

THE NUMBERS TELL THE TALE

IN SEARCH OF MEANINGFUL DATA FOR NATIONAL WATER MANAGEMENT IMPLEMENTATION

*Sandra de Vries, Monique Berendsen, Emilie Broek,
Aart van der Horst, Jos Timmerman, Ronald van Dokkum**

■ With the introduction of the Sustainable Development Goals (SDGs), attention increased towards water with its own goal number 6, and a more comprehensive focus on sustainably managing the entire water cycle in an equitable manner. To meet the needs of the 2030 Agenda, an Integrated Monitoring Initiative for SDG 6 was launched by UN-Water. This article explains the role of the Netherlands in this international process, and how Dutch experiences were shared with other countries as well as with UN-Water. It demonstrates how the established SDG 6 targets and its indicators are useful for a global comparison and analysis of trends but does not suffice for national and local implementation of the SDG targets. Localizing the SDG 6 targets and indicators, or perhaps changing or improving them while considering local circumstances, is essential to receive meaningful data that can enable SDG 6 implementation: sustainable water management and sanitation for all.

An increased attention to water

In 2015, United Nations (UN) member states and a wide variety of stakeholders shaped a new international development agenda to follow up on the Millennium Development Goals (MDGs). The MDGs aimed to improve the social and economic situation in developing countries and, with respect to water, were limited to drinking water and sanitation, leaving other water issues out. With the agreement of the Sustainable Development Goals (SDGs) this changed, and water received a more prominent place with its own goal number 6, granting a more comprehensive focus on sustainably managing the whole water cycle in an equitable manner. Another difference is that the SDG's are applicable to the entire world and not only to developing countries.

To ensure availability and sustainable management of water for all, SDG 6 targets both water quantity and quality, water governance, water ecology and (transboundary) water management.

Like all other countries, the Netherlands is obliged to implement and monitor the Goals. Not only does the Netherlands report on the Dutch SDG 6 status, it also aims to support other countries to implement the water related SDGs. The shift from MDGs to SDGs has implications on monitoring: where the MDGs included only three indicators on water and sanitation, SDG 6 include 11. And where the MDG indicators were monitored primarily through household surveys, SDG 6 monitoring will necessarily involve a large number of national authorities from across sectors. There is thus a great need to strengthen national capacity and

* **Sandra de Vries**, Citizen Science project developer at PULSAQUA (www.pulsaqua.com) and guest researcher at the Delft University of Technology); **Monique Berendsen**, Netherlands Focal Point SDG 6, Senior-Policymaker at the directorate-general Water and Soil of the Ministry of Infrastructure and Water Management; **Emilie Broek**, Secretary Netherlands IHP-HWRP committee (www.ihp-hwrp.nl); **Aart van der Horst**, Senior Policy Advisor Water at the Ministry of Foreign Affairs; **Jos Timmerman**, Founder and consultant on Water and Climate Change of Waterframes; **Ronald van Dokkum**, Advisor Water quality and Nature Management at Rijkswaterstaat.

INDICATORS	TIER	CUSTODIANS
6.1.1 Proportion of population using safely managed drinking water services	II	WHO, UNICEF
6.2.1 Proportion of population using safely managed sanitation services, including a hand-washing facility with soap and water	II	WHO, UNICEF
6.3.1 Proportion of wastewater safely treated	II	WHO, UN-Habitat, UNSD
6.3.2 Proportion of bodies of water with good ambient water quality	II	UN Environment
6.4.1 Change in water-use efficiency over time	II	FAO
6.4.2 Level of water stress: freshwater withdrawal as a proportion of available freshwater resources	I	FAO
6.5.1 Degree of integrated water resources management implementation (0-100)	I	UN Environment
6.5.2 Proportion of transboundary basin area with an operational arrangement for water cooperation	I	UNESCO, UNECE
6.6.1 Change in the extent of water-related ecosystems over time	I	UN Environment, Ramsar
6.a.1 Amount of water- and sanitation-related official development assistance that is part of a government-coordinated spending plan	I	WHO, UN Environment, OECD
6.b.1 Proportion of local administrative units with established and operational policies and procedures for participation of local communities in water and sanitation management	I	WHO, UN Environment, OECD

Figure 1: The IAEG-SDG indicators, the assigned tiers to the indicators, and the custodian agencies responsible for data collection and methodology development (adopted from SDG 6 Table Indicators, UN-Water, 2019)

resources for monitoring, and to generate political support to do so (UN Water, 2019).

