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: Malaysia
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 operationality;

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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>
<thead>
<tr>
<th>Name of transboundary river or lake basin</th>
<th>It is a basin or a sub-basin?</th>
<th>Countries shared with</th>
<th>Surface area of the basin/sub-basin (in km²) within the territory of the country</th>
<th>Map and/or GIS shapesfile provided (yes/no)</th>
<th>Covered by an arrangement (entirely, partly, no) (Ref. to questions in sect. II)</th>
<th>Criterion 1 applied (yes/no) (Ref. to questions in sect. II)</th>
<th>Criterion 2 applied (yes/no) (Ref. to questions in sect. II)</th>
<th>Criterion 3 applied (yes/no) (Ref. to questions in sect. II)</th>
<th>Criterion 4 applied (yes/no) (Ref. to questions in sect. II)</th>
<th>Surface area of the basin/sub-basin (in km²) covered by an operational arrangement within the territory of the country</th>
</tr>
</thead>
<tbody>
<tr>
<td>Golok River</td>
<td>Sub-basin</td>
<td>Thailand</td>
<td>Approx. 1,011 km²</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Pandaruan River</td>
<td>Sub-basin</td>
<td>Brunei</td>
<td>Approx. 221 km²</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Bangau River</td>
<td>Sub-basin</td>
<td>Brunei</td>
<td>Approx. 18 km²</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Sparan River</td>
<td>Sub-basin</td>
<td>Indonesia</td>
<td>Approx. 94 km²</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Sibuku River</td>
<td>Sub-basin</td>
<td>Indonesia</td>
<td>Approx. 790 km²</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Sembakung River</td>
<td>Sub-basin</td>
<td>Indonesia</td>
<td>Approx. 5,468 km²</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Babuyong River</td>
<td>Sub-basin</td>
<td>Indonesia</td>
<td>Approx. 39 km²</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

(A) Total surface area of transboundary basins/sub-basins of rivers and lakes covered by operational arrangements within the territory of the country (in km²)

(do not double count sub-basins)

Approx. 1,011 in Malaysia km²

(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)

Approx. 7650 km²

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1List sub-basins after the basin they belong to.
Table 2

Transboundary aquifers (please add rows as needed)

<table>
<thead>
<tr>
<th>Name of the transboundary aquifer</th>
<th>Countries shared with</th>
<th>Surface area of the aquifer (in km²) within the territory of the country</th>
<th>Map and/or GIS shapefile provided (yes/no)</th>
<th>Covered by an aquifer specific arrangement (entirely, partly, no) (Ref. to questions in sect. II)</th>
<th>Covered within an arrangement not specific to the aquifer (entirely, partly, no) (Ref. to questions in sect. II)</th>
<th>Criterion 1 applied (yes/no) (Ref. to questions in sect. II)</th>
<th>Criterion 2 applied (yes/no) (Ref. to questions in sect. II)</th>
<th>Criterion 3 applied (yes/no) (Ref. to questions in sect. II)</th>
<th>Criterion 4 applied (yes/no) (Ref. to questions in sect. II)</th>
<th>Surface area of the aquifer (in km²) covered by an operational arrangement within the territory of the country</th>
</tr>
</thead>
<tbody>
<tr>
<td>Golok Aquifer</td>
<td>Thailand</td>
<td>2024</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>0</td>
</tr>
<tr>
<td>Palah Basin Aquifer</td>
<td>Indonesia</td>
<td>11316</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>0</td>
</tr>
<tr>
<td>Limbang Aquifer</td>
<td>Brunei Darussalam</td>
<td>6960</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>0</td>
</tr>
<tr>
<td>Baram Aquifer</td>
<td>Brunei Darussalam</td>
<td>30382</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>0</td>
</tr>
<tr>
<td>(C) Sub-total: surface area of transboundary aquifers covered by operational arrangements (in km²)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(D) Total surface area of transboundary aquifers (in km²)

|                                | 50,682                |

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4For 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 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.

