

Reporting on global SDG indicator 6.5.2
TEMPLATE of the second cycle for reporting

Content of the template

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

Country name: [[South Sudan](#)]

I. Calculation of Sustainable Development Goal indicator 6.5.2

Methodology

1. Using the information gathered in section II, the information gathered in this section allows for the calculation of Sustainable Development Goal global indicator 6.5.2, which is defined as the proportion of transboundary basin area with an operational arrangement for water cooperation.
2. The step-by-step monitoring methodology for indicator 6.5.2, developed by UNECE and UNESCO in the framework of UN-Water, should be referred to for details on the necessary data, the definitions and the calculation.^a
3. The value of the indicator at the national level is derived by adding up the surface area in a country of those transboundary basins (river and lake basins and aquifers) that are covered by an operational arrangement and dividing the area obtained by the aggregate total area in a country of all transboundary basins (both river and lake basins, and aquifers).
4. 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.
5. 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.
6. For an arrangement to be considered “operational” all the following criteria need to be in place in practice:
 - (a) There is a joint body, joint mechanism or commission (e.g., a river basin organization) for transboundary cooperation (criterion 1);
 - (b) There are regular (at least once per year) formal communications between riparian countries in form of meetings (either at the political or technical level) (criterion 2);
 - (c) Joint objectives, a common strategy, a joint or coordinated management plan, or an action plan have been agreed upon by the riparian countries (criterion 3);
 - (d) There is a regular (at least once per year) exchange of data and information (criterion 4).

Calculation of indicator 6.5.2

7. 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:
 - (a) The country/ies with which the basin is shared;
 - (b) The surface area of the basin (the catchment of rivers or lakes and the aquifer in the case of groundwater) within the territory of your country (in square kilometres (km²));
 - (c) Whether a map and/or a geographical information system (GIS) shapefile of the basin has been provided;
 - (d) Whether there is an arrangement in force for the basin;
 - (e) The verification of each of the four criteria to assess operability;

^a Available from the UN-Water website: <https://www.sdg6monitoring.org/indicators/target-65/indicators652/> (updated version “2020”).

(f) The surface area of the basin within the territory of your country which is covered by a cooperation arrangement that is operational according to the above criteria.

8. In case an operational arrangement is in place only for a sub-basin or a 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.

Table 1
Transboundary river or lake basin (please add rows as needed)

Name of transboundary river or lake basin/sub-basin	It is a basin or a sub-basin? ^b	Countries shared with	Surface area of the basin/sub-basin (in km ²) within the territory of the country	Map and/or GIS shapefile provided (yes/no)	Covered by an arrangement (entirely, partly, no) (Ref. to questions in sect. II)	Criterion 1 applied (yes/no) (Ref. to questions in sect. II)	Criterion 2 applied (yes/no) (Ref. to questions in sect. II)	Criterion 3 applied (yes/no) (Ref. to questions in sect. II)	Criterion 4 applied (yes/no) (Ref. to questions in sect. II)	Surface area of the basin/sub-basin (in km ²) covered by an operational arrangement within the territory of the country
River Nile	Basin	Uganda and Sudan	125,578	Yes	Entirely	Yes	Yes	Yes	Yes	125578
Barh El Jebel	Sub-basin within Nile Basin	Uganda		Yes	Entirely	Yes	Yes	Yes	Yes	
White Nile	Sub-basin within Nile Basin	Sudan		Yes	Entirely	Yes	Yes	Yes	Yes	
River Assua	Sub-basin within Nile Basin	Uganda		Yes	Entirely	Yes	Yes	Yes	Yes	
Baro Akobo/pibor- Sobat	Sub-basin within Nile Basin	Ethiopia		Yes	Entirely	Yes	Yes	Yes	Yes	
Lake Rudolf/ Lake Turkana	Lake Turkana Basin	Kenya, Ethiopia and South Sudan		No	No	No	No	No	No	
(A) Total surface area of transboundary basins/sub-basins of rivers and lakes covered by operational										

^b List sub-basins after the basin they belong to.

