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## WORKSHOP IN SUPPORT OF SDGs IMPLEMENTATION

# GROUNDWATER IN THE IMPLEMENTATION OF INDICATOR 6.5.2

*Sub-regional workshop for South America*

Montevideo, 22-23 November 2018

### REPORT



## INTRODUCTION

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In September 2015, the United Nations General Assembly (UNGA) adopted the Agenda 2030 for Sustainable Development, an ambitious "plan of action for people, planet and prosperity", with 17 Sustainable Development Goals (SDGs) and 169 associated targets. The indicator development process was carried out with the participation of all countries, and the indicator framework was adopted through the United Nations General Assembly (Resolution A/RES/71/313).

Target 6.5 of the SDGs promotes the implementation, by countries, of the Integrated Water Resources Management (IWRM) at all levels, including through transboundary cooperation, as appropriate. To measure the progress of transboundary cooperation in accordance with target 6.5, indicator 6.5.2 was adopted. The indicator is defined as the "percentage of transboundary basin areas with an operational arrangement for transboundary cooperation".

UNESCO and UNECE were designated as co-custodian agencies (responsible agencies) for the SDG indicator 6.5.2, given the mandate and experience of these agencies on the topic of transboundary water cooperation. In the first reporting cycle, 107 of the 153 countries that share transboundary waters reported on SDG Indicator 6.5.2.

In the framework of the UN-Water "Integrated Monitoring of SDG6" (GEMI Initiative), it was considered important to organize workshops to support Member States in the reporting process of the indicator and custodian agencies were recommended to take action in this regard.

In addition, the Intergovernmental Council of the International Hydrological Program (IHP) of UNESCO, during its meeting held in Paris, France in June 2018, and the eight Meeting of the Parties of the Water Convention (Nursultan, Kazakhstan, Oct. 2018) approved the decision to organize sub-regional meetings to support Member States in monitoring indicator 6.5.2 of the SDGs.

Following the workshop that took place in July 2018 in Cameroon, for the Central Africa French-speaking countries, the Montevideo workshop is the second of these sub-regional events and has a particular focus on the "aquifer component" of the indicator.

The custodian agencies compile the data corresponding to each indicator and ask for clarifications when inconsistencies are identified. The process of reporting and validation follows these steps: a) UNESCO and UNECE invite countries to send information; b) the countries' authorities appoint a focal point in the competent ministry, c) the focal point, with the approval of its government, send the report on indicator 6.5.2 and d) only the officially submitted data are considered by the custodian agencies, which check the formal issues, the coherence of data and the adequate application of the methodology; e) the custodian agencies submit the data to the United Nations Statistics Division.

The workshop documents (concept note, agenda and list of participants), the presentations made by UNESCO and the countries, the photos, and some additional support and informative material are available at this location:

<https://drive.google.com/drive/folders/1NQSLidRoH8HB8Oz73bRsqwV9leLcyCBX?usp=sharing>

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## WORKSHOP SESSIONS

- **First day - 22 of November**

- A. Opening**

During this session the different speakers (listed in the agenda, and including also Mr. Daniel Greif, National Water Director of Uruguay), expressed their views on the SDGs process, on the importance of the water resources of the region, and on the need of cooperation, especially when addressing the management of transboundary groundwater resources.

Other institutions attending the session (Inter-American Development Bank - IDB, Organization of American States - OAS, Global Water Partnership - GWP Sudamérica and the Regional Center for Groundwater Management - CeReGAS , established in Uruguay under the auspices of UNESCO), expressed their commitment to promoting cooperation and their support to the indicator monitoring activities.

The workshop was attended by representatives of Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Paraguay, Peru, Uruguay and Venezuela.

### **B. Session 1**

UNESCO presented "2030 Agenda: The global process and SDG 6" and "Global baseline for SDG Indicator 6.5.2; Process - Results - Next steps". This constituted the basis for discussion, questions from participants and subsequent clarifications.

### **C. Session 2**

This session provided an opportunity to present the situation of groundwater in each of the participants' countries, as well as the process that was undertaken at national level to prepare the report on SDG indicator 6.5.2 and the calculation of the indicator, as well as the main challenges encountered. The expectations regarding the workshop were also presented here.

