

Review of draft monitoring methodologies for SDG 6 global indicators – **Summary of feedback and responses – 6.6.1**

About the review

Between April and November 2016, the draft monitoring methodologies for SDG 6 global indicators were pilot tested at scale in five countries (Jordan, the Netherlands, Peru, Senegal, and Uganda), with the objective to collect feedback on technical feasibility, usefulness for policy making, institutional models for implementation, and capacity requirements.

In addition, between August and October 2016, UN-Water carried out an external review of the draft monitoring methodologies, to collect feedback from country and international experts.

The objective of both of these exercises was to improve the methodologies and inform the process of global rollout of the methodologies starting in 2017.

Below follows a summary of the feedback received for a specific indicator and the response from the indicator's custodian agency(ies).

Summary

Indicator: 6.6.1

Custodian agency/agencies: UN Environment (UNEP)

Table of Contents

List of sources of feedback.....	3
PART 1 of review	5
UN-WATER Members and Partners and others.....	11

List of sources of feedback

COUNTRIES

Abbreviation	Country	Organization	Name	Position
Jordan		none received		
N'lands	Netherlands (The)	Ministry of Infrastructure and the Environment, Rijkswaterstaat, Deltares, Ministry of Economic Affairs (tbc), Wageningen University (tbc)	Marcel van den Berg, Monique Berendsen	
Peru	Peru	Ministry of Agriculture	Erick García Gonzales, Michael Pacherres Cayotopa, William Atencio Mamani, Walter Humaní Anampa, Marco Sotomayor Berrio, José Arias Vera	Ministry
Pilot Delft	International	Reps from Peru, Uganda, Senegal, the Netherlands and Jordan during the Delft GEMI workshop.	Multiple	
Senegal	Senegal	Ministere de L'hydraulique et de L'assainissement, Direction de la Gestion et de la Planification Des Ressources en Eau National Parks Directorate (DPN)		Ministry
Uganda	Uganda	Ministry of Water and Environment		

UN-WATER Members and Partners and others

Abbreviation	Organization	Name	Position
CEO-WM	UN-Global Compact CEO Water Mandate	Tien Shiao, Peter Schulte, Jason Morrison	-
UNCEEA	UNCEEA - United Nations Committee of Experts on Environmental-Economic Accounting	UNCEEA	-
SIWI	Stockholm International Water Institute	Anna Forslund	
UN-ESCAP	Economic and Social Commission for Asia and the Pacific, Environment Development Division	Aneta Nikolova / Nina Schneider	Environment Affairs Officer / Data and Policy Analyst

Review of draft monitoring methodologies for SDG 6 global indicators – Summary of feedback and responses – 6.6.1

UniD'Av	Hydrogeology Laboratory, University of Avignon (UNESCO partner?).	Marc Leblanc	Director
Ramsar	Ramsar Convention on Wetlands	Ania Grobicki	Deputy DG
WWF	World Wildlife Fund	Sarah Davidson	WWF US
CBD	Convention on Biological Diversity	Annie Cung on behalf of Sakhile Koketso	Secretariat of CBD

Feedback and responses

Key feedback received	Source	Response and rationale ¹
PART 1 of review		
What feedback do you have on the draft methodology , considering its relevance, complexity, and feasibility, its consistency with existing standards, and likely data availability, access and disaggregation?		
Technical steps to test methodology: s.	Uganda	<p>It was not possible to describe the “natural” condition as monitoring has only recently begun. For spatial extent, Uganda has a 1994 database that can act as baseline. The Directorate of Water Resources Management monitors the quantity and quality of water resources and has done so over a long time, however 2012 was used as the baseline although it is acknowledged that the ecosystems were already degraded by then.</p> <p>For spatial extent monitoring, Uganda elected to use its own methods of monitoring but does not say whether these were using EO and ground-truthing. For quantity of water, Uganda elected to monitor only the main rivers and not tributaries. They also presently use the median streamflow and prefer that to the median statistic recommended.</p> <p>Lake volume, Uganda presently monitors lake level but does not have bathymetric data thus cannot compute volume.</p> <p>Groundwater levels are monitored and data is available.</p> <p>Ecosystem health monitoring has only been sporadic. Uganda proposes to use water quality for this purpose until an ecosystem health monitoring programme can be developed.</p> <p>Frequency of monitoring – Uganda recommend annual monitoring so as to capture short-term changes.</p> <p>Reporting: the results are presented in a single table. This table does not reflect the reference and present day statistics which makes it difficult to interpret, even though the % change is reflected. Thus for river quantity, there is a 15% increase in flow and a 31% change in lake health. Presentation of some detail would help to understand this data which otherwise simply becomes a number to be computed.</p>