Name of transboundary river or lake basin/sub-basin	It is a basin or a sub-basin? ^b	Countries shared with	Surface area of the basin/sub-basin (in km ²) within the territory of the country	Map and/or GIS shapefile provided (yes/no)	Covered by an arrangement (entirely, partly, no) (Ref. to questions in sect. II)	Criterion 1 applied (yes/no) (Ref. to questions in sect. II)	Criterion 2 applied (yes/no) (Ref. to questions in sect. II)	Criterion 3 applied (yes/no) (Ref. to questions in sect. II)	Criterion 4 applied (yes/no) (Ref. to questions in sect. II)	Surface area of the basin/sub-basin (in km ²) covered by an operational arrangement within the territory of the country	
arrangements within the territory of the country (in km²) (do not double count sub-basins)											
(B) Total surface area of transboundary basins of rivers and lakes within the territory of the country (in km²) (do not double count sub-basins) 3,254,555 Km²											

Table 2
Transboundary aquifers (please add rows as needed)

<i>Name of the transboundary aquifer</i>	<i>Countries shared with</i>	<i>Surface area of the aquifer^c (in km²) within the territory of the country</i>	<i>Map and/ or GIS shapefile provided (yes/no)</i>	<i>Covered by an aquifer specific arrangement (entirely, partly, no) (Ref. to questions in sect. II)</i>	<i>Covered within an arrangement not specific to the aquifer^d (entirely, partly, no) (Ref. to questions in sect. II)</i>	<i>Criterion 1 applied (yes/no) (Ref. to questions in sect. II)</i>	<i>Criterion 2 applied (yes/no) (Ref. to questions in sect. II)</i>	<i>Criterion 3 applied (yes/no) (Ref. to questions in sect. II)</i>	<i>Criterion 4 applied (yes/no) (Ref. to questions in sect. II)</i>	<i>Surface area of the aquifer (in km²) covered by an operational arrangement within the territory of the country</i>
Um ruwaba	South Sudan, Sudan and Ethiopia	68,392	No	No	No	No	No	No	No	
Kaaro basin	Central Africa Republic, Democratic Republic of Congo, Uganda and Kenya		No	No	No	No	No	No	No	
Bagara basin	South Sudan and Sudan		No	No	No	No	No	No	No	
(C) Sub-total: surface area of transboundary aquifers covered by operational arrangements (in km²)										

^c 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 aquifer systems 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 managed conjunctively.

^d In the text of the agreement or arrangement or in the practice.

<i>Name of the transboundary aquifer</i>	<i>Countries shared with</i>	<i>Surface area of the aquifer^c (in km²) within the territory of the country</i>	<i>Map and/ or GIS shapefile provided (yes/no)</i>	<i>Covered by an aquifer specific arrangement (entirely, partly, no) (Ref. to questions in sect. II)</i>	<i>Covered within an arrangement not specific to the aquifer^d (entirely, partly, no) (Ref. to questions in sect. II)</i>	<i>Criterion 1 applied (yes/no) (Ref. to questions in sect. II)</i>	<i>Criterion 2 applied (yes/no) (Ref. to questions in sect. II)</i>	<i>Criterion 3 applied (yes/no) (Ref. to questions in sect. II)</i>	<i>Criterion 4 applied (yes/no) (Ref. to questions in sect. II)</i>	<i>Surface area of the aquifer (in km²) covered by an operational arrangement within the territory of the country</i>
(D) Total surface area of transboundary aquifers (in km²)										

Indicator value for the country

Surface waters:

Percentage of surface area of transboundary basins of rivers and lakes covered by an operational arrangement:

$$A/B \times 100 =$$

Aquifers:

Percentage of surface area of transboundary aquifers covered by an operational arrangement:

$$C/D \times 100 =$$

Sustainable Development Goal indicator 6.5.2:

Percentage of surface area of transboundary basins covered by an operational arrangement:

$$((A + C)/(B + D)) \times 100 =$$

Spatial information

If a map (or maps) of the transboundary surface water catchments and transboundary aquifers (i.e., “transboundary basins”) is available, please consider attaching them. Ideally, shapefiles of the basin and aquifer delineations that can be viewed in GIS should be sent.