5In the text of the agreement or arrangement or in the practice.
Indicator value for the country

Surface waters:
Percentage of surface area of transboundary basins of rivers and lakes covered by an operational arrangement:
\( \frac{A}{B} \times 100 = 13.2\% \)

Aquifers:
Percentage of surface area of transboundary aquifers covered by an operational arrangement:
\( \frac{C}{D} \times 100 = 0 \)

Sustainable Development Goal indicator 6.5.2:
Percentage of surface area of transboundary basins covered by an operational arrangement:
\( \frac{(A + C)}{(B + D)} \times 100 = 1.7\% \)

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:

Figures are based on approximation from topographic maps, as verification is yet to be done.
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): [fill in]*

**Golok River (Malaysia-Thailand transboundary river)**

**Arrangement:** Malaysia – Thailand Joint Committees on Golok River

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, lake basin, or aquifer), sub-basin, part of a basin or group of basins covered by the same agreement or arrangement where conditions are similar. 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 agreements 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: [fill in]**

**Golok River (Malaysia-Thailand transboundary river)**

*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 ariver or lake ☐
- Unconfined aquifer with no or limited relation with surface water ☐
- Confined aquifer connected to surface water ☐
- Confined aquifer with no or limited relation with surface water ☐
- Other ☐
- Please describe: [fill in]
- Unknown ☑

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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.
Percentage of your country’s territory within the basin, sub-basin, part of a basin or group of basins: [fill in]

Information is unavailable as data is yet to be verified.

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]

Arrangement: Malaysia – Thailand Joint Committees on Golok River Rivermouth

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 and provide information on any plans to address the situation: [fill in]

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.

NOTE: Only the information for Golok River has been included in Questions 2 and 3 as there is yet to be agreements or arrangements for the other river basin

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 ☐

It does not cover the entire basin. The arrangement is limited only to the Golok River Rivermouth.

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]

Malaysia (Kelantan) and Thailand (Narathiwat)

(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]
   *Flood and coastal protection

(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]

Hydrological Station: Cableway Gauging Station

(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]

- Construction of Golok cableway gauging station at both sides of the river bank (Malaysia side and Thailand side);
- Sharing of hydrological data (rainfall data) between both countries;
- Improvement of Golok river mouth for navigation (coastal breakwater and dredging projects).
For further information please refer to
http://h2o.water.gov.my/golok/main.html

(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]

Please refer to: http://h2o.water.gov.my/golok/main.html

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]

Federal Government of Malaysia; State Government of Kelantan; and the government of Thailand.

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

All riparian states are members.

(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]

Please refer to: http://h2o.water.gov.my/golok/main.html

Each country hosts its own secretariat

A subsidiary body or bodies

Please list (e.g., working groups on specific topics): [fill in]
- Joint Steering Committee (JSC)
- Joint Technical Working Group (JTWG)
- Joint Evaluation Team (JET)

Other features (please list): [fill in]

(g) What are the tasks and activities of this joint body or mechanism?5

- 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
- 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

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5 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.
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]*

financial, technical and human capital

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]

- Construction of Golok cableway gauging station at both sides of the river bank (Malaysia side and Thailand side);
- Sharing of hydrological data (rainfall data) between both countries;
- Monitoring and improvement of Golok river mouth for navigation (coastal breakwater and dredging projects).

(k) Did the joint body or mechanism ever invite a non-riparian coastal State to cooperate?
Yes [ ] No [x]

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]
There are no relevant coastal states.

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 [ ]

Information is made available at http://h2o.water.gov.my/golok/main.html.

5. How is the transboundary basin, sub-basin, part of a basin 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): [fill in]

Measurement and monitoring of hydromorphic conditions

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 [x]

Once per year [ ]

Less than once per year [ ]

(c) Please describe how information is exchanged (e.g. in connection with meetings of joint bodies): [fill in]

Information is made available at http://h2o.water.gov.my/golok/main.html.

(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): [fill in]
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: [fill in] http://h2o.water.gov.my/golok/main.html*

(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)
   Yes ☑/No ☐

Other (please describe): [fill in]
   • Some of the related data are collected by other government agencies, that falls outside the remit of the arrangement
   • Some data collected are treated as confidential
   • Some data are collected and processed in the language spoken in the respective countries, and will require translation

Additional comments: [fill in]

(h) What are the main benefits of data exchange on the basin, sub-basin, part of a basin or group of basins? (please describe): [fill in]
   • Preparedness for extreme flood and drought event;
   • Discussion on action plans for transboundary river basin management;
- Discussion on water availability assessment and water resources management including the river water quality improvement (sediment transport).

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?