¹ How the feedback will be used to revise the methodology or in plans for rollout; in cases where the feedback cannot be used, an explanation of why

	N'lands	<ol style="list-style-type: none"> 1. They are developing an Ecosystem Account that will provide data and tracks changes in ES including change in extent – following UNSEEA approach. 2. Expect results for above in 2017 and 2018 3. Do not have any data on wetlands but only “open water nature”. They also have the WFD map that includesd 20 types of water bodies 4. Expect a detailed map of groundwater to be available 2018. 5. Monitoring of wetlands is done at a provincial level and shared by the Interprovinciaal Overleg, 6. Anticipate ecosystem health data from State of Nature reports. 7. POC only done with existing databases. 8. data for this indicator are not held in the national statistics database, but are only present in authorized (nationally and regionally) and public databases 9. There is no direct data on wetlands, but data on ‘open wet nature’ can be used as proxy 10. An alternative way of monitoring is proposed, for instance using the Deltares Aqua Monitor but this is still experimental. This is noted below. 11. Data is mostly held by Statistics Netherlands. 12. Reference conditions go back to 1996 but maybe 1950s in many situations. However a true reference condition for the Netherlands is problematic given its history of being under the sea (partially)! 13. It is unclear which ecosystems are part of the methodology. If countries choose a different approach based on this, are the outcomes still comparable? 14. Yes the 6.6.1 data will be useful and will be used by provinces 15. The method does link to existing processes. 16. Frequency of <i>monitoring</i> and <i>reporting</i> will be different. The frequency will differ per indicator. Furthermore, interpretation of the monitoring and reports will be much more important. A yearly report for 6.6.1 will be a challenge, and neither will it be useful as change will come slowly. We advise to report every 2 or 3 years 17. The Deltares Aqua Monitor (http://aqua-monitor.deltares.nl) is claimed to be the first global-scale tool that shows at 30-meter resolution where
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Review of draft monitoring methodologies for SDG 6 global indicators – Summary of feedback and responses – 6.6.1

		<p>water is converted to land and vice versa. However on review, this method does not give spatial extent of wetlands but just open water. Inaccuracies were also found e.g. Lake Kariba.</p>
	N'lands	<ol style="list-style-type: none"> 1. This indicator had not been investigated in the Netherlands prior to this meeting however it was suggested that the Water Framework Directive data should assist. 2. The question was raised if a country could opt to include additional ecosystems – which is possible according to the method. Uganda raise the importance of forests, although at the Uganda final meeting it was suggested that only swamp forests would be appropriate for this indicator.
	Peru	<ol style="list-style-type: none"> 1. Peru has management tools that include water-related ecosystems such as the Water Resources Policy and Strategy (PENRH, ANA 2009 and 2015), The National Wetlands Strategy (ENH, MINAM, 2015) and the National Biodiversity Strategy (ENDB and MINAM, 2014). There is also the Wetlands -CNH, a Commission created to promote the proper management of wetlands at the national level. 2. The PENRH refers to conservation of ecosystems as its first priority. 3. They do not consider reservoirs or aquifers as ecosystems but rather relate these to the sustainability of linked surface-water ecosystems. 4. Another modification made locally has been to include the extension of watercourses, i.e. the length in km of the hydrographic network. 5. The health or ecosystem status, the Working Group considered this to be difficult to measure at the national level, although an approximation can be made through the use of satellite images e.g. the use of Vegetation NDVI. They will however prioritise sites of importance for development of an approach. 6. Peru has launched in 2016 its first terrestrial observation satellite called PeruSat-01, which was operational at the end of 2016. 7. They will include quantification of water in wetlands based on soil water.