Additional information

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

Does your country have transboundary agreements or arrangements for the protection and/or management of transboundary waters (i.e., rivers, lakes or groundwater), whether bilateral or multilateral?

Yes /No

If yes, list the bilateral and multilateral agreements or arrangements (listing for each of the countries concerned): [South Sudan is a member of Nile basin initiative (NBI), this Intergovernmental/multilateral arrangement is between 11 countries which are concern with protection and management of the Nile waters]

II. Questions for each transboundary basin, sub-basin, part of a basin, or group of basins (river, lake or aquifer)

Please complete this second section for each transboundary basin (river or lake basin, or aquifer), sub-basin, part of a basin or a group of basins covered by the same agreement or arrangement where conditions are similar.¹ In some instances, you may provide information on both a basin and one or more of its sub-basins or parts thereof, for example, where you have agreements² or arrangements on both the basin and its sub-basin. You may coordinate your responses with other States with which your country shares transboundary waters, or even prepare a joint report. General information on transboundary water management at the national level should be provided in section III and not repeated here.

Please reproduce this whole section with its questions for each transboundary basin, sub-basin, part of a basin or group of basins for which you will provide a reply.

Name of the transboundary basin, sub-basin, part of a basin or group of basins: [fill in]

List of the riparian States: [South Sudan, Sudan, Ethiopia, Kenya and Uganda]

In the case of an aquifer, what is the nature of the aquifer and its relation with the river or lake basin:

- | | | |
|---|-------------------------------------|--------------------------|
| Unconfined aquifer connected to a river or lake | <input checked="" type="checkbox"/> | |
| Unconfined aquifer with no or limited relation with surface water | | <input type="checkbox"/> |
| Confined aquifer connected to surface water | <input type="checkbox"/> | |
| Confined aquifer with no or limited relation with surface water | | <input type="checkbox"/> |
| Other | | <input type="checkbox"/> |

Please describe: [The Sudd basin is found mostly around sudd wetland where it is naturally recharged with waters of the Nile,]

Unknown

Percentage of your country's territory within the basin, sub-basin, part of a basin or group of basins: [There is no available information in regard to ground water information but the truth is that most of the surface area of sudd basin can be found in sudd wet-land]

¹ 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.

² 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.

largely in South Sudan and its quantifiable data are not available but about 96% according to Food and Agriculture Organisation report]

1. Is there one or more transboundary (bilateral or multilateral) agreement(s) or arrangement(s) on this basin, sub-basin, part of a basin or group of basins?

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(s) or arrangement(s) [fill in]

Agreement or arrangement is under development

No agreement or arrangement

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: [Thought South Sudan reliaze the importance of ground water in developmental program; the country is yet to set out various aspect of ground water management such as acquisition of accurate data this is due do many underlying factors, among them, the state of internal conflict which had rift the country since its founding, therefore as the country started to gain stability, there will be need for the country to join various existig agreements or seek to form new and ratify ones to address water issues that the countinent have]

If there is no agreement or arrangement and no joint body or mechanism for the transboundary basin, sub-basin, part of a basin or group of basins then jump to question 4; if there is no agreement or arrangement, but a joint body or mechanism 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, sub-basin, part of a basin or group of basins.

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

Yes /No

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

Yes /No

Additional explanations? [fill in]

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

Yes /No

Additional explanations? [fill in]

Which States (including your own) are bound by the agreement or arrangement? *(Please list):* [fill in]

(b) If the agreement or arrangement relates to a river or lake basin or sub-basin, does it also cover aquifers?

