June 2017**

## Reporting on the global SDG indicator 6.5.2

### EXPLANATORY NOTE

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#### A. Background

In 2015, the United Nations General Assembly adopted the 2030 Agenda for Sustainable Development and its Sustainable Development Goals (SDGs), including SDG 6 to ensure availability and sustainable management of water and sanitation for all.

To review progress towards the SDGs, United Nations Member States, through the Inter-agency and Expert Group on SDG Indicators (IAEG-SDGs), developed in late 2015 and early 2016, a global indicator framework, which was subsequently adopted by the United Nations Statistical Commission in March 2016.

Target 6.5 calls for countries to implement integrated water resources management at all levels, including through transboundary cooperation, as appropriate. To measure progress on transboundary cooperation in accordance to target 6.5, indicator 6.5.2 was adopted. The indicator is defined as the “*percentage of transboundary basin<sup>1</sup> area with an operational arrangement for transboundary cooperation*”.

For SDG 6, UN-Water has been coordinating the technical input to the IAEG-SDGs on the relevant indicators and the methodologies for their measurement. UNECE and UNESCO have led the development of the step-by-step methodology to calculate indicator 6.5.2. For each indicator, the IAEG-SDGs has proposed custodian agencies at the global level. Given their mandate on transboundary water issues, UNECE and UNESCO have been proposed as custodian agencies for indicator 6.5.2. Recognizing the importance of integration across SDG 6, the relevant custodian agencies for this goal are collaborating under the Integrated Monitoring of Water and Sanitation Related SDG Targets (GEMI), operating under the UN-Water umbrella.<sup>2</sup>

Reporting through the present template will help to gather information on the progress on transboundary cooperation under Sustainable Development Goal (SDG) 6, target 6.5 in accordance with global indicator 6.5.2. It will also contribute to the UN-Water SDG 6 Integrated Monitoring initiative GEMI.

#### B. Content of the template

In order to collect complete information, simplify the task of reporting and streamline the compilation of information received by countries, the template is shaped as a questionnaire to be filled out.

The template is divided into four parts:

- Section I - Calculation of SDG indicator 6.5.2
- Section II - Information on each transboundary basin or group of basins
- Section III - General information on transboundary water management at the national level
- Section IV - Final questions

While Section I of the template has been prepared by UNECE and UNESCO in the framework of the UN-Water's indicators development activities in support of the Inter-Agency Expert Group on SDGs (IAEG-SDGs), Sections II to IV are based on a questionnaire developed by Member States in the framework of the Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Water

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<sup>1</sup>**Transboundary basins** are basins of transboundary waters, that is, of any surface waters (notably rivers, lakes) or groundwater/aquifers which mark, cross or are located on boundaries between two or more States.

<sup>2</sup>For more information, see <http://www.unwater.org/gemi/en/>.

Convention), serviced by UNECE, to monitor progress on transboundary cooperation and implementation of the Convention.<sup>3</sup>

Questions can be either “closed”, Yes /No, with appropriate boxes to tick; “open”, requiring further information to be supplied, indicated by the words in square brackets [fill in]; or a combination of both.

Depending on the country situation, it will not always be necessary to fill in extra information where space is provided for this. Please answer open questions very briefly, and in less than 200 words, using bullet points as appropriate. The reporting country can make reference to the reporting under other multilateral environmental agreements to which the country is a Party.

### **C. Who should report and how?**

All countries having transboundary basins in their territory are invited to report.

All reporting countries are kindly invited, when possible, to fill all sections of the template, as they allow outlining a complete picture of the situation concerning transboundary water cooperation. The overall template can be useful to track progress more closely beyond the indicator value and better describe the current baseline. This is valuable also because inevitably the indicator is based on a number of criteria defining minimum thresholds and the information in Sections II to IV can allow tracking progress towards the different criteria.

Section II will need to be completed for each transboundary basin, (i.e. basin of rivers and lakes or aquifers which mark, cross or are located on boundaries between by two or more States)(please just copy the template for these questions and fill out again for each additional transboundary basin). Countries may coordinate responses with other States with which they share transboundary basins or even prepare a joint report for shared basins.

### **D. Use of the reported information**

Reporting has primarily a national importance and usefulness to inform decision-making at the national and transboundary level.

At the global level, data collected through this reporting will be elaborated to define the global baseline for the status of transboundary cooperation in accordance to indicator 6.5.2. Results, including synthesis reports, will be submitted to the High Level Political Forum in July 2018 which will focus, among others, on the in depth review of SDG 6.

A discussion on the advancement of transboundary cooperation worldwide considering the results of the reporting exercise will also take place in the framework of the eight session of the Meeting of the Parties to the Water Convention, to be held at the end of 2018.

### **E. Deadline for reporting**

Countries are invited to submit their filled in template by **15 June 2017** to the United Nations Economic Commission for Europe (UNECE) and the United Nations Educational, Scientific and Cultural Organization (UNESCO).

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<sup>3</sup>The Water Convention aims to protect and ensure the quantity, quality and sustainable use of transboundary water resources by facilitating cooperation. Originally negotiated as a regional instrument for the UNECE region, the Convention turned into a universally available legal framework for transboundary water cooperation, following an amendment procedure. As of 1st March 2016, all United Nations Member States can accede to the Convention (for more information, see <http://www.unece.org/env/water/>).

Countries are invited to submit, to the two addresses below, an original signed copy by post and an electronic copy by e-mail. Electronic copies should be made available in both pdf format (for the signed copy) and word-processing software. Any graphic elements should be provided in separate files.

Addresses

United Nations Economic Commission for Europe (UNECE) Palais des Nations 1211 Geneva 10 Switzerland	United Nations Educational, Scientific and Cultural Organization (UNESCO) 7 Place de Fontenoy 75015Paris France
E-mail : <a href="mailto:transboundary_water_cooperation_reporting@unece.org">transboundary_water_cooperation_reporting@unece.org</a>	E-mail : <a href="mailto:transboundary_water_cooperation_reporting@unesco.org">transboundary_water_cooperation_reporting@unesco.org</a>

**SECTION I. CALCULATION OF SDG INDICATOR 6.5.2**

## Reporting on the global SDG indicator 6.5.2

### TEMPLATE

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Country name: [SOUTH AFRICA]

#### Section I. Calculation of SDG indicator 6.5.2

##### a. Methodology

This section allows for the calculation of the Sustainable Development Goal global indicator 6.5.2, which is defined as *the proportion of transboundary basins' area with an operational arrangement for water cooperation*. The information gathered in Section II, will help in completing this section. The Step-by-step monitoring methodology for SDG indicator 6.5.2<sup>4</sup>, developed by UNECE and UNESCO in the framework of UN Water, can be referred to for details on the necessary data, the definitions and the calculation.

The value of the indicator at the national level is derived by **adding up the surface area in a country of those transboundary surface water catchments and transboundary aquifers (i.e. 'transboundary' basins) that are covered by an operational arrangement and dividing the obtained area by the aggregate total area in a country of all transboundary basins (both catchments and aquifers)**.

**Transboundary basins** are basins of transboundary waters, that is, of any surface waters (notably rivers, lakes) or groundwaters which mark, cross or are located on boundaries between by two or more States. For the purpose of the calculation of this indicator, for a transboundary river or lake, the basin area is determined by the extent of its catchment. For groundwater, the area to be considered is the extent of the aquifer.