Developing methodologies

SDG 6 monitoring is crucial for accelerating and improving its implementation. Data is the lifeblood of decision-making and the raw material for accountability. Only what gets measured gets managed, meaning there is a fair chance to achieve the projected results, the necessary financial resources support and the political commitment.

For each SDG 6 target a different UN custodian agency is responsible for the development of methodologies to monitor a series of defined indicators as agreed upon by the Inter Agency Expert Group (IAEG), a group under the UN Statistical Commission (UN Water, 2019). In Figure 1 the indicators and its respective custodian agencies are listed. The IAEG-SDG has categorized all the SDG

global indicators into three different tiers, depending on the maturity of the methodology to monitor the indicator and to what extent indicator data are already collected. Tier I indicators have an established methodology and standard, and data is regularly produced by countries; tier II indicators have an established methodology and standard, but data is not regularly produced by countries; and tier III indicators lack established methodology and standards.

For SDG 6, indicators 6.3.2, 6.4.1 and 6.6.1 were categorized as tier III in 2017. Recognizing the importance of integration across the goal and to establish and manage a coherent monitoring framework for water and sanitation, the UN custodian agencies for SDG 6 are collaborating under the UN-Water Integrated Monitoring Initiative. This initiative, including substantive support to countries, has resulted in six indicators being in tier I, five in tier II, and none in tier III anymore.

A Proof of Concept: experiences from the Netherlands

In order to facilitate the first phase of methodological development, a Proof of Concept (PoC) process was created to assess the methodologies developed by the custodian agencies. The concept was that all PoC countries, one from each continent, would collect the necessary data requested in the supplied methodologies and provide input and feedback on the methodologies, including the provided step-by-step guide and technical support for each SDG.

As a country that is known for its water management, the Netherlands was requested to be a Proof of Concept country for the monitoring of SDG 6, as were Jordan, Peru, Bangladesh, Uganda, and Senegal. Supposedly, reporting on SDG 6 is easy for the Netherlands being a highly developed country with a long history in water management. This is not entirely true, however. Whereas the data requested for indicators 6.3.2, 6.5.1, 6.5.2, and 6.6.1 are available, but scattered across different institutions, data requested for indicator 6.2.1 are not monitored completely. To be able to deliver data on the use of sanitation services (6.2.1a), the Netherlands must use the account for homeless people, assuming all but homeless people have availability to sanitation services. Figure 2 shows the figure that is derived from data provided for SDG 6.



Figure 2: Level of achievement of SDG 6 in the Netherlands. 67% of the indicators are improving, whereas 33% is not showing any significant change (adapted from CBS, 2019)

The PoC process was coordinated by the Netherlands IHP-HWRP committee, a committee that connects research and policy organizations in the Netherlands working on water to contribute to the UNESCO International Hydrological Program (IHP) and WMO Hydrological Water Resources Program (HWRP). Combining the networks and knowledge of its members, the committee facilitated a process where organizations involved in data collection were brought together, discussing the methodologies, data availability, and indicator applicability towards implementing and achieving the SDG 6 targets (Ter Horst, R. 2016).