Yes /No

If yes, please list the aquifers covered by the agreement or arrangement: [fill in]

(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
- Fisheries
- 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
- Human health
- 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?

- Aligning implementation of agreement or arrangement with national laws, policies and programmes
- Aligning implementation of agreement or arrangement with regional laws, policies and programmes
- Lack of financial resources
- Insufficient human capacity
- Insufficient technical capacity
- Tense diplomatic relations
- Non-participation of certain riparian countries in the agreement
- No significant difficulties
- Other (*please describe*): [fill in]

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

(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 any joint body or mechanism for this agreement or arrangement?

Yes /No

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

Where there is a joint body or mechanism

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

- Plenipotentiaries
- Bilateral commission

Basin or similar commission

Expert group meeting or meeting of national focal points

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

(b) Does the joint body or mechanism cover the entire transboundary basin, sub-basin, part of a basin or group of basins?

Yes /No

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

(d) Are there any riparian States that are not members of the joint body or mechanism? (*please list*): [fill in]

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

No cooperation

They have observer status

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

(f) Does the joint body or mechanism 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): [fill in]

A subsidiary body or bodies

Please list (e.g., working groups on specific topics): [fill in]

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

(g) What are the tasks and activities of this joint body or mechanism?³

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

Surveillance and early warning of water related disease

Water allocation and/or flow regulation

³ 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.

-
- 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
 - 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]

(h) What are the main difficulties and challenges that your country faces with the operation of the joint body or mechanism, 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: [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: [fill in]
- Others (*please list and describe, as appropriate*): [fill in]

(i) Does the joint body or mechanism, or its subsidiary bodies meet regularly?

Yes /No

If yes, how frequently does it meet?

More than once per year

Once per year

Less than once per year

(j) What are the main achievements with regards to the joint body or mechanism?
[fill in]

(k) Did the joint body or mechanism ever invite a non-riparian coastal State to cooperate?

Yes /No

If yes, please give details. If no, why not, e.g. are the relevant coastal States also riparian States and therefore already members of the joint body or mechanism? [fill in]

4. Have joint objectives, a common strategy, a joint or coordinated management plan or action plan been agreed for the basin, sub-basin, part of a basin or group of basins?

Yes /No

If yes, please provide further details: [When the country gain it independent in 2011, its automatically joint the Nile Basin Initiative whose it primary objective is to developed water resource of the Nile for the benefit of the reprian countries in sustainle and equitable maner for that matter, South Sudan start to build on that clear ideas to give weight to the ideal but the binding agreement have not been made by the country]

5. How is the transboundary basin,–sub-basin, part of a basins or group of basins protected, including the protection of ecosystems, in the context of sustainable and rational water use?

Regulation of urbanization, deforestation, and sand and gravel extraction.

Environmental flow norms, including consideration of levels and seasonality

Water quality protection, e.g. nitrates, pesticides, faecal coliforms, heavy metals

Water-related species and habitats protection

Other measures (*please describe*): [South Sudan as sovereign state embark on the use of various oragans to execute it objectives in relationship to tranboundary waters for instance ministry of Evironment oversees the environmental aspects that are related to water issues]

6. (a) Does your country regularly exchange information and data with other riparian States in the basin, sub-basin, part of a basin or group of basins?

Yes /No

(b) If yes, how often:

More than once per year

Once per year

Less than once per year

(c) Please describe how information is exchanged (e.g. in connection with meetings of joint bodies): [South Sudan had monitoring stations along the River Nile which are used in monitoring the flow of the Nile for various administrative organs of the Nile Basin Initiative decision making. Some of the station were recently erected and some specially the one in Juba station had historical data and it was used by the then Sudan together with Egypt to answer queries in regard to river Nile issues]

(d) 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.)