		<ol style="list-style-type: none"> 8. They are carrying out a wetland inventory using EO with data back to 2000 but this will only be complete for the country by 2018 (initial) and 2021 (full inventory) 9. They have carried out detailed inventories of the extent of wetlands, lakes and ponds but only in some areas. Have also done volumes and discharges in some areas. Ecological health was not done as they do not have data. 10. The Peru report provides a great deal of information on how they undertook the 6.6. monitoring for each of the sub-indicators. 11. Peru embraced the concept of a natural or historical reference condition. 12. They noted that in their estimation of change in wetland extent in the Alto Pisco region, that the measured change was spurious and was in fact a short-term change combined with data interpretation. 13. River discharge was collected for some sites but with limitations, with data from 1960. Stream-flow data is not continuous and nor does it cover the whole country. However a plan is in place to implement this. Groundwater data was also poor and is usually monitored only in agricultural areas, however a plan is in place to expand this. 14. Lake volume was measured for selected lakes with a reference of 2005. 15. They calculated the final 6.6.1 indicator using three sub-indicators i.e. change in ecosystem extent, change in flow rate and change in storage. 16. They acknowledge that the lack of data was a limitation. 17. The results of the proof of concept testing was influenced by three factors: i) the methodology used for calculation of spatial extent using satellite images, being either visual or digital or mixed, influenced the extent of change calculated by the sub-indicator; ii) the change in the extent of wetlands over time is influenced by determination of reference state and current state, which depends on the selected cartographic scale and the spatial resolution of the satellite images used, and iii) the climatic conditions, specifically the precipitation that occurred in the year of evaluation, influenced the extent of the wetlands, thus important to consider the dry and wet season for the year of analysis and if possible a multi-year analysis based on years of normal precipitation should be done. They make an excellent analysis of the issues associated with the above.
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Review of draft monitoring methodologies for SDG 6 global indicators – Summary of feedback and responses – 6.6.1

		<p>18. It was identified that this indicator should be prioritized in the country to report at national level within the framework of the SDG 6. A proposal has been formulated to carry out a national inventory of wetlands that would be the baseline of this indicator.</p> <p>19. Interpretation of the values of the sub-indicators needs refinement and they recommended a workshop of POC countries to this effect. Also recommend online forums or videoconferences.</p> <p>20. They recommend a 5 yearly monitoring frequency.</p> <p>21. They recommend a detailed protocol to minimise variability.</p> <p>22. They support the use of a natural or historical reference, but propose that careful interpretation be done to ensure that a change is actually a degradation and not due to some other factor.</p>
	Senegal	<ol style="list-style-type: none"> 1. Very comprehensive review and generation of real results in tabular format 2. Experienced lack of comprehensive WQ data 3. Did not have remote sensing data on spatial extent and require capacity building. They used national RAMSAR data for reporting. 4. River flow was obtained from gauging stations 5. Reporting would be possible annually as monitoring is done with greater frequency. 6. Suggest to integrate spatial extent of certain plant species e.g. typha, with wetlands extent. 7. Suggested that a natural reference state is debatable as artificial reservoirs are essential parts of their ecosystem 8. They do include seasonal variation in their standard monitoring
Feasibility:	Uganda	In Uganda generally the indicator was “appropriate and useful”.
	N’lands	
	Peru	<ol style="list-style-type: none"> 1. Their conclusion was that they successfully applied the 6.6.1 methodology but with limitations – including that the analysis could only be done for a part of the country. 2. They noted that the indicator was simple to calculate, but interpretation was important to prevent wrong conclusions. 3. They found it necessary to adapt the methods based on local knowledge.

Review of draft monitoring methodologies for SDG 6 global indicators – Summary of feedback and responses – 6.6.1

	Senegal	Expressed support for implementation and provided a budget and plan.
Effectiveness:	Uganda	The Ugandan testing of 6.6.1 was somewhat effective, but because there is no indication in the report of how the data was used this is difficult to evaluate.
	N'lands	It was suggested to use the DPSIR framework that is use for the Water Framework Directive for the design and reporting of the method. It was however reported that this may not be suitable for global reporting and the framework could be integrated with the 6.5.1 method. It was noted that use of global EO data may be politically sensitive. The Deltares method was then demonstrated to show how this can be used. It was suggested that 2017 would be a suitable baseline for the Netherlands, Uganda and EU countries.
	Peru	Peru considers that the information obtained from the proposed methodologies for indicator 6.6.1 is of significant value for inclusion of water-related ecosystems in Integrated Water Resources Management (IWRM). Goal 6.6 is aligned very well with the national management instruments related to water resources and ecosystems, such as the National Policy and Strategy for Water Resources, the National Wetland Strategy and the National Biodiversity Strategy.
	Senegal	Very useful data will be generated by 6.6.1 to provide tools for decision making by financiers, technical decision makers and authorities.
Ladder approach: The	Pilot Delft	Uganda included data based on its availability and did not follow the progressive monitoring approach recommended in the 6.6.1 method. This is likely to be a common situation.
	Peru	They agree with the proposal for progressive monitoring and implemented it well.
	Senegal	Implemented the progressive monitoring effectively.