To enable the sharing of experiences between PoC countries, the Netherlands hosted a Proof of Concept Workshop in the Netherlands in September 2016 for the PoC countries and the UN custodian agencies. It gave the custodian agencies and UN-Water important input to improve the methodologies and take note of possible future needs from countries to enable monitoring. The most important lessons learned included (Ter Horst, R. 2016):

- Indicator disaggregation is necessary to make monitoring at a national level applicable for local implementation. **The national number does not tell the tale in a local situation.**
- Certain methodologies do result into a number for comparison between countries, but do not give a correct impression. The final value of indicator SDG 6.4.1 combines water efficiency for all sectors, while there can be huge differences. Combining the sectors gives an incorrect and almost useless number. **Combined numbers into 1 single number do not tell the correct tale.**
- Several times, replacing indicators were suggested. Defining good ambient water quality in indicator SDG 6.3.2 was recommended to be replaced by defining the presence of fish species, to indicate that the basic ecological requirements and a minimum of water quality or habitat availability are being met. **Find another number to tell a more meaningful tale.**
- Several methodologies collected statistical data while newer or alternative data collection from i.e. satellites can give an improved insight. For SDG 6.4.2 the ladder approach (Box 1) was recommended: to improve the internal flow calculation, remote sensing evapotranspiration data and in/outflow data from models can be used (Graveland C. et al., 2016). **There is a better way to find the number to tell a more elaborate tale.**
- Most importantly, monitoring of SDG indicators is not about data gathering for the sake of data gathering, but to support decision making processes for improved implementation of the SDG targets. To facilitate this, data should be analysed comprehensively. The indicator methodologies of target 6.3 to 6.6 facilitate this to some extent but are not extensive in how to apply the resulting information for improved implementation of the SDG target. **I know the number, but I do not understand which tale it tells!**

The Proof of Concept process resulted in methodologies developed, tested, and revised, and a range of tools and capacity building mechanisms. This was reason for the UN Water Integrated Monitoring Initiative to move towards the second phase, with the objective to generate a robust baseline for each indicator in as many countries as possible. To this end, countries worldwide were invited to familiarize with the SDG 6 indicators and start the monitoring and reporting process. As a kick-off, the Ministry of Infrastructure and Water Management offered to host the UN-Water Global workshop in November 2017 in Scheveningen, the Netherlands. More than eighty countries participated in this workshop and expressed again the need to support countries in developing national