Flows or water levels (including groundwater levels)

Water abstractions

Climatological information

Future planned measures with transboundary impacts, such as infrastructure development

Other subjects (*please list*): [eventhough the country have not storicly responded positively to flood preparedness and early warning, the gauging stations give a clear data on the rise of water of the Nile hence provide good understanding on flooding which had several interventions from Nile Basin Initiative]

Other comments, e.g. spatial coverage of data and information exchange: [fill in]

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

Yes /No

(f) Is the database publicly available?

Yes /No

If yes, please provide the web address: [The members states of the Nile Basin Initiative of which our contry is a member use DSS that is Decision Support Sytem]

(g) What are the main difficulties and challenges to data exchange, if applicable?

Frequency of exchanges

Timing of exchanges

Comparability of data and information

Limited spatial coverage

Inadequate resources (technical and/or financial)

Other (please describe): [The Decision Support System was preferred to be operational in every member state country but it had find some difficulties such as inconsistency of maintenance of database considering the state of affairs in the country]

Additional comments: [up and running database was necessitated to achieve the constant flow of data and the use of hydromet and gauging station]

(h) What are the main benefits of data exchange on the basin, sub-basin, part of a basin or group of basins? (please describe): [Equitable resource sharing, developmental planning, design, implementation specific projects, emergency management, monitoring, short to long term decision making and to handle cross cutting issues e.g climate change.]

7. Do the riparian States carry out joint monitoring in the transboundary basin, sub-basin, part of a basin or group of basins?

Yes /No

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

	Hydrological	Ecological	Chemical
Border surface waters	<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"/>
Surface waters on the main watercourse	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Surface waters in part of the basin please describe [Keneti sub-basin which fall directly to Nile basin has been developed and monitored within the scope of Water for Eastern Equatoria programme hence specific consideration]	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Transboundary aquifer(s) (connected or unconnected)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Aquifer(s) in the territory of one riparian hydraulically connected to a transboundary river or lake	<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

Please describe: [hydromet and gauging station]

Joint and agreed methodologies

Please describe: [The Decision Support System run by each member state with coordinated effort of sharing the data through IP provided by NBI management]

Joint sampling

Please describe: [fill in]

Common monitoring network

Please describe: [fill in]

Common agreed parameters

Please describe: [fill in]

(c) Please describe the main achievements regarding joint monitoring, if any: [It had enable the members state to relieaze the important of appropriate sharing of common resources for development, coordinated projects allocation in members state, provide platform and information for disputes settlement when they arised]

(d) Please describe any difficulties experienced with joint monitoring: [It is not easy to maintain and execute the plan as it require consideration from all members states and mobilization of resources toward the initiative, Operationa and Maintenance of the tools use for monitoring and logical constraints]

8. Do the riparian States carry out joint assessment of the transboundary basin, sub-basin, part of a basin or group of basins?

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, and assessment methodology applied: [Nile Basin Initiative has been actively engage in issues related to the River Nile and its basin for the last 20 years and failure to provide such evidence does not confirm to lack of such activity rather none availability of such information at hand]

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

Yes /No

If yes, what standards have been applied, e.g. international or regional standards (please specify which), or have national standards of the riparian States been applied? [NBI has an agreement with its member states on environment and water quality that are in line with international standard]

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

Notification and communication

Coordinated or joint early warning or 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 and climate change?

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: [The Nile Basin Initiative was founded on the bases of cooperation and for that matter, there are produces that are in place to assist the member state in case of eventuality by offering technical advice and emergency fund allocation if needed.]

13. Are the public or relevant stakeholders involved in transboundary water management in the basin, sub-basin, part of a basin or group of basins?

Yes /No

If yes, how? (please tick all applicable)

Stakeholders have observer status in a joint body or mechanism

Stakeholders have an advisory role in the joint body

Stakeholders have a decision-making role in the joint body

If yes, please specify the stakeholders for the joint body or mechanism:
[fill in]

Intergovernmental organizations

Private sectors organizations or associations

Water user groups or associations

Academic or research institutions

Other non-governmental organizations

General public

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

Availability of information to the public

Consultation on planned measures or river basin management plans⁴

Public involvement

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

⁴ Or, where applicable, aquifer management plans.