UN-WATER Members and Partners and others		
What feedback do you have on the draft methodology , considering its relevance, complexity, and feasibility, its consistency with existing standards, and likely data availability, access and disaggregation?		
<ol style="list-style-type: none"> 1. Concern about the use of a complex index aggregating different sub-indicators. Suggestion to limit this to spatial extent. 2. Suggest a target of no net loss. Disagree with the use of a “natural or reference condition”. 3. Request that reporting methodologies from the Ramsar Convention should be included. 4. Other sub-indicators (quantity and ecosystem health) are complex and render the spatial extent indicator meaningless if aggregated (<i>will result in a meaningless number, which will be hard to interpret, and which does not respond directly to any internationally-agreed targets</i>) 5. Ramsar agree that quantity and ecosystem health are important and should be introduced in a phased manner 6. Recommend pilot studies to test inclusion of the quantity and ecosystem health sub-indicators 	<p>Ramsar</p>	<ol style="list-style-type: none"> 1. There is plenty of precedence in sustainability indicators which use similar aggregates e.g. the review by <i>Juwana, I. Muttill, N & Perera B.J.C (2012) Indicator-based water sustainability assessment – A review. Science of the Total Environment 438: 357–371</i>. The latest approach by the UNSC Advancing SEEA Experimental Ecosystem Accounting Project also makes use of an aggregated index. Thus we feel that over time the aggregation can be refined and will take on meaning as data is collected. 2. The target of no net loss is now included. The natural reference condition has been amended to follow Ramsar suggestions of a 2017 baseline – for spatial extent only. It should be noted that Ramsar’s own WET Index makes use of a 1970 reference condition (Dixon et al 2015) which would provide at least some measure of reference approaching the natural more so than the present. This decision should be confirmed by Ramsar. Quantity and ecosystem health are commonly referenced to natural conditions which will remain. 3. The National Reporting Framework comprises 92 questions that cover mostly policy and procedural aspects. Question 8.6 asks “Based upon the National Wetland Inventory if available please provide a baseline figure in square kilometres for the extent of wetlands (according to the Ramsar definition) for the year 2017. SDG Target 6.6”. This reporting requirement will be included in the 6.6.1 method but as a part. Most of the questions also ask for contributions by countries towards achievement of Achi Targets and SDGs but do not have a specific format for reporting.

Review of draft monitoring methodologies for SDG 6 global indicators – Summary of feedback and responses – 6.6.1

		<ol style="list-style-type: none"> 4. As noted above, it is expected over time the aggregation can be refined and will take on a meaning as comparative evidence is accumulated. 5. The phased approach is included in the 6.6.1 method. However both spatial extent and quantity are recommended at the start – given that most countries already do this quantity measurement of both or it can be determined using global models. 6. The 2016 pilot tests were required to test the method (no results have been received yet)
<ol style="list-style-type: none"> 1. Develop quantitative targets for Sri Lanka 2. Identify institutional framework 3. Support data for a sustainable water cycle 	UN-ESCAP	There is no specific response to this as these things are the intention of the indicators
<ol style="list-style-type: none"> 1. Concern that some sub-indicators do not measure ecosystem health (quantity). 2. Spatial extent – recommend to exclude artificial reservoirs as these represent a loss of natural ecosystems 3. Quantity – not a good indicator as presented as can be interpreted in a number of ways and may or may not be ecologically meaningful. MAR is not a good indicator given seasonal variation. Quantity is presented in a more comprehensive and consistent way in 6.4.2. Recommend change the indicator to river fragmentation as a better indicator for extent of ecosystems (Grill et al. 2015). 4. Quantity – of water in lakes and reservoirs. Do not consider this is an indicator of ecosystem health. Wetland extent will cover this for shallow wetlands, but perhaps volume of lakes would be ok but reservoirs not required. 5. Groundwater depth – ok indicator but data may be lacking. 6. Ecosystem health – the best of the sub-indicators although only a few countries are using these methods. Potential here for reporting using results from ecosystem 	WWF	<ol style="list-style-type: none"> 1. The Target and Indicator for Goal 6.6 do not specifically refer to ecosystem health, but just to protection of ecosystems. The Indicator then refers to the extent of water-related ecosystems. Thus we have included quantity as forming part of the ecosystem characteristic that needs to be protected. It can also be argued that the quantity of water in ecosystems is a physical measure of ecosystem health. See answer 3 below. 2. Ramsar recognizes human-made wetlands in their definition/classification (see the Fourth Ramsar Strategic Plan 2016-2024) and quite a few Ramsar sites are actually associated with reservoirs/tanks. In arid regions human-made reservoirs can be very important for biodiversity and they at least in part compensate for the loss of natural wetlands (e.g. water birds in Southern Africa). By supporting environmental flows reservoirs can maintain downstream aquatic ecosystems in a better condition. 3. The IAEG requested us to expand the indicator beyond “ecosystems” and the UN-Water recommendation at the time (25/11/2015) was to include quantity of water.