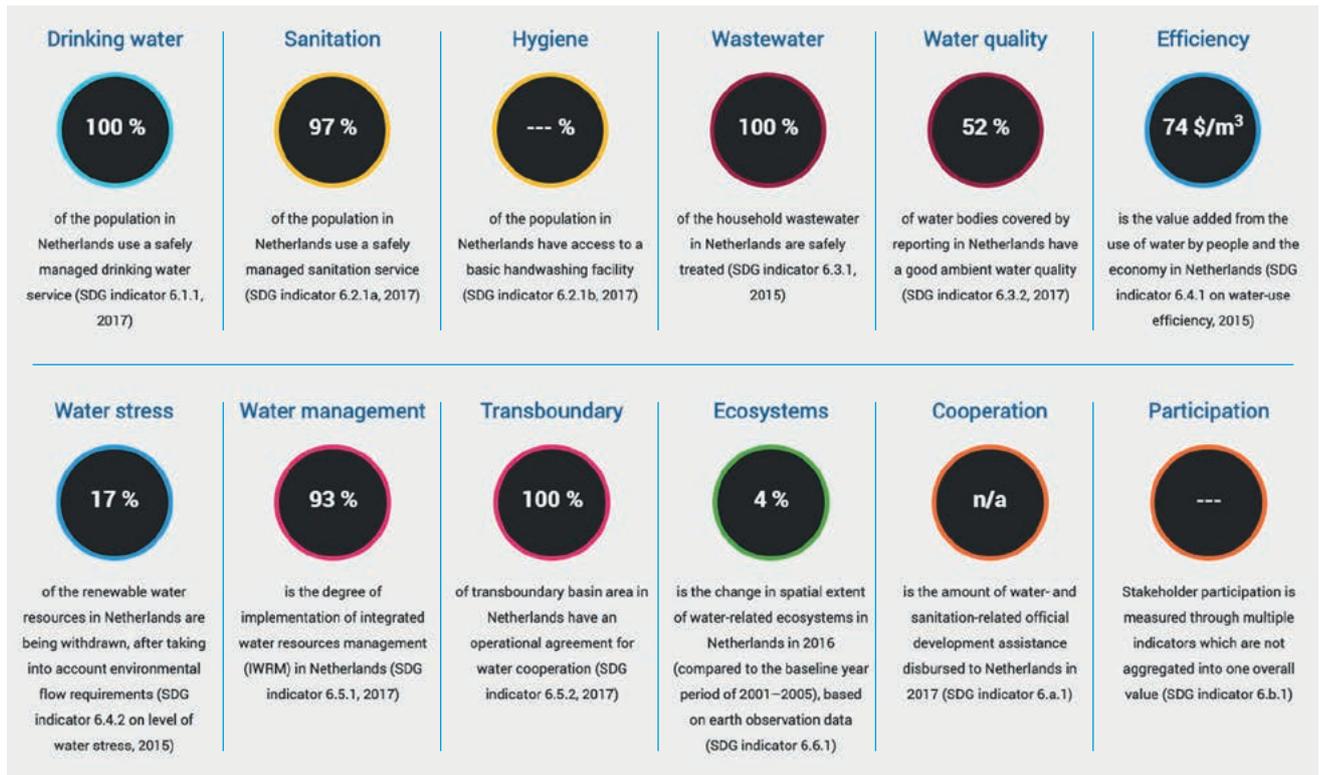


Figure 3: SDG 6 status of the Netherlands, adapted figure from the SDG 6data portal of UN Water on October 7, 2019

information systems, as well as to improve monitoring methodologies and data collection procedures (UN-Water, 2018).

The national needs are different from the global demands

The Dutch Central Bureau of Statistics (CBS) is responsible for reporting to the UN on the 17 SDGs. For the different SDG 6 indicators, institutions and contact persons are assigned. CBS collects all the information from the different institutions. In 2016 and 2018 they reported to the UN as well as published national reports on the Dutch trends concerning the SDG achievements (CBS, 2016a, CBS, 2018a). The last report demonstrates that the trend of SDG 6 moves in the direction that is associated with an improvement of the general wellbeing of the country, as can be seen in Figure 2 (CBS, 2019).

The reported SDG 6 numbers towards the UN for the Netherlands are depicted in Figure 3. Data on hygiene (hand washing) has until now not been collected in the Netherlands. There were also no aspirations to start collecting data on this SDG indicator, as it was not identified as a national concern. This might change in the future. In many other countries, handwashing is a concern, making the indicator relevant considering the SDG objectives. The indicators 6.a.1 and 6.b.1 are both not filled, since the first refers to the amount of official development assistance disbursed to the Netherlands,

which is not applicable for the Netherlands, and the second indicator is not aggregated into one overall value.

To increase relevance for the Dutch policy processes, the CBS uses so-called SDGplus indicators, which are the SDG indicators enriched with CES indicators: international recommendations from the Conference of European Statistics to monitor the broad wellbeing of the country. They have been chosen because they apply better to the Dutch situation. In that way, the SDG indicators are a useful entry point to explore possible solutions but are also immediately translated to the Dutch local context and needs for measures to be taken.

Defining a national information strategy to reach SDG 6

Making the right choices for sustainable investments in order to meet the ambition of SDG 6 requires sound, evidence-based information, and knowledge of all dimensions of sustainability. Now the Global ambition has been set, national action by member states is needed on the monitoring, to produce information that responds to their needs and really helps them to secure sustainable development and investments.