An **"arrangement for water cooperation"** is a bilateral or multilateral treaty, convention, agreement or other formal arrangement among riparian countries that provides a framework for cooperation on transboundary water management.

For an arrangement to be considered **"operational"** all the following criteria needs to be fulfilled:

- There is a joint body, joint mechanism or commission (e.g. a river basin organization) for transboundary cooperation,
- There are regular (at least once per year) formal communications between riparian countries in form of meetings (either at the political or technical level);
- There is a joint or coordinated water management plan(s), or joint objectives have been set, and
- There is a regular (at least once per year) exchange of data and information.

##### b. Calculation of indicator 6.5.2

Please list in the tables below the transboundary basins (rivers and lakes and aquifers) in your country's territory and provide the following information for each of them:

- the country/ies with which the basin is shared;
- the surface area of these basins (the catchment of rivers or lakes and the aquifer in the case of groundwater) within the territory of your country (in km<sup>2</sup>);
- the surface area of these basins within the territory of your country which is covered by a cooperation arrangement that is operational according to the above criteria (please consider the replies to the questions in Section II, in particular questions 1, 2, 3, 4 and 6).

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<sup>4</sup>Available at <http://www.unwater.org/publications/publications-detail/en/c/428764/>.

In case an operational arrangement is in place only for a sub-basin or portion of a basin, please list this sub-basin just after the transboundary basin it is part of. In case there is an operational arrangement for the whole basin, do not list sub-basins in the table below.

**Transboundary basin (river or lake) [please add rows as needed]**

Name of the transboundary basin / sub-basin	Countries shared with	Surface area of the basin / sub-basin (in km <sup>2</sup> ) within the territory of the country	Surface area of the basin / sub-basin (in km <sup>2</sup> ) covered by an operational arrangement within the territory of the country
IncoMaputo River Basin (TPTC)	Republic of South Africa (RSA), Mozambique and Swaziland	58 105 km <sup>2</sup>	58 105 km <sup>2</sup>
Orange Seugy River Basin (ORASECOM)	Republic of South Africa (RSA), Botswana, Lesotho, Namibia	642 000 km <sup>2</sup>	642 000 km <sup>2</sup>
Limpopo River Basin (LIMCOM)	Republic of South Africa (RSA), Mozambique, Botswana and Zimbabwe	412 938 km <sup>2</sup>	412 938 km <sup>2</sup>
<b>Total surface area of transboundary basins / sub-basins of rivers and lakes covered by operational arrangements within the territory of the country ( in km<sup>2</sup>) [A](do not double count sub-basins)</b>			58 105 km <sup>2</sup> 642 000 km <sup>2</sup> 412 938 km <sup>2</sup> TOTAL=1 113 043 km <sup>2</sup>
<b>Total surface area of transboundary basins of rivers and lakes within the territory of the country (in km<sup>2</sup>) [B] (do not double count sub-basins)</b>		58 105 km <sup>2</sup> 642 000 km <sup>2</sup> 412 938 km <sup>2</sup> TOTAL = 1 113 043 km <sup>2</sup>	

**Transboundary aquifers [ see next page - please add rows as needed]**

Name of the transboundary aquifer	Countries shared with	Surface area (in km <sup>2</sup> ) <sup>5</sup> within the territory of the country	Surface area (in km <sup>2</sup> ) covered by an operational arrangement within the territory of the country
Coastal Sedimentary	Mozambique and RSA	10 230 km <sup>2</sup>	10 230 km <sup>2</sup>
Rhyolite-Breccia	Mozambique, Swaziland, RSA	4 916 km <sup>2</sup>	4 916 km <sup>2</sup>
Karoo aquifer	Lesotho and RSA	No yet known	No yet known
Stampriet aquifer	Botswana, Namibia, RSA	No yet known	No yet known
Ramotswa Aquifer	Botswana, RSS	No yet known	No yet known
<b>Total surface area of transboundary aquifers covered by operational arrangements within the territory of the country (in km<sup>2</sup>) [C]</b>			15 146 km <sup>2</sup> of known areas
<b>Total surface area of transboundary aquifers within the territory of the country (in km<sup>2</sup>) [D]</b>		15 146 km <sup>2</sup> of known areas	

#### Indicator value for the country

$$((A+C)/(B+D)) \times 100\% = (1\ 113\ 043 + 15\ 146) / (1\ 113\ 043 + 15\ 146) = 1486189 / 1128189 = 100\%$$

[There are gaps in terms of the area sizes which need to be addressed. The figure here is representative of data available]

#### Additional information

If the respondent has comments that clarify assumptions or interpretations made for the calculation, or the level of uncertainty of the spatial information, please write them here:

**[The areas of Karoo, Stampriet, Ramotswa aquifers have not yet been fully determined]**

<sup>5</sup>For a transboundary aquifer, the extent is derived from the aquifer system delineation which is commonly done relying on information of the subsurface (notably the extent of geological formations). As a general rule, the delineation of a aquifer system is based on the delineation of the extent of the hydraulically connected water-bearing geological formations. Aquifer systems are three-dimensional objects and the aquifer area taken into account is the projection on the land surface of the system. Ideally, when different aquifer systems not hydraulically connected are vertically superposed, the different relevant projected areas are to be considered separately, unless the different aquifer systems are remanaged conjunctively.

**Spatial information**

If a map (or maps) of the transboundary surface water catchments and transboundary aquifers (i.e. 'transboundary basins') is available, please attach them. Ideally, shapefiles of the basin and aquifer delineation that can be viewed in Geographical Information Systems should be sent. (See Annexure 1 - Orasecon)

**SECTION II - INFORMATION ON EACH TRANSBOUNDARY BASIN OR GROUP OF BASINS (1 of 3)**

**TPTC BASIN**

## Section II. Information on each transboundary basin or group of basins

Please complete this second section for each transboundary basin (river, lake or aquifer) or for group of basins covered by the same agreement or arrangement and where conditions are similar. It might also be convenient to group basins or sub-basins for which your country's share is very small.<sup>6</sup> In some instances, you may provide information on both a basin and one or more of its sub-basins, for example, where you have agreements<sup>7</sup> on both the basin and its sub-basin. You may coordinate your responses with other States with which your country shares the basin or aquifer or even prepare a joint report for shared basins. General information on transboundary water management at the national level should be provided in Section III and not repeated here.

Please reproduce the whole Section II with its questions for each transboundary basin, river, lake or aquifer, or group of basins for which you will provide a reply.

**Name of the transboundary basin, river, lake or aquifer, or group thereof, list of the riparian States, and country's share of the basin: TPTC - IncoMaputo River Basin**

1. Is there one or more transboundary (bilateral or multilateral) agreement(s) or arrangement(s) on this basin?

One or more agreements or arrangements exist and are in force

Agreement or arrangement developed but not in force

Agreement or arrangement developed, but not in force for all riparians

*Please insert the name of the agreement or agreements or arrangements:*  
[fill in]

Agreement or arrangement is under development

No agreement

*If there is no agreement or arrangement or it is not in force, please explain briefly why not and provide information on any plans to address the situation:*  
[fill in]

**If there is no agreement or arrangement and no joint body for the transboundary basin, river, lake or aquifer then jump to question 4; if there is no agreement, but a joint body then go to question 3.**

**Questions 2 and 3 to be completed for each bilateral or multilateral agreement or arrangement in force in the transboundary basin (river, lake or aquifer) or group of basins or sub-basins**

2. (a) Does this agreement or arrangement specify the basin area subject to cooperation?