Brazil, Colombia, Chile, Paraguay, Peru and Argentina presented their contributions.

- **Second day - November 23**

### **D. Continuation of Session 2**

Ecuador, Venezuela, Bolivia and Uruguay presented their contributions.

### **E. Session 3**

The CeReGAS made a presentation on "Transboundary aquifers in South America", informed about the state of knowledge on this topic in the region, the progress made by the UNESCO-IHP ISARM <sup>1</sup> initiative, and indicated the implications and challenges in terms of availability of data and delineation of aquifers for the calculation of the indicator 6.5.2.

From the presentations, several items were identified as "to elaborate further" in order to prepare possible improvements of the groundwater-related component of the methodology. Some of these points had already been discussed during the first day of the workshop.

- **Working groups - national actions and harmonization between countries**

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<sup>1</sup> The ISARM program (International Shared Aquifers Resource Management) was initiated in the year 2000 by a resolution of the Member States of UNESCO through the Intergovernmental Council of UNESCO IHP. The ISARM program carried out inventories thanks to networks of experts in all regions, but the most structured group was ISARM Americas (Latin America and the Caribbean, plus the USA and Canada).

Three working groups were organized, including each one the following countries: a) Argentina, Brazil, Paraguay and Uruguay; b) Bolivia, Chile and Peru; and c) Ecuador, Colombia and Venezuela.

#### **F. Session 4 and Closing**

This plenary session was devoted to summarizing discussions and to organize the preparation of the report.

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### **CONCLUSIONS OF THE SESSIONS AND RECOMMENDATIONS**

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A summary of the main points addressed in each of the sessions is presented below.

#### **Session 1**

During this session the following comments were made.

##### Methodology, indicators, calculation process, value of the indicator

- Using the same indicators and methodologies to report on groundwater and surface water does not seem appropriate, since their dynamics, distribution and management are different.
- The case of aquifer systems and the case of superimposed aquifers adds complexity to the calculation of the indicator.
- The case of very large transboundary aquifers, it is not always necessarily true that a specific action in one country has a direct impact on another, and doubts arise regarding their "transboundary condition".
- The value of the indicator does not reflect the real efforts in building cooperation and cross-border arrangements, since a "nil" value of the indicator can have different meanings and does not necessarily imply a total lack of information or progress.

##### Sources, availability and validation of information

- The lack or limited availability of information is reported by several countries; this makes reporting difficult or impossible. The costs of developing research limit the production and compilation of knowledge.
- A fundamental difficulty when managing an aquifer and, therefore, establishing an arrangement, is to know its limits and potential.
- Most countries acknowledge that they have used ISARM Americas products as a basis for the identification of transboundary aquifers.
- When looking at transboundary level, there is lack of compatibility of the information on the same aquifer from the different countries.
- UNESCO clarifies that the report preparation process is based on the information received through the national focal points. However, the role of the responsible agencies is to ensure that the indicator calculation method is adequately applied.

- The process of calculating the indicators allow countries to identify areas where information and policies are lacking, as well as possibilities for improvement regarding transboundary cooperation. This process is also useful to assess the allocation of funds, and their possible reassignment, to support requests for international financing, and to strengthen local capacities.

### Suggestions for the future

- Include in the methodology clarifications for the case of aquifer systems or superimposed aquifers.
- In order to make the value of the indicator more significant, complement the information on each aquifer with a summary of information that explains the indicator value or bring evidence on the current status of the cooperation in the river basin / aquifer.
- As information will evolve between reporting cycles, clarify in the synthesis report to be prepared for the next cycle of the results are defined as "based on knowledge to date".
- In order to give greater legitimacy and validity to the indicator, a national responsible focal point is appointed by national authorities. Each country will define at national level criteria to appoint this responsible person.
- The indicators proposed by the 2030 Agenda can "inspire" the creation of new national indicators more adapted to the local or regional reality.
- When relevant, working groups can be organized in regional meetings in order to have common criteria when evaluating the different aspects and variables needed to calculate the indicator value.
- As it is necessary to harmonize information to have comparable statistics, the meetings on SDG indicator 6.5.2 are a good opportunity to revitalize and reinforce the ISARM Programme and be able to progress in the knowledge of transboundary aquifers and its harmonization.