UN-Water concludes in its synthesis report on SDG 6, that there is a lack of information in many countries and expresses the need to localize and adapt the

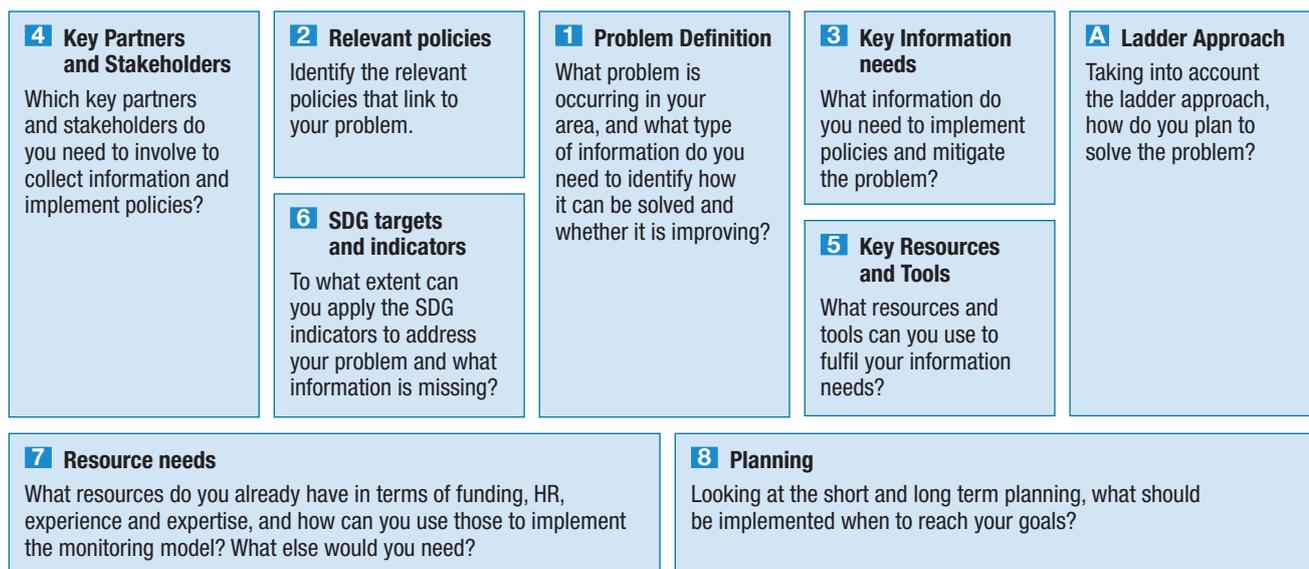


Figure 4: Information Strategy Model

global SDG 6 targets to the country needs in order to incorporate them into national planning processes policies and strategies to set their own targets, taking into account local circumstances. They also advise to include smart technologies like citizen science and remote sensing to improve management and service delivery (UN-Water, 2018).

Reporting at a global level is important for setting a baseline, for comparing between countries, and to hold member states accountable. But it will not be enough to implement and achieve the SDGs within countries. The Netherlands Ministry of Infrastructure and Water Management decided to focus specifically on improving national monitoring, collection of data and information needed at the national level.

The ‘International Workshop: Defining a National Information Strategy in view of Reaching SDG 6’ was organized from 21 till 23 of May 2019, in Delft, the Netherlands. The Ministry of Infrastructure and Water Management invited countries with whom it has a longstanding cooperation on water management to exchange experiences. Participants from Chile, Colombia, Ethiopia, Egypt, Indonesia, Jordan, Kenya, the Netherlands, Myanmar, Peru, Poland, Tajikistan, Uganda, and Vietnam attended the international workshop. They discussed methodologies to improve the collection of data and information at the national level to enable countries to improve the monitoring relevant to SDG 6.

The workshop provided guidance on how to develop an information system, even under limited availability of resources. In the workshop the participants worked on specific case studies of water management challenges related to SDG targets 6.3 and/or 6.4 in their respective countries.

Masterclasses were given on different methodologies for data collection like remote sensing, emission registration by companies, citizen science, drones & sensors, social media data, and use of models for data scarce locations. This allowed the participants to discover the possibilities of open data and smart technologies to improve monitoring systems.