Yes  / No

If yes, does it cover the entire basin, or group of basins, and all riparian States?

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<sup>6</sup>In principle, Section II should be submitted for every transboundary basin, river, lake or aquifer, in the country, but States may decide to group basins in which their share is small or leave out basins in which their share is very minor, e.g., below 1 per cent.

<sup>7</sup>In Section II, "agreement" covers all kinds of treaties, conventions and agreements ensuring cooperation in the field of transboundary waters. Section II can also be completed for other types of arrangements, such as memorandums of understanding.

Yes /No

If not, what does it cover? [fill in]

Or, if the agreement or arrangement relates to a sub-basin, does it cover the entire sub-basin?

Yes /No  N/A

Which States (including your own) are bound by the agreement or arrangement? (*Please list*): [Mozambique, Swaziland and RSA]

(b) Are aquifers (or groundwater bodies) covered by the agreement/arrangement?

Yes /No

(c) What is the sectoral scope of the agreement or arrangement?

- |                               |                                     |
|-------------------------------|-------------------------------------|
| All water uses                | <input checked="" type="checkbox"/> |
| A single water use or sector  | <input type="checkbox"/>            |
| Several water uses or sectors | <input type="checkbox"/>            |

*If one or several water uses or sectors, please list (check as appropriate):*

**Water uses or sectors**

- |                                           |                                     |
|-------------------------------------------|-------------------------------------|
| Industry                                  | <input checked="" type="checkbox"/> |
| Agriculture                               | <input checked="" type="checkbox"/> |
| Transport (e.g., navigation)              | <input checked="" type="checkbox"/> |
| Households                                | <input checked="" type="checkbox"/> |
| Energy: hydropower and other energy types | <input checked="" type="checkbox"/> |
| Tourism                                   | <input checked="" type="checkbox"/> |
| Nature protection                         | <input checked="" type="checkbox"/> |
| Other ( <i>please list</i> ): [fill in]   |                                     |

(d) What topics or subjects of cooperation are included in the agreement or arrangement?

**Procedural and institutional issues**

- |                                                |                                     |
|------------------------------------------------|-------------------------------------|
| Dispute and conflict prevention and resolution | <input checked="" type="checkbox"/> |
| Institutional cooperation (joint bodies)       | <input checked="" type="checkbox"/> |
| Consultation on planned measures               | <input checked="" type="checkbox"/> |
| Mutual assistance                              | <input checked="" type="checkbox"/> |

**Topics of cooperation**

- |                                           |                                     |
|-------------------------------------------|-------------------------------------|
| Joint vision and management objectives    | <input checked="" type="checkbox"/> |
| Joint significant water management issues | <input checked="" type="checkbox"/> |
| Navigation                                | <input checked="" type="checkbox"/> |

Environmental protection (ecosystem)	√
Water quality	√
Water quantity or allocation	√
Cooperation in addressing floods	√
Cooperation in addressing droughts	√
Climate change adaptation	√

**Monitoring and exchange**

Joint assessments	√
Data collection and exchange	√
Joint monitoring	√
Maintenance of joint pollution inventories	√
Elaboration of joint water quality objectives	√
Common early warning and alarm procedures	√
Exchange of experience between riparian States	√
Exchange of information on planned measures	√

**Joint planning and management**

Development of joint regulations on specific topics	√
Development of international or joint river, lake or aquifer basin management or action plans	√
Management of shared infrastructure	√
Development of shared infrastructure	√
Other ( <i>please list</i> ): [fill in]	

(e) What are the main difficulties and challenges that your country faces with the agreement or arrangement and its implementation, if any (*please describe, if applicable*): [fill in]

(f) What are the main achievements in implementing the agreement or arrangement and what were the keys to achieving such success? [**Integrated Water Resource Management**]

(g) Please attach a copy of the agreement or arrangement or provide the web address of the document (*please attach document or insert web address, if applicable*): [fill in]

3. Is your country a member of an operational joint body or joint bodies for this agreement/arrangement?

Yes /No

*If no, why not? (please explain):* [fill in]

**Where there is a joint body (or bodies)**

(a) If there is a joint body, which kind of joint body (*please tick one*)?

- Plenipotentiaries
- Bilateral commission
- Basin or similar commission
- Other (*please describe*): [fill in]

(b) Does the joint body cover the entire transboundary basin or sub-basin, river, lake or aquifer, or group of basins, and all riparian States?

Yes /No

(c) Which States (including your own) are member of the joint body? (*Please list*) [**Mozambique, Swaziland and RSA**]

(d) Does the joint body have any of the following features (*please tick the ones applicable*)?

A secretariat   
*If the secretariat is a permanent one, is it a joint secretariat or does each country host its own secretariat? (Please describe):* [**Joint Secretariat/Interim Secretariat**]

A subsidiary body or bodies   
*Please list (e.g., working groups on specific topics):* [fill in]  
 Other features (*please list*): [fill in]

(e) What are the tasks and activities of this joint body?<sup>8</sup>

- Identification of pollution sources
- Data collection and exchange
- Joint monitoring
- Maintenance of joint pollution inventories
- Setting emission limits
- Elaboration of joint water quality objectives
- Management and prevention of flood or drought risks
- Preparedness for extreme events, e.g., common early warning and alarm procedures
- Water allocation and/or flow regulation
- Policy development
- Control of implementation
- Exchange of experience between riparian States
- Exchange of information on existing and planned uses of water and related installations
- Settling of differences and conflicts

<sup>8</sup>This may include tasks according to the agreement or tasks added by the joint body, or its subsidiaries. Both tasks which joint bodies coordinate and tasks which they implement should be included.

- Consultations on planned measures ✓
- Exchange of information on best available technology ✓
- Participation in transboundary EIA ✓
- Development of river, lake or aquifer basin management or action plans ✓
- Management of shared infrastructure ✓
- Addressing hydromorphological alterations ✓
- Climate change adaptation ✓
- Joint communication strategy ✓
- Basin-wide or joint public participation and consultation of, for example, basin management plans ✓
- Joint resources to support transboundary cooperation ✓
- Capacity-building ✓
- Any other tasks (*please list*): [fill in]

(f) What are the main difficulties and challenges that your country faces with the operation of the joint body, if any? **Exchange of, and access to information from othr riparian states**

- Governance issues ✓

*Please describe, if any:* [**Lack of a permanent River Basin organisation makes it difficult to coordinate the list of activities below**]

- Unexpected planning delays

*Please describe, if any:* [fill in]

- Lack of resources ✓

*Please describe, if true:* [**Financial**]

- Lack of mechanism for implementing measures

*Please describe, if true:* [fill in]

- Lack of effective measures

*Please describe, if true:* [fill in]

- Unexpected extreme events

*Please describe, if any:* [fill in]

- Lack of information and reliable forecasts

*Please describe, if any:* [fill in]

Others (*please list and describe, as appropriate*): [fill in]

(g) If not all riparian States are members of the joint body how does the body cooperate with them? [**Cooperation is either bilateral or all encompassing**]

- No cooperation

- They have observer status

Other (*please describe*): [fill in]

(h) Does the joint body or its subsidiary bodies meet regularly?

Yes /No

If yes, how frequently does it meet? [**Twice per annum**]

(i) What are the main achievements with regards to the joint body? [**Successful Integrated Water Resource Planning (IWRP)**]

(j) Are representatives of international organizations invited to the meetings of the joint body (or bodies) as observers?

Yes /No

(k) Did the joint body ever invite a coastal State to cooperate?