Review of draft monitoring methodologies for SDG 6 global indicators – Summary of feedback and responses – 6.6.1

<p>related indicators under Report Cards, especially given flexibility in methods for data collection allowed for under SDG indicator tracking</p>		<p>Change in quantity over time as compared to a natural quantity is a standard measure in hydrology and accounts for seasonal variations. It is acknowledged that seasonal variation is important yet is not included in the indicator, however inclusion would make the index excessively complicated. For countries that wish to do this, a method is recommended in the Guideline document.</p> <ol style="list-style-type: none"> 4. Quantity of water in lake and reservoir ecosystems should be considered a part of ecosystem health – e.g. if there is less water in an ecosystem, then if nothing else the ecosystem will be reduced thus cannot be considered to be in good health. Shallow wetlands are not considered for quantity, however as indicated the spatial extent sub-indicator does cater for this. Reservoirs have been included following the strategy of Ramsar Convention. 5. No response necessary 6. No response necessary
<p>Use the term groundwater dependant ecosystems (which relates to all the flora and associated fauna at the land surface that benefits, even partially, from groundwater) rather than groundwater ecosystems which designates the stygofauna. There is much work to be conducted on the mapping of groundwater dependant ecosystems and their long-term monitoring. Here, remote sensing techniques are very promising.</p>	<p>UniD’Av</p>	<p>The intention of the 6.6.1 indicator method is simply to indicate the quantity of groundwater, not the state of groundwater ecosystems OR groundwater dependent ecosystems. Both of these are too complicated for this indicator. Groundwater is however an ecosystem in its own right (even if this is subject to debate) however none of the possible biological aspects are included in the indicator.</p>
<ol style="list-style-type: none"> 1. Very relevant, comprehensive and covers the main elements for monitoring ecosystem functions. 2. Is more of a discussion paper (still very good) that requires clearer guidance, and decisions on the monitoring methodology (i.e. choice of methods) 3. Flow regime of a river is the main determiner of ecosystem function and should include environmental flow requirements. 	<p>SIWI</p>	<ol style="list-style-type: none"> 1. No response necessary 2. Clearer guidance is provided and will be provided in the supporting Guideline document. Decisions on the monitoring method are intentionally left to countries because the capacities of countries to implement will differ vastly and different methods will yield data of different quality. Countries are given the option to undertake either more or less intensive/comprehensive

Review of draft monitoring methodologies for SDG 6 global indicators – Summary of feedback and responses – 6.6.1