BOX 1: THE LADDER APPROACH

The ladder approach as used in the global indicator methodologies is largely on improving the information available to populate the indicators. At a more generic level, the ladder approach starts from the question “do I have enough information to act?” If yes, then there is no need to collect further information. This is founded in the fact that in a data-poor environment one should only focus on the information needed to mitigate the most pressing problems. Getting a more balanced view of the situation based on a set of indicators is further up the ladder.

From most countries policy as well as technical experts worked together on their country challenge during the workshop, while considering both the technical and policy side. During the 3-day workshop, participants filled an Information Strategy Model (ISM) with content derived from their own case study (De Vries, S., 2019). The ISM was designed based on the Business Canvass model and the Information Cycle (Timmerman et al., 2000). The ISM enables the search for meaningful information that can be used for national applicable SDG 6 implementation, describing the rationale of why the information is needed. See Figure 4 for the ISM template. A specific element in the ISM is the ‘ladder approach’, that supports a stepwise approach, only collecting further information if needed for decision-making (Box1).

To conclude

For long-term sustainability, it is essential to align the SDG monitoring process with existing national monitoring and reporting processes within all relevant sectors and the National Statistical Office, as well as with policy- and decision-making processes and existing institutional and coordination frameworks. The monitoring process needs to be accurately reflected in workplans and budgets. National governments must decide how to incorporate SDG 6 targets into national planning processes, policies and strategies, and set their own targets, considering local circumstances.

To this end, the SDG 6 indicators should be reviewed relative to the information requirements for national policy making. The SDG targets and indicators (and reported data) have shown to be a valuable entry point and resource to explore possible solutions to water management issues. As such, they fulfil their purpose of providing a global perspective. They can be especially useful for hot spot/hot issue analyses and prioritization, but countries need to realise that there is a need to translate the data to their local context and actual measures to be taken. Countries therefore need to identify the domestic issues and priorities and design their monitoring accordingly. The (disaggregated) SDG 6 data can provide a first overall view and help in prioritising issues. But, as the Dutch case shows, not all indicators have the same level of relevance to all countries. And in the Netherlands, a next step to improve towards monitoring practices and reporting that could deliver more meaningful data, is to work towards a disaggregation of the data over space and time. For SDG 6.3, SDG 6.4, and SDG 6.5 it would for example be of interest to disaggregate the data over the 4 different watersheds, and over the different seasons.

In many countries, there is a lack of (quality) data and a need for additional information sources. Open data and additional data sources including citizen science and satellite data, are key to getting close to understanding the real issue. The Netherlands has been moving toward more participating water management practices, also for monitoring, ever since the OECD report of 2014 where it was concluded that the Dutch inhabitants lacked in water awareness.

For countries that are in search of meaningful data and information for national SDG 6 implementation, or in the process of structuring and organizing pathways and stakeholders needed towards real world solutions, the Information Strategy Model can be a good framework to use.

SAMENVATTING

Door de introductie van de Duurzame Ontwikkelingsdoelen met een specifiek doel gericht op water (SDG 6), is er internationaal meer aandacht gekomen voor duurzaam waterbeheer van de gehele watercyclus. UN-Water is de coördinerende instantie voor VN-organisaties betrokken bij de verschillende water onderwerpen. Om recht te doen aan het integrale karakter van water in de 2030 Agenda, lanceerde UN-Water een Integraal Monitoring Initiatief. Dit artikel beschrijft hoe de Nederlandse ervaringen zijn gedeeld met andere landen en met UN-Water in dit internationale proces. Het integrale waterdoel met zijn deeldoelen en indicatoren (SDG 6) is belangrijk om de mondiale voortgang van landen te kunnen meten, maar geeft de landen onvoldoende informatie om de benodigde maatregelen op nationaal niveau te kunnen bepalen. Om het waterdoel te halen: duurzaam waterbeheer en sanitaire voorzieningen voor allen, is het essentieel dat landen een doorvertaling maken naar nationale doelen en indicatoren om zo de benodigde maatregelen te kunnen nemen.

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