Yes /No  (**because RSA is already a coastal state**)

*If yes, please give details. If no, why not?*[fill in]

4. Is there a joint or coordinated management plan (such as an action plan or a common strategy) or have joint objectives been set specifically on the transboundary waters subject to cooperation?

Yes /No

*If yes, please provide further details:* [**There is a common strategy for the Inco Maputo RBO in respect of equitable water sharing**]

5. How is the transboundary basin, river, lake or aquifer protected, including the protection of ecosystems, in the context of sustainable and rational water use?

Afforestation

Restoration of ecosystems

Environmental flow norms

Groundwater measures (e.g., protection zones)

Other measures (*please list*): [**On the RSA side of the Basin, water is released for environmental reasons. There is are programmes similar to the Working for Water programme which contributes towards the two ticked items above**]

6. (a) Does your country exchange information and data with other riparian States in the basin?

Yes /No

(b) If yes, on what subjects are information and data exchanged?

Environmental conditions

Research activities and application of best available techniques

Emission monitoring data

Planned measures taken to prevent, control or reduce transboundary impacts

Point source pollution sources

Diffuse pollution sources

- Existing hydromorphological alterations (dams, etc.)
- Discharges-[**dam levels, rivers stage and-flow volumes**]
- Water abstractions –[**flow volumes-flow volumes**]
- Future planned measures with transboundary impacts, such as infrastructure development [**Dam developments within the 3 countries**], i.e.**Silinganedam in Swaziland , Moamba Major in Mozambique and a Dam on lower Crocodile in RSA**]
- Other subjects (*please list*): [fill in]

(c) Is there a shared database or information platform?

Yes /No  [**Conducted joint studies between RSA, Mozambique and Swaziland**]

(d) Is the database publicly available?

Yes /No

*If yes, please provide the web address:* [www.dws.gov.za]

(e) What are the main difficulties and challenges to data exchange, if applicable? (*please describe*): [**Not everyone has access to the internet**]

(f) What are the main benefits of data exchange on the transboundary waters subject to cooperation? (*please describe*): [**Early warning to impending disasters-floods, droughts, spills etc**]

7. Do the riparian States carry out joint monitoring in the transboundary basin, river, lake or aquifer?**Joint monitoring is completed on selected water sources at the incomaputo rivers, Joint monitoring is completed at the Driekoppies and Magugadams**

Yes /No

(a) If yes, what does the joint monitoring cover?

	Covered?	Hydrological	Ecological	Chemical
Border surface waters	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Surface waters in the entire basin	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Surface waters on the main watercourse	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Connected aquifers (or groundwaters)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Unconnected aquifers (or groundwaters)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(b) If joint monitoring is carried out, how is this done?

**[ For the theDriekoppies and Maguga dams the Komati Basin Water Authority(KOBWA) is responsible for the overall operation and monitoring.Standard monitoring procedures are applicable in this case. KOBWA is comprised of staff from both RSA and Swaziland( Having this in mind ierms 8-9 are covered)]**

National monitoring stations connected through a network or common stations

Joint and agreed methodologies

Joint sampling

Common monitoring network

Common agreed parameters

(c) Please describe the main achievements regarding joint monitoring, if any: **[Foosters trust and cooperation]**

(d) Please describe any difficulties experienced with joint monitoring:  
**[ n/a]**

8. Do the riparian States carry out joint assessment of the transboundary basin, river, lake or aquifer?

Yes /No

*If yes, please provide the date of the last or only assessment, the frequency and scope (e.g., surface waters or groundwaters only, pollution sources, etc.) of the assessment: **[Refer to 7b]***

9. Have the riparian States agreed to use joint water quality standards?

Yes /No  **[Refer to 7b]**

*If yes, is the basis an international or regional standard (please specify which) or has it been adapted from the national standards of the riparian States?  
[fill in]*

10. What are the measures implemented to prevent or limit the transboundary impact of accidental pollution?

Notification and communication

**(Focul points direct communication via inernet and phone calls)**

Coordinated or joint alarm system for accidental water pollution

Other (*please list*): [fill in]

No measures

*If not, why not? What difficulties does your country face in putting in place such measures?:[fill in]*

11. What are the measures implemented to prevent or limit the transboundary impact of extreme weather events?

Notification and communication

**(Focul points direct communication via inernet and phone calls)**

Coordinated or joint alarm system for floods

Coordinated or joint alarm system for droughts

**[System operation coordination via the TPTC Technical Team to review flow regimes and stakeholder liason/information]**

Joint climate change adaptation strategy

**[to be implemented via PRIMA 2 or the RBO]**

Joint disaster risk reduction strategy

**[to be implemented via PRIMA 2 or the RBO]**

Other (please list): [fill in]

No measures

*If not, why not? What difficulties does your country face in putting in place such measures?:*[fill in]

12. Are procedures in place for mutual assistance in case of a critical situation?

Yes /No

*If yes, please provide a brief summary:* **[Informal but they do exist e.g Usutu river breach RSA assisted Mozambique by erecting an impemanant sand barrier ]**

13. Are the public or relevant stakeholders involved in transboundary water management in the basin, river, lake or aquifer?

Yes /No

**[Most key stakeholders are involved at strategic level of engagement i.e at TPTC level where all countries are engaging , however, primary stakeholders such as farmers and other basin water users are only engaged through local water authorities in there countries.]**

*If yes, how? (please tick all applicable) (Please note: If your country is a Party to the Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (Aarhus Convention), you may refer to your country's report under that Convention.):*

Stakeholders have observer status in a joint body

*If yes, please specify the stakeholders for each joint body:*

**[Inco Maputo, RBO]**

Availability of information to the public

Consultation on planned measures or river basin management plans<sup>9</sup>

Public involvement

Other (please specify): [fill in]

**Please remember to complete Section II for each of the transboundary basins (rivers, lakes or aquifers). Please also remember to attach copies of agreements, if any.**

<sup>9</sup>Or, where applicable, aquifer management plans.

**SECTION II - INFORMATION ON EACH TRANSBOUNDARY BASIN OR GROUP OF BASINS (2 of 3)**

**ORASECOM BASIN**

## Section II. Information on each transboundary basin or group of basins

Please complete this second section for each transboundary basin (river, lake or aquifer) or for group of basins covered by the same agreement or arrangement and where conditions are similar. It might also be convenient to group basins or sub-basins for which your country's share is very small.<sup>10</sup> In some instances, you may provide information on both a basin and one or more of its sub-basins, for example, where you have agreements<sup>11</sup> on both the basin and its sub-basin. You may coordinate your responses with other States with which your country shares the basin or aquifer or even prepare a joint report for shared basins. General information on transboundary water management at the national level should be provided in Section III and not repeated here.

Please reproduce the whole Section II with its questions for each transboundary basin, river, lake or aquifer, or group of basins for which you will provide a reply.

### **Name of the transboundary basin, river, lake or aquifer, or group thereof, list of the riparian States, and country's share of the basin: [Orasecon - Orange Seugy River Basin]**

1. Is there one or more transboundary (bilateral or multilateral) agreement(s) or arrangement(s) on this basin?

One or more agreements or arrangements exist and are in force

Agreement or arrangement developed but not in force

Agreement or arrangement developed, but not in force for all riparians

*Please insert the name of the agreement or agreements or arrangements:*  
**[Orange Sengu River Commission, Lesotho Highland Water Commission, Joint Irrigation Authority]**

Agreement or arrangement is under development

No agreement

*If there is no agreement or arrangement or it is not in force, please explain briefly why not and provide information on any plans to address the situation:*  
[fill in]

**If there is no agreement or arrangement and no joint body for the transboundary basin, river, lake or aquifer then jump to question 4; if there is no agreement, but a joint body then go to question 3.**

**Questions 2 and 3 to be completed for each bilateral or multilateral agreement or arrangement in force in the transboundary basin(river, lake or aquifer) or group of basins or sub-basins**

2. (a) Does this agreement or arrangement specify the basin area subject to cooperation?