Please remember to complete section II for each of the transboundary basins, sub-basin, part of a basin or group of basins. Please also remember to attach copies of agreements or arrangements, if any.

III. Water management at the national level

In this section, you are requested to provide general information on water management at the national level as it relates to transboundary waters. Information on specific transboundary basins, sub-basins, part of basins and groups of basins, should be presented in section II and not repeated here.

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

Yes /No

If yes, please briefly describe the main national laws, policies, action plans and strategies [fill in]

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

Precautionary principle Yes /No

Polluter pays principle Yes /No

Sustainable development Yes /No

User pays principle Yes /No

If yes, please briefly describe how these principles are implemented at the national level: [By default, the ministry of Water Resources and Irrigation as entity entrusted by the government of South Sudan to preside over water issues have felt the importance of water in any developmental activity and livelihood of its citizen and have attach the cost of water use literally known as cost sharing in rual areas which is in line with users pay principle. This action is done in sustainable mainer considering the ecosystems and environement by itself as part and parcel of this life giving liquid.

At the early stage of this country, all available principles where not adapted from Sudan and the country had to made water uses BILL which is still under Judiciary consideration. In the that draft bill the Precautionary and polluters pay principle are well articulated for the the benefit of all citizen and reparians countries.]

- (c) 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?

- | | |
|-------------------|-------------------------------------|
| Industry | <input type="checkbox"/> |
| Mining | <input checked="" type="checkbox"/> |
| Energy | <input checked="" type="checkbox"/> |
| Municipal | <input checked="" type="checkbox"/> |
| Livestock raising | <input type="checkbox"/> |
| Aquaculture | <input type="checkbox"/> |

Other (please list): [fill in]

Please briefly describe the licensing or permitting system, indicating whether the system provides for setting emission limits based on best available technology?

If yes, for which sectors? (please list): [Towns council under local government is the permitting authority in the country in regard to municipal waste discharge were disposal of such liquid are made with specific guideline to reduce their negative impact on human health and that of the environment. Others like industries, mining and energy except oil industry, their emission is yet to be reflected since they are not available or under formation hence issuing of such permission may be in draft, for instance ministry of petroleum and energy has that provision as the issue of oil pollution has been in public attention since the creation of the country.

Animal husbandary and fsiheries/aquaculture are long been practice in traditional form therefore, government control of their impact is under minimal attention. On the other hand aquaculture is not being practice in the country giving the fact of care related to aquaculture.]

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]

(d) Are the authorized discharges monitored and controlled?

Yes /No

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

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

(e) 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 | <input type="checkbox"/> |
| Norms for uses of manure | <input type="checkbox"/> |
| Permitting system | <input checked="" type="checkbox"/> |
| Bans on or norms for use of pesticides | <input type="checkbox"/> |
| Others (please list): [fill in] | |

Economic and financial measures

- | | |
|--|--------------------------|
| Monetary incentives | <input type="checkbox"/> |
| Environmental taxes (such as fertilizer taxes) | <input type="checkbox"/> |

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: [The country have not yet started mechanized agriculture where such pollutants are likely to occur, therefore pollution related to this sector have not been narrated. Above all, it is humanly possible to have duty of care for other in regard to their health and general wellbeing, having say that it is the sole responsibility for nationals to weight on impacts of their ill practise on others. Other mechanism such as proper waste disposal as safeguarded by the government do help on water pollution in both oil industry and household level]

(f) What are the main measures which your country takes to enhance water resources allocation and use efficiency?

Please tick as appropriate (not all might be relevant)

A regulatory system regarding water abstraction

Monitoring and control of abstractions

Water rights are defined

Water allocation priorities are listed

Water-saving technologies

Advanced irrigation techniques

Demand management activities

Other means (*please list*)

(g) Does your country apply the ecosystems approach?