### **Session 2**

No comments are reported from this session because it was devoted to presentations.

### **Session 3**

During this session the following comments were made.

- SDGs are the result of a very long process, of decades-long discussions about issues, regarding topics such as cooperation, information sharing and financing.
- Already in 1977, reference was made to the lack of data and information on transboundary aquifers, but since then there have been significant advances in the region thanks to

ISARM<sup>2</sup> and TWAP<sup>3</sup>; TWAP has the same information and considers the same aquifers, but it improved the aquifer systems' assessment to produce a global overview of the status of transboundary aquifers.

- How to account for different superimposed groundwater systems, for which there is no certainty as to whether they are connected or not (e.g. in the case of Guaraní, Serra Geral and two aquifers overlaid on them in Uruguay): if each aquifer is counted separately, this may have a direct implication in the value of the indicator.
- What part of the aquifer should be accounted for? One could only consider "the transboundary area of influence" of a transboundary aquifer (the area for which the use / contamination of the aquifer can have a transboundary influence within a "reasonable" time frame). The participant from Brazil highlighted that some methodologies have been developed in this sense within the framework of previous projects.
- When the exact area of an aquifer is not known, possibility of including an estimate, so that this does not prevent having a value to the final indicator.

### **Working groups**

#### *Group a) Argentina, Brazil, Paraguay and Uruguay*

The preliminary results of SDG indicator 6.5.2 were discussed in each of the countries and some proposals were presented to improve and harmonize the data and considerations for estimating the indicator between the countries.

Some of the conclusions and proposals were:

- The values of the "surface waters" component of the indicator are notably higher than those corresponding to the "aquifer" component in all countries, to a large extent influenced by the La Plata River Basin Treaty (CIC-Plata).
- There are numerous existing arrangements on transboundary water resources in the region that are and considered operational (for example, the "La Plata River Basin Treaty"). These arrangements, regarding the elements that have been formally subscribed, include both surface water and groundwater. However, if a specific analysis of the "operational arrangement" was made separately by component (surface water and aquifers), it would be observed that for the case of surface waters, the four conditions defined in the calculation methodology of the indicator 6.5.2 are applied. On the contrary, in the case of groundwater, there are no specific periodic meetings or regular exchange of information on the subject.

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<sup>2</sup> ISARM America publications:

1 - Sistemas acuíferos transfronterizos en las Américas: evaluación preliminar;

2- Marco legal e institucional en la gestión de los sistemas acuíferos transfronterizos en las Américas;

3 - Aspectos socioeconómicos, ambientales y climáticos de los sistemas acuíferos transfronterizos de las Américas;

4 - Estrategia regional para la evaluación y gestión de los Sistemas Acuíferos Transfronterizos en las Américas.

<sup>3</sup> TWAP project: (Transboundary Waters Assessment Programme), in which UNESCO and partners executed the "Groundwater" component. Reports: *1 -Transboundary Aquifers and Groundwater Systems of Small Island Developing States: Status and Trends; Volume 1: Groundwater; Summary for Policy-Makers;* *2 - Transboundary Aquifers and Groundwater Systems of Small Island Developing States: Status and Trends; Volume 1: Groundwater.*