Yes /No

If yes, does it cover the entire basin, or group of basins, and all riparian States?

Yes /No

If not, what does it cover? [fill in]

---

<sup>10</sup>In principle, Section II should be submitted for every transboundary basin, river, lake or aquifer, in the country, but States may decide to group basins in which their share is small or leave out basins in which their share is very minor, e.g., below 1 per cent.

<sup>11</sup>In Section II, "agreement" covers all kinds of treaties, conventions and agreements ensuring cooperation in the field of transboundary waters. Section II can also be completed for other types of arrangements, such as memorandums of understanding.

Or, if the agreement or arrangement relates to a sub-basin, does it cover the entire sub-basin?

Yes /No  N/A

Which States (including your own) are bound by the agreement or arrangement? (*Please list*): [RSA, Botswana, Lesotho, Namibia]

(b) Are aquifers (or groundwater bodies) covered by the agreement/arrangement?

Yes /No

(c) What is the sectoral scope of the agreement or arrangement?

- All water uses
- A single water use or sector
- Several water uses or sectors

*If one or several water uses or sectors, please list (check as appropriate):*

**Water uses or sectors**

- Industry
- Agriculture
- Transport (e.g., navigation)
- Households
- Energy: hydropower and other energy types
- Tourism
- Nature protection
- Other (*please list*): [fill in]

(d) What topics or subjects of cooperation are included in the agreement or arrangement?

**Procedural and institutional issues**

- Dispute and conflict prevention and resolution
- Institutional cooperation (joint bodies)
- Consultation on planned measures
- Mutual assistance

**Topics of cooperation**

- Joint vision and management objectives
- Joint significant water management issues
- Navigation
- Environmental protection (ecosystem)
- Water quality
- Water quantity or allocation

- Cooperation in addressing floods ✓
- Cooperation in addressing droughts ✓
- Climate change adaptation ✓

**Monitoring and exchange**

- Joint assessments ✓
- Data collection and exchange ✓
- Joint monitoring ✓
- Maintenance of joint pollution inventories ✓
- Elaboration of joint water quality objectives ✓
- Common early warning and alarm procedures
- Exchange of experience between riparian States ✓
- Exchange of information on planned measures ✓

**Joint planning and management**

- Development of joint regulations on specific topics
- Development of international or joint river, lake or aquifer basin management or action plans ✓
- Management of shared infrastructure ✓
- Development of shared infrastructure ✓
- Other (*please list*): [fill in]

(e) What are the main difficulties and challenges that your country faces with the agreement or arrangement and its implementation, if any (*please describe, if applicable*): [**water quality, water scarcity, climate change**]

(f) What are the main achievements in implementing the agreement or arrangement and what were the keys to achieving such success? [**Joint Planning, Joint water development**]

(g) Please attach a copy of the agreement or arrangement or provide the web address of the document (*please attach document or insert web address, if applicable*): [**www.orasecom.org**]

3. Is your country a member of an operational joint body or joint bodies for this agreement/arrangement?

Yes ✓/No

*If no, why not? (please explain):* [fill in]

**Where there is a joint body (or bodies)**

- (a) If there is a joint body, which kind of joint body (*please tick one*)?
  - Plenipotentiaries
  - Bilateral commission
  - Basin or similar commission ✓
  - Other (*please describe*): [fill in]

(b) Does the joint body cover the entire transboundary basin or sub-basin, river, lake or aquifer, or group of basins, and all riparian States?

Yes /No

(c) Which States (including your own) are member of the joint body? (*Please list*) [fill in]

(d) Does the joint body have any of the following features (*please tick the ones applicable*)?

A secretariat

*If the secretariat is a permanent one, is it a joint secretariat or does each country host its own secretariat? (Please describe):*  
[Permanent]

A subsidiary body or bodies

*Please list (e.g., working groups on specific topics):* [Council Task Teams, working groups]

Other features (*please list*): [fill in]

(e) What are the tasks and activities of this joint body?<sup>12</sup>

Identification of pollution sources

Data collection and exchange

Joint monitoring

Maintenance of joint pollution inventories

Setting emission limits

Elaboration of joint water quality objectives

Management and prevention of flood or drought risks

Preparedness for extreme events, e.g., common early warning and alarm procedures

Water allocation and/or flow regulation

Policy development

Control of implementation

Exchange of experience between riparian States

Exchange of information on existing and planned uses of water and related installations

Settling of differences and conflicts

Consultations on planned measures

Exchange of information on best available technology

Participation in transboundary EIA

<sup>12</sup>This may include tasks according to the agreement or tasks added by the joint body, or its subsidiaries. Both tasks which joint bodies coordinate and tasks which they implement should be included.

- Development of river, lake or aquifer basin management or action plans
- Management of shared infrastructure
- Addressing hydromorphological alterations
- Climate change adaptation
- Joint communication strategy
- Basin-wide or joint public participation and consultation of, for example, basin management plans
- Joint resources to support transboundary cooperation
- Capacity-building
- Any other tasks (*please list*): [fill in]

(f) What are the main difficulties and challenges that your country faces with the operation of the joint body, if any?

- Governance issues   
*Please describe, if any:* [fill in]
- Unexpected planning delays   
*Please describe, if any:* [fill in]
- Lack of resources   
*Please describe, if true:* [**money, skilled staff**]
- Lack of mechanism for implementing measures   
*Please describe, if true:* [fill in]
- Lack of effective measures   
*Please describe, if true:* [fill in]
- Unexpected extreme events   
*Please describe, if any:* [**climate variability and change**]
- Lack of information and reliable forecasts   
*Please describe, if any:* [**Due o climate change**]
- Others (*please list and describe, as appropriate*): [fill in]

(g) If not all riparian States are members of the joint body how does the body cooperate with them? N/A

- No cooperation
- They have observer status
- Other (*please describe*): [fill in]

(h) Does the joint body or its subsidiary bodies meet regularly?

Yes /No

If yes, how frequently does it meet? [**At least twice per annum**]

(i) What are the main achievements with regards to the joint body? [**Joint planning, fundraising, convening states**]

(j) Are representatives of international organizations invited to the meetings of the joint body (or bodies) as observers?

Yes /No

(k) Did the joint body ever invite a coastal State to cooperate?

Yes /No

*If yes, please give details. If no, why not?* [RSA is already a coastal state]

4. Is there a joint or coordinated management plan (such as an action plan or a common strategy) or have joint objectives been set specifically on the transboundary waters subject to cooperation?

Yes /No

*If yes, please provide further details:* [Basin Integrated Water Resources Management Plan, Strategic Action Plan]

5. How is the transboundary basin, river, lake or aquifer protected, including the protection of ecosystems, in the context of sustainable and rational water use?

Afforestation

Restoration of ecosystems

Environmental flow norms

Groundwater measures (e.g., protection zones)

Other measures (*please list*): [Groundwater Rehabilitation]

6. (a) Does your country exchange information and data with other riparian States in the basin?