<table>
<thead>
<tr>
<th></th>
<th>Hydrological</th>
<th>Ecological</th>
<th>Chemical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Border surface waters</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Surface waters in the entire basin</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Surface waters on the main watercourse</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Surface waters in part of the basin</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>please describe [fill in]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transboundary aquifer(s) (connected or unconnected)</td>
<td>☐</td>
<td>☐</td>
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</tr>
<tr>
<td>Aquifer(s) in the territory of one riparian hydraulically connected to a transboundary river or lake</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

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

- National monitoring stations connected through a network or common stations ☒

  Please describe: [fill in]

  please refer to [http://h2o.water.gov.my/golok/main.html](http://h2o.water.gov.my/golok/main.html)

- Joint and agreed methodologies ☒

  Please describe: [fill in]

  please refer to [http://h2o.water.gov.my/golok/main.html](http://h2o.water.gov.my/golok/main.html)

- Joint sampling ☒

  Please describe: [fill in]

  please refer to [http://h2o.water.gov.my/golok/main.html](http://h2o.water.gov.my/golok/main.html)

- Common monitoring network ☒

  Please describe: [fill in]

  please refer to [http://h2o.water.gov.my/golok/main.html](http://h2o.water.gov.my/golok/main.html)

- Common agreed parameters ☒

  Please describe: [fill in]

  please refer to [http://h2o.water.gov.my/golok/main.html](http://h2o.water.gov.my/golok/main.html)
(c) Please describe the main achievements regarding joint monitoring, if any: [fill in]
Collection of Golok river hydrological information such as river discharge, rating curves, river water quality, and marine river water quality.

(d) Please describe any difficulties experienced with joint monitoring: [fill in]

No difficulties were faced, except for financial, technical and human capital, to facilitate frequent monitoring.

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 [x]
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: [fill in]

9. Have the riparian States agreed to use joint water quality standards?
Yes [ ] No [x]
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? [fill in]

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

   - Notification and communication [x]
   - Coordinated or jointly 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 [x]
   - 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 [x]
If yes, please provide a brief summary: [fill in]
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 plans² ☐
Public involvement ☐

Other (please specify): [fill in]

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² Or, where applicable, aquifer management plans.
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]

   The following are examples of laws that provide for measures in relation to control and abatement of transboundary impact:


   (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: [fill in]

      They are reflected, implicitly and explicitly in policies and laws in place, such as per the list of laws above, and the National Environmental Policy 2002, National Biodiversity Policy 2016, National Water Resources Policy 2012, and the Malaysia Development Plans.

   (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 ☑
   Mining ☑
   Energy ☑
Municipal
Livestock raising
Aquaculture
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): [fill in]
- Aquaculture and agro-industry
- Sewerage and wastewater management
- Water services (municipal and industrial)
- Land development and mining
- Forestry

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
- Monitoring of physical and chemical impacts on water
- Monitoring of ecological impacts on water
- Conditions on permits
- Inspectorate

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

**Economic and financial measures**
- 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]

(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: [fill in]

Please refer to the report submitted for SDG 6.5.1.

(h) Does your country take specific measures to prevent the pollution of groundwaters?
Yes ☒/No ☐

If yes, please briefly describe the most important measures: [fill in]

Please refer to the report submitted for SDG 6.5.1.
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. [fill in]

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

Current regulatory measures in relation to EIA and the control of pollution, is irrespective whether it is within the country or the impact is transboundary, for example open burning resulting in haze.

- Pollution control of leachate water from landfill;
- Contaminated Land Management and Control Guidelines prepared by Department of Environment.

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: [fill in]

- Establishment of institutional capacity in the form of agreements, treaties or informal working relationships.

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]

It facilitated the exchange of ideas and consultation within the ASEAN and enabled the preparation of reports and action plan on environment to address issues that arise, as discussed at various meetings and workshops held by the ASEAN countries.

The information on the collaboration: http://environment.asean.org/

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: [fill in]

Various workshops were conducted online and face to face, and the forms were distributed to all identified stakeholders.

4. If you have any other comments please add them here (insert comments): [fill in]

The boundaries and area size are meant only for the purposes of this survey, and is not meant to serve as the definitive boundary of any shared basins.

5. Name and contact details of the person(s) who filled out the questionnaire:

Draft Submission: 02/10/2020

Final Revised Submission:

Date: 10/02/2021

Signature:

[signature]

DATO’IR. HJ. NOR HISHAM BIN MOHD GHAZALI
KETUA PENGARAH
JABATAN PENGAIRAN DAN SALIRAN MALAYSIA