- In order to harmonize criteria for estimating the indicator, countries consider it more appropriate to evaluate the "operational arrangement" independently for each component, although both are contemplated under the same arrangement. Thus, the same current arrangement could be considered "operational" for the case of surface water and "non-operational" for the case of groundwater, as it happens in most cases.
- Within the cases that are considered as "without operational arrangements" there is a great variety of situations that deserve to be taken into account. There are aquifer systems in areas far from the large urban centers about which there is little knowledge, almost no information and no current arrangement and, at the same time, others with a significant progress in knowledge and comprehensive shared management (like the Guarani Aquifer System). However, under SDG indicator 6.5.2, they are numerically equivalent since they cannot be considered "under operational arrange". The countries considered that the "aquifer" component of SDG 6.5.2 is poorly reflecting the true situation of the degree of cooperation and progress in joint management of the region's aquifer systems.
- The countries deem necessary to complement the information to have a more encompassing vision of the reality. It was proposed to create a complementary technical sheet (1 page) that summarizes the current status of each of the shared aquifers and put in evidence the significance of different nil values of the "aquifer" component of the indicator. The upper half of the sheet would refer to an overall assessment of the aquifer and would be equivalent for all the countries involved (harmonization); the lower half would correspond to the specific local situation of each country with respect to the same hydrogeological system. It was proposed that UNESCO could prepare the technical sheet to be sent to all countries and that countries should complete this task of harmonization and development of complementary information by the end of 2019 and thus start the second reporting cycle of the indicator in these conditions.
- To allow follow-up, a meeting was proposed via Skype every 6 months and a final face-to-face meeting in the framework of a current project to complete the task by the end of 2019. UNESCO and CeReGAS could assist in the organization of the meeting.
- Countries consider also important to bilaterally develop knowledge and work towards transboundary management of the local systems that are shared only by two countries.
- In the South American context, the countries consider important to channel information and progress through CeReGAS<sup>4</sup> and promote a new phase of the ISARM-Americas Programme to synthesize and consolidate the information that is collected and generated by the countries.

It is noted that several of these considerations take up elements already addressed in Session 1, but they were more specifically discussed in the framework of cases in the region covered by the four countries of the group.

*Group b) Chile, Bolivia, Peru*

It is proposed that countries sensitize the relevant authorities to promote theme 6.5.2 in future meetings.

*Group c) Ecuador, Colombia and Venezuela*

- The use of different classification and delimitation methods for watersheds and aquifers between countries was noticed. This situation generates large discrepancies in the

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<sup>4</sup> The CeReGAS is in charge of coordinating the activities of the ISARM-Americas network.

indicator calculation between countries even when they are related to the same territorial area.

- The aforementioned differences regarding the delimitation of the territorial areas that are relevant for the indicator, prevent the establishment of arrangements or the operationalization of existing ones. In this context, it seems not possible to reach a greater value of the indicator indicating a progress towards SDG target 6.5 and therefore the achievement of SDG6.
- The organization of a sub-regional technical workshop is proposed, in order to give the opportunity to standardize the methods of delimitation and classification of aquifers and river and lake basins used by the different countries. If the objective is to achieve a joint management of transboundary river basins and aquifer between countries, ensuring the consistence on the relevant territorial areas appears as the first necessary step.

#### **Session 4 and Closing**

Some of the suggestions and conclusions of the last plenary session referred to the methodology and the steps to follow.

- Adjustment / clarifications in methodology related to the "aquifer" component (overlapping of aquifers, approximate delineation of aquifers, specific mention of groundwater in the arrangements, "transboundary area of influence" of a transboundary aquifer) or surface water (sub-basins vs the entire basin), or the general approach (summary sheet to describe cooperative efforts that are not reflected by the indicator value).
- Evaluate the need to establish a working group that covers (some of) these aspects.
- Propose that countries inform the relevant authorities to promote the theme of SDG indicator 6.5.2 in future meetings.
- When a framework for cooperation on water already exists, with planned meetings, the theme of 6.5.2 could be included in the agenda of these meetings.

#### **MAIN RECOMMENDATIONS**

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- The current calculation of the indicator does not allow the proper assessment of the progress made in cooperation on transboundary waters, and must be supplemented/adjusted as appropriated. It is recommended to supplement the value of the indicator with an additional sheet on each aquifer, completed by the countries that share it.
- Given the cultural, social, economic, and physical differences of countries in different continents, as well as their different relationship with the resource, it appears difficult to use the same indicator and methodologies for all continents. Exploring possibilities of adaptation of the indicator framework to local conditions is recommended.

It was agreed that the UNESCO Office in Montevideo and CeReGAS would study the possibility that CeReGAS could maintain communication with the countries in support of their work in the calculation of the indicator, including in terms of delineation of aquifers. This would be based on the reactivation of the ISARM network.