Yes /No

- (b) If yes, on what subjects are information and data exchanged?

Environmental conditions

Research activities and application of best available techniques

Emission monitoring data

Planned measures taken to prevent, control or reduce transboundary impacts

Point source pollution sources

Diffuse pollution sources

Existing hydromorphological alterations (dams, etc.)

Discharges

Water abstractions

Future planned measures with transboundary impacts, such as infrastructure development

Other subjects (*please list*): [fill in]

- (c) Is there a shared database or information platform?

Yes  / No

(d) Is the database publicly available?

Yes  / No

If yes, please provide the web address: [[www.orasecom.org](http://www.orasecom.org); **Orasecon Water Information System (WIS)**]

(e) What are the main difficulties and challenges to data exchange, if applicable? (*please describe*): [N/A]

(f) What are the main benefits of data exchange on the transboundary waters subject to cooperation? (*please describe*): [**Confidence building, transparency**]

7. Do the riparian States carry out joint monitoring in the transboundary basin, river, lake or aquifer?

Yes  / No

(a) If yes, what does the joint monitoring cover?

	Covered?	Hydrological	Ecological	Chemical
Border surface waters	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Surface waters in the entire basin	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Surface waters on the main watercourse	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Connected aquifers (or groundwaters)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Unconnected aquifers (or groundwaters)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(b) If joint monitoring is carried out, how is this done?

National monitoring stations connected through a network or common stations	<input type="checkbox"/>
Joint and agreed methodologies	<input checked="" type="checkbox"/>
Joint sampling [ <b>Every 5 years</b> ]	<input checked="" type="checkbox"/>
Common monitoring network	<input type="checkbox"/>
Common agreed parameters	<input type="checkbox"/>

(c) Please describe the main achievements regarding joint monitoring, if any: [**Transparency, common understanding**]

(d) Please describe any difficulties experienced with joint monitoring: [**Cost**]

8. Do the riparian States carry out joint assessment of the transboundary basin, river, lake or aquifer?

Yes  / No

If yes, please provide the date of the last or only assessment, the frequency and scope (e.g., surface waters or groundwaters only, pollution sources, etc.) of the assessment: [**June 2015**]

9. Have the riparian States agreed to use joint water quality standards?

Yes /No

*If yes, is the basis an international or regional standard (please specify which) or has it been adapted from the national standards of the riparian States?*

**[In progress]**

10. What are the measures implemented to prevent or limit the transboundary impact of accidental pollution?

Notification and communication **[Regular updates]**

Coordinated or joint alarm system for accidental water pollution

Other (*please list*): [fill in]

No measures

*If not, why not? What difficulties does your country face in putting in place such measures?:* [fill in]

11. What are the measures implemented to prevent or limit the transboundary impact of extreme weather events?

Notification and communication **[Regular updates]**

Coordinated or joint alarm system for floods

Coordinated or joint alarm system for droughts

Joint climate change adaptation strategy

Joint disaster risk reduction strategy

Other (*please list*): [fill in]

No measures

*If not, why not? What difficulties does your country face in putting in place such measures?:* [fill in]

12. Are procedures in place for mutual assistance in case of a critical situation?

Yes /No  **[Not yet developed]**

*If yes, please provide a brief summary:* [fill in]

13. Are the public or relevant stakeholders involved in transboundary water management in the basin, river, lake or aquifer?

Yes /No

*If yes, how? (please tick all applicable) (Please note: If your country is a Party to the Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (Aarhus Convention), you may refer to your country's report under that Convention.):*

Stakeholders have observer status in a joint body

*If yes, please specify the stakeholders for each joint body:* [fill in]

Availability of information to the public

Consultation on planned measures or river basin management plans<sup>13</sup>

<sup>13</sup>Or, where applicable, aquifer management plans.

Public involvement [**In joint surveys**]

√

Other (*please specify*): [fill in]

**Please remember to complete Section II for each of the transboundary basins (rivers, lakes or aquifers). Please also remember to attach copies of agreements, if any.**

**SECTION II - INFORMATION ON EACH TRANSBOUNDARY BASIN OR GROUP OF BASINS (3 of 3)**

**LIMCOM BASIN**

## Section II. Information on each transboundary basin or group of basins

Please complete this second section for each transboundary basin (river, lake or aquifer) or for group of basins covered by the same agreement or arrangement and where conditions are similar. It might also be convenient to group basins or sub-basins for which your country's share is very small.<sup>14</sup> In some instances, you may provide information on both a basin and one or more of its sub-basins, for example, where you have agreements<sup>15</sup> on both the basin and its sub-basin. You may coordinate your responses with other States with which your country shares the basin or aquifer or even prepare a joint report for shared basins. General information on transboundary water management at the national level should be provided in Section III and not repeated here.

Please reproduce the whole Section II with its questions for each transboundary basin, river, lake or aquifer, or group of basins for which you will provide a reply.

**Name of the transboundary basin, river, lake or aquifer, or group thereof, list of the riparian States, and country's share of the basin: [LIMCOM – Limpopo River Basin]**

1. Is there one or more transboundary (bilateral or multilateral) agreement(s) or arrangement(s) on this basin? **[Limpopo Watercourse Agreement]**

One or more agreements or arrangements exist and are in force

Agreement or arrangement developed but not in force

Agreement or arrangement developed, but not in force for all riparians

*Please insert the name of the agreement or agreements or arrangements:*  
**[Limpopo Water Resource Agreement, Water Commission Hosting Agreement]**

Agreement or arrangement is under development

No agreement

*If there is no agreement or arrangement or it is not in force, please explain briefly why not and provide information on any plans to address the situation:*  
[fill in]

**If there is no agreement or arrangement and no joint body for the transboundary basin, river, lake or aquifer then jump to question 4; if there is no agreement, but a joint body then go to question 3.**

**Questions 2 and 3 to be completed for each bilateral or multilateral agreement or arrangement in force in the transboundary basin(river, lake or aquifer) or group of basins or sub-basins**

2. (a) Does this agreement or arrangement specify the basin area subject to cooperation?

Yes /No

If yes, does it cover the entire basin, or group of basins, and all riparian States?

Yes /No

---

<sup>14</sup>In principle, Section II should be submitted for every transboundary basin, river, lake or aquifer, in the country, but States may decide to group basins in which their share is small or leave out basins in which their share is very minor, e.g., below 1 per cent.

<sup>15</sup>In Section II, "agreement" covers all kinds of treaties, conventions and agreements ensuring cooperation in the field of transboundary waters. Section II can also be completed for other types of arrangements, such as memorandums of understanding.

If not, what does it cover? [fill in]

Or, if the agreement or arrangement relates to a sub-basin, does it cover the entire sub-basin?

Yes /No

Which States (including your own) are bound by the agreement or arrangement? (*Please list*): [RSA, Mozambique, Botswana, Zimbabwe]

(b) Are aquifers (or groundwater bodies) covered by the agreement/arrangement?

Yes /No

(c) What is the sectoral scope of the agreement or arrangement?

- All water uses
- A single water use or sector
- Several water uses or sectors

*If one or several water uses or sectors, please list (check as appropriate):*

**Water uses or sectors**

- Industry
- Agriculture
- Transport (e.g., navigation)
- Households
- Energy: hydropower and other energy types
- Tourism
- Nature protection
- Other (*please list*): [fill in]

(d) What topics or subjects of cooperation are included in the agreement or arrangement?