Yes /No

If yes, please describe how: [Despite the fact that the country is comparatively have plenty of water; we do care to make logical allocation of water equitably through natural mean without artificially aided interference that may disturb the way natural environment work.]

This action in turn make our environment conducive to wild life and above all maintenance good relationship with whom we share the common resource]

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

Yes /No

If yes, please briefly describe the most important measures: [Liquid and solid waste deposition have been in centre stage of ground water pollution therefore, the choice and use of modern technologies available to avert this circumstance are relatively minimal for our case subject to the level of development in the country. But our natural understanding of this aspect help us out. For instance municipalities' waste disposal site are checked against various vulnerabilities such as ground formations and nearness to the water bodies as this factors could aid the leaching of pollutants to the aquifers]

2. Do your national laws require transboundary environmental impact assessment (EIA)?

Yes /No

If yes, please briefly describe the legislative basis, and any related implementing procedures. [The South Sudan Transitional Constitution 2011 prominent environmental protection in Part III Fundamental Objective and Guiding Principles/ Chapter 1 article 41.3. Every person shall have the right to have the environment protected for the benefit of present and future generations through appropriate legislative action and other measures:

If not, do other measures provide for transboundary EIA? [fill in]

IV. Final questions

1. What are the main challenges your country faces in cooperating on transboundary waters?

Differences between national administrative and legal frameworks

Lack of relevant data and information

Difficulties in data and information exchange

Sectoral fragmentation at the national level

Language barrier

Resource constraints

Environmental pressures, e.g. extreme events

Sovereignty concerns

Please list other challenges and/or provide further details: [Early formed agreement sometime are difficult to consolidate the views of newly form countries and neglect from other countries to consider the country to be part and parcel of transboundary water given the fact of borders problems]

2. What have been the main achievements in-cooperating on transboundary waters?

Improved water management

Enhanced regional integration, i.e. beyond water

Adoption of cooperative arrangements

-
- Adoption of joint plans and programmes
 - Long-lasting and sustained cooperation
 - Financial support for joint activities
 - Stronger political will for transboundary water cooperation
 - Better knowledge and understanding
 - Dispute avoidance
 - Stakeholder engagement

Please list other achievements, keys to achieving success, and/or provide concrete examples: [fill in]

3. Please indicate which institutions were consulted during the completion of the questionnaire

- Joint body or mechanism
- Other riparian or aquifer countries
- National water management authority
- Environment agency/ authority
- Basin authority (national)
- Local or provincial government
- Geological survey (national)
- Non-water specific ministries, e.g. foreign affairs, finance, forestry and energy
- Civil society organizations
- Water user associations
- Private sector
- Other (please list): [fill in]

Please briefly describe the process by which the questionnaire was completed:
 [The ministry of Water Resources and Irrigation regarded this activity as national process and intent to inform whoever concern to take active consultation and provide information as deem necessary. In this regard each question was studied to understand who should be involved and opinions were gathered base on the roles of institutions and specific knowledge of subject mater]

4. If you have any other comments please add them here (:): [fill in] this exercise needed partnership for support with development partners because of its importance to the development of the newly created nation and its sustaibability in the region

5. Name and contact details of the person(s) who filled out the questionnaire (*please insert*): Thomas Jang Kan, Directorate of Water Resources Management, Phone No. +211922888328 E-mail: [Peter Mahal Dhieu Akat, Director General, Directorate of Rural Water Supply and Sanitation. Phone No. +211929055558 E-mail Address akatdit65@gmail.com / Alberto Kandido Legge, Directorate of Planning and Programmes, Phone No. +211920115727 E-mail lommoka15@gmail .com/ Gabriel Majok Bol, Directorate of Hydrology - Water information Management unit, Title:

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bolditajak@yahoo.com

]

Date: [5/11/2020] Signature: [fill in]

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