**Procedural and institutional issues**

- Dispute and conflict prevention and resolution
- Institutional cooperation (joint bodies)
- Consultation on planned measures
- Mutual assistance

**Topics of cooperation**

- Joint vision and management objectives
- Joint significant water management issues
- Navigation
- Environmental protection (ecosystem)
- Water quality

- Water quantity or allocation ✓
- Cooperation in addressing floods ✓
- Cooperation in addressing droughts ✓
- Climate change adaptation ✓

**Monitoring and exchange**

- Joint assessments ✓
- Data collection and exchange ✓
- Joint monitoring ✓
- Maintenance of joint pollution inventories ✓
- Elaboration of joint water quality objectives ✓
- Common early warning and alarm procedures ✓
- Exchange of experience between riparian States ✓
- Exchange of information on planned measures ✓

**Joint planning and management**

- Development of joint regulations on specific topics ✓
- Development of international or joint river, lake or aquifer basin management or action plans ✓
- Management of shared infrastructure ✓
- Development of shared infrastructure ✓
- Other (*please list*): [fill in]

(e) What are the main difficulties and challenges that your country faces with the agreement or arrangement and its implementation, if any (*please describe, if applicable*): [**Water quality, water scarcity, climate change, human capacity and funding**]

(f) What are the main achievements in implementing the agreement or arrangement and what were the keys to achieving such success? [**flood management,, effective implementation of EWS, monograph and integrated water resource management**]

(g) Please attach a copy of the agreement or arrangement or provide the web address of the document (*please attach document or insert web address, if applicable*): [fill in]

3. Is your country a member of an operational joint body or joint bodies for this agreement/arrangement?

Yes ✓/No

*If no, why not? (please explain):* [fill in]

**Where there is a joint body (or bodies)**

(a) If there is a joint body, which kind of joint body (*please tick one*)?

Plenipotentiaries

- Bilateral commission
- Basin or similar commission
- Other (*please describe*): [fill in]
- (b) Does the joint body cover the entire transboundary basin or sub-basin, river, lake or aquifer, or group of basins, and all riparian States?  
 Yes /No
- (c) Which States (including your own) are member of the joint body? (*Please list*) [**RSA, Mozambique, Botswana, Zimbabwe**]
- (d) Does the joint body have any of the following features (*please tick the ones applicable*)?
- A secretariat   
*If the secretariat is a permanent one, is it a joint secretariat or does each country host its own secretariat? (Please describe):*  
**[Interim joint]**
- A subsidiary body or bodies   
*Please list (e.g., working groups on specific topics):* [fill in]  
 Other features (*please list*): [fill in]
- (e) What are the tasks and activities of this joint body?<sup>16</sup>
- Identification of pollution sources
- Data collection and exchange
- Joint monitoring
- Maintenance of joint pollution inventories
- Setting emission limits
- Elaboration of joint water quality objectives
- Management and prevention of flood or drought risks
- Preparedness for extreme events, e.g., common early warning and alarm procedures
- Water allocation and/or flow regulation
- Policy development
- Control of implementation
- Exchange of experience between riparian States
- Exchange of information on existing and planned uses of water and related installations
- Settling of differences and conflicts
- Consultations on planned measures

<sup>16</sup>This may include tasks according to the agreement or tasks added by the joint body, or its subsidiaries. Both tasks which joint bodies coordinate and tasks which they implement should be included.

- Exchange of information on best available technology
- Participation in transboundary EIA
- Development of river, lake or aquifer basin management or action plans
- Management of shared infrastructure
- Addressing hydromorphological alterations
- Climate change adaptation
- Joint communication strategy
- Basin-wide or joint public participation and consultation of, for example, basin management plans
- Joint resources to support transboundary cooperation
- Capacity-building
- Any other tasks (*please list*): [fill in]

(f) What are the main difficulties and challenges that your country faces with the operation of the joint body, if any? [**Human Capacity and Funding**]

- Governance issues   
*Please describe, if any:* [fill in]
- Unexpected planning delays   
*Please describe, if any:* [fill in]
- Lack of resources   
*Please describe, if true:* [fill in]
- Lack of mechanism for implementing measures   
*Please describe, if true:* [fill in]
- Lack of effective measures   
*Please describe, if true:* [fill in]
- Unexpected extreme events   
*Please describe, if any:* [fill in]
- Lack of information and reliable forecasts   
*Please describe, if any:* [**Due to Climate Change**]
- Others (*please list and describe, as appropriate*): [fill in]

(g) If not all riparian States are members of the joint body how does the body cooperate with them?

- No cooperation
- They have observer status
- Other (*please describe*): [fill in]

(h) Does the joint body or its subsidiary bodies meet regularly?

Yes /No

If yes, how frequently does it meet? [**Twice per annum**]

(i) What are the main achievements with regards to the joint body? [**Implementation of Limcom Agreement scoping, IWRM Basin Management**]

(j) Are representatives of international organizations invited to the meetings of the joint body (or bodies) as observers?

Yes /No

(k) Did the joint body ever invite a coastal State to cooperate?

Yes /No

*If yes, please give details. If no, why not?*[fill in]

4. Is there a joint or coordinated management plan (such as an action plan or a common strategy) or have joint objectives been set specifically on the transboundary waters subject to cooperation?

Yes /No

*If yes, please provide further details:* [**IWRM**]

5. How is the transboundary basin, river, lake or aquifer protected, including the protection of ecosystems, in the context of sustainable and rational water use?

Afforestation

Restoration of ecosystems

Environmental flow norms

Groundwater measures (e.g., protection zones)

Other measures (*please list*): [fill in]

6. (a) Does your country exchange information and data with other riparian States in the basin?

Yes /No

(b) If yes, on what subjects are information and data exchanged?

Environmental conditions

Research activities and application of best available techniques

Emission monitoring data

Planned measures taken to prevent, control or reduce transboundary impacts

Point source pollution sources

Diffuse pollution sources

Existing hydromorphological alterations (dams, etc.)

Discharges

Water abstractions

Future planned measures with transboundary impacts, such as infrastructure development

Other subjects (*please list*): [fill in]

(c) Is there a shared database or information platform?

Yes  / No

(d) Is the database publicly available?

Yes  / No

*If yes, please provide the web address: [fill in]*

(e) What are the main difficulties and challenges to data exchange, if applicable? (*please describe*): [**Formats and incomprehensive information at differing levels**]

(f) What are the main benefits of data exchange on the transboundary waters subject to cooperation? (*please describe*): [**Transparency**]

7. Do the riparian States carry out joint monitoring in the transboundary basin, river, lake or aquifer?

Yes  / No

(a) If yes, what does the joint monitoring cover?

	Covered?	Hydrological	Ecological	Chemical
Border surface waters	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Surface waters in the entire basin	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Surface waters on the main watercourse	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Connected aquifers (or groundwaters)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Unconnected aquifers (or groundwaters)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

(b) If joint monitoring is carried out, how is this done?

National monitoring stations connected through a network or common stations	<input checked="" type="checkbox"/>
Joint and agreed methodologies	<input checked="" type="checkbox"/>
Joint sampling	<input checked="" type="checkbox"/>
Common monitoring network	<input type="checkbox"/>
Common agreed parameters	<input type="checkbox"/>

(c) Please describe the main achievements regarding joint monitoring, if any: [**Transparency, common understanding**]

(d) Please describe any difficulties experienced with joint monitoring: [Lack of joint water quality standards]

8. Do the riparian States carry out joint assessment of the transboundary basin, river, lake or aquifer?

Yes  / No

*If yes, please provide the date of the last or only assessment, the frequency and scope (e.g., surface waters or groundwaters only, pollution sources, etc.) of the assessment: [fill in]*

9. Have the riparian States agreed to use joint water quality standards?

Yes /No

*If yes, is the basis an international or regional standard (please specify which) or has it been adapted from the national standards of the riparian States?  
[fill in]*

10. What are the measures implemented to prevent or limit the transboundary impact of accidental pollution?

Notification and communication

Coordinated or joint alarm system for accidental water pollution

Other (*please list*): [fill in]

No measures

*If not, why not? What difficulties does your country face in putting in place such measures?: [fill in]*

11. What are the measures implemented to prevent or limit the transboundary impact of extreme weather events?

Notification and communication

Coordinated or joint alarm system for floods

Coordinated or joint alarm system for droughts

Joint climate change adaptation strategy

Joint disaster risk reduction strategy

Other (*please list*): [fill in]

No measures

*If not, why not? What difficulties does your country face in putting in place such measures?: [fill in]*

12. Are procedures in place for mutual assistance in case of a critical situation?

Yes /No

*If yes, please provide a brief summary: [fill in]*

13. Are the public or relevant stakeholders involved in transboundary water management in the basin, river, lake or aquifer?

Yes /No

*If yes, how? (please tick all applicable) (Please note: If your country is a Party to the Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (Aarhus Convention), you may refer to your country's report under that Convention.):*

Stakeholders have observer status in a joint body

*If yes, please specify the stakeholders for each joint body: [fill in]*

Availability of information to the public

Consultation on planned measures or  
river basin management plans<sup>17</sup>

✓

Public involvement

✓

Other (*please specify*): [fill in]

**Please remember to complete Section II for each of the transboundary basins (rivers, lakes or aquifers). Please also remember to attach copies of agreements, if any.**

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<sup>17</sup>Or, where applicable, aquifer management plans.

**SECTION III - GENERAL INFORMATION ON TRANSBOUNDARY  
WATER MANAGEMENT AT THE NATIONAL  
LEVEL**

### III. General information on transboundary water management at the national level

In this section, you are requested to provide general information on transboundary water management at the national level. Information on specific transboundary basins (rivers, lakes or aquifers) and agreements should be presented in Section II and not repeated here.

1. (a) Does your country's national legislation refer to measures to prevent, control and reduce any transboundary impact?

Yes /No

*If yes, list the main national legislation:* [**National Water Act 1998**]

- (b) Do your country's national policies, action plans and strategies refer to measures to prevent, control and reduce any transboundary impact?

Yes /No

*If yes, list the main national policies, action plans and strategies:* [**National Water Resource Strategy 2**]

- (c) Does your country's legislation provide for the following principles?

Precautionary principle      Yes /No

Polluter pays principle      Yes /No

Sustainable development      Yes /No

- (d) Does your country have a national licensing or permitting system for wastewater discharges and other point source pollution (*e.g., in industry, mining, energy, municipal, wastewater management or other sectors*)?

Yes /No

*If yes, for which sectors? (please list):* [**Domesic, Industrial, Agricultural, Mining**]

*If not, please explain why not (giving the most important reasons) or provide information if there are plans to introduce a licensing or permitting system:*  
[fill in]

*If your country has a licensing system, does the system provide for setting emission limits based on best available technology?*

Yes /No

- (e) Are the authorized discharges monitored and controlled?

Yes /No

*If yes, how?(Please tick the ones applicable):*

Monitoring of discharges	<input checked="" type="checkbox"/>
Monitoring of physical and chemical impacts on water	<input checked="" type="checkbox"/>
Monitoring of ecological impacts on water	<input checked="" type="checkbox"/>
Conditions on permits	<input checked="" type="checkbox"/>
Inspectorate	<input checked="" type="checkbox"/>

Other means (*please list*): [fill in]

*If your country does not have a discharge monitoring system, please explain why not or provide information if there are plans to introduce a discharge monitoring system:* [fill in]

(f) What are the main measures which your country takes to reduce diffuse sources of water pollution on transboundary waters (*e.g., from agriculture, transport, forestry or aquaculture*)? *The measures listed below relate to agriculture, but other sectors may be more significant. Please be sure to include these under "others":*

**Legislative measures**

- Norm for uses of fertilizers
- Norms for uses of manure
- Bans on or norms for use of pesticides
- Others (*please list*): [fill in]

**Economic and financial measures**

**[Not yet developed to a level for budget reporting]**

- Monetary incentives
- Environmental taxes (such as fertilizer taxes)
- Others (*please list*): [fill in]

**Agricultural extension services**

**Technical measures**

*Source control measures*

- Crop rotation
- Tillage control
- Winter cover crops
- Others (*please list*): [fill in]

*Other measures*

- Buffer/filter strips
- Wetland reconstruction
- Sedimentation traps
- Chemical measures
- Others (*please list*): [fill in]

**Other types of measures**

*If yes, please list:* [fill in]

(g) What are the main measures which your country takes to enhance water efficiency?

*Please tick as appropriate (not all might be relevant)*

- A regulatory system regarding water abstraction

- Monitoring and control of abstractions
- Water rights are clearly defined
- Water allocation priorities are listed
- Water-saving technologies
- Advanced irrigation techniques
- Demand management activities
- Other means (please list)

(h) Does your country apply the ecosystems?

Yes /No

*If yes, please describe how: [fill in]*

(i) Does your country take specific measures to prevent the pollution of groundwaters?

Yes /No

*If yes, please list the most important measures: [National Water Resource Strategy 2]*

2. Does your country require transboundary environmental impact assessment (EIA)?

Yes /No

Does your country have procedures for transboundary EIA?

Yes /No

*If yes, please make reference to the legislative basis (please insert the name and section of the relevant laws): [National Water Act 1998]*

3. Does your country have transboundary agreements or arrangements for the protection and/or management of transboundary waters (i.e., surface waters or aquifers), whether bilateral, multilateral and/or at the basin level?

Yes /No

*If yes, list the bilateral, multilateral and basin agreements (listing for each of the countries concerned): [fill in]*

**SECTION IV. FINAL QUESTIONS**

#### Section IV. Final questions

1. What are the main challenges your country faces in cooperating on transboundary waters? (*Please describe*): [**Lack of a permanent body for coordinating transboundary activities**]
2. What have been the main achievements in cooperating on transboundary waters? What were the keys to achieving that success? (*Please describe concrete examples*):  
[**Joint studies and the current effort to have an RBO. Improved communication channels, establishing the commission**]
3. Please include any additional information on the process of preparing the report (e.g., whether there was an exchange or consultation within the joint body or with riparian countries), in particular which institutions have been consulted (*please describe*): [N/A]
4. If you have any other comments please add them here (*insert comments*): [fill in]
5. Name and contact details of the person(s) who filled out the questionnaire (*please insert*): [**Mr Mark Bannister, Chief Directorate :Water Services & Local Water Management, Waterbron 837, Department of Water & Sanitation, 191 Francis Baard Street(formerlySchoeman Street), Pretoria, SOUTH AFRICA**]

Date: [5 June 2017]

Signature:

Thank you very much for taking the time to complete this report.

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## **ANNEXURE 1 – TPTC SPATIAL INFORMATION**

**ANNEXURE 2 – AGREEMENTS (TPTC, ORASECOM AND LIMCOM)**