<ol style="list-style-type: none"> 4. Exclusion of environmental flow, coastal areas and forests is a limitation of the indicator. 5. Need to coordinate this indicator with 6.4.2 which contains environmental flows although recognising that 6.4.2 is limited as does not recognise flow dynamics and resulting consequences. 6. Defining natural reference condition would be difficult but is crucial. Using the present condition as the reference is a very low target and should not be an option. 		<p>methods. This is particularly relevant for ecosystem health, where local ecosystems characteristics will demand locally relevant methods.</p> <ol style="list-style-type: none"> 3. Environmental flows are now included as a requirement. 4. Coastal areas were excluded (at this stage) because they do not clearly address the Goal 6 description which is “Ensure availability and sustainable management of water and sanitation for all”. This was interpreted as being more people related i.e. freshwater. Note that conservation of coastal areas should be included under Goal 15. Forests are included only when they are “water-related ecosystems” – thus only swamp forests etc will be included in estimation of extent. Forests <i>per se</i> and forest conservation are included under Goal 15. 5. Linkages to 6.4.2 are now included and form part of target setting in the 6.6.1 method, however details of the components of environmental flows related to flow dynamics and biodiversity etc are beyond this indicator. 6. Agreed – however for the spatial extent component Ramsar have argued that use of natural reference is not possible. Natural reference will however remain for the quantity and ecosystem health components.
<ol style="list-style-type: none"> 1. SDG6 indicators are comprehensive and cover the entire water cycle 2. The methodology could perhaps better speak to the role of private water service providers in collecting and sharing relevant monitoring data. 3. Appreciate the methodology understands and accommodates the varying capacities of different Member States in collecting these data through progressive monitoring. 	CEO-WM	<ol style="list-style-type: none"> 1. No response necessary. 2. This will be noted. 3. No response necessary. 4. This will be given emphasis. 5. In general targets will be set at a National level. However the revised 6.6.1 method now recommends targets. 6. This will be included under Data. 7. No response necessary.

Review of draft monitoring methodologies for SDG 6 global indicators – Summary of feedback and responses – 6.6.1

<ol style="list-style-type: none"> 4. All methods need to present the “why” in relation to the method in order to promote understanding. 5. Suggest that some methods should have clearer overall quantifiable targets. 6. Need to recognise industries role in provision of data and being involved. Suggest that in the “Data Sources” sections highlight this potential role and advocate that governments make industry aware of the SDG Compass (UN Global Compact, Global Reporting Initiative, and World Business Council for Sustainable Development) 7. These methods are building on what business is already doing. 		
<ol style="list-style-type: none"> 1. Recommend to included “condition” in the name of the Indicator in the next version in order to capture the health aspects. 2. Need to clearly demarcate the boundaries between ecosystems as some are not monitored in this indicator e.g. forests. 3. Include snow and ice as providers of water. Need to be clear on defining ecosystems that provide water in the context of this SDG. 4. Recommend the SEEA Experimental Ecosystem Accounting - allows the monitoring work of a water-related ecosystem to be done in an integrated manner, and provides a conceptual framework to integrate different land cover area (including forest and agricultural land) that are contiguous integrated into a designated water-related ecosystem area for monitoring purpose. 5. Align the terminology, concepts and definitions with the standard, the System of Environmental Economic Accounting (SEEA) or as a minimum build bridging with the terminology. For example, the definition of ecosystem “health” in section 2.1.6 is a “resilience” 	<p>UNCEEA</p>	<ol style="list-style-type: none"> 1. This is a task for the IAEG. 2. Definitions of the included ecosystems will be given. 3. Quantification of snow and ice is acknowledged as important but would be extremely difficult so is excluded here. The extent of snow and ice itself does not fall within the definition of a water-related ecosystem or wetland. 4. The strength of SEEA is that it has the capacity to integrate environmental information (even if limited to physical data) into standard measures of economic activity. It was only recently adopted by the UNSC as the international statistical standard for environmental-economic accounting. It does however undertake modelling and scaling of information on ecosystem services, ecosystem condition, and ecosystem capacity across all types of ecosystems. The first phase of completion of development was 2014 and further testing continues. The South African pilot study used physical accounts of the extent and condition of rivers throughout South Africa, not ecosystem services generated by or used from rivers or on monetary accounts for rivers. A valid approach used in this report

<p>concept, which is different from the concept of “quality” or “condition”.</p> <ol style="list-style-type: none"> 6. Make definitions consistent across indicators 6.3.2, 15.1, 15.4 and 15.5. 7. The term “change”, “extent”, “water-related ecosystems” “over time” need to be properly defined. It is recommended that such definition can be aligned with the SEEA Experimental Ecosystem Accounting. 8. The definition of ecosystem <u>change</u> (as stated in section 1.2) can only apply to the sub-indicator on ecosystem health/condition, but is not applicable to the other 2 sub-indicator (spatial extent and the quantity of water) which are quantitative measure of size and volume. Hence there is a question on whether such definition can use to define “change” in the aggregate indicator. 9. Definition of “over time” – The discussion on section 2.1.1 only provides recommendation on setting the reference condition without specifically mentioning on the frequency of data collection and dissemination (i.e on annual basis, on a regular interval 5-year, etc.). It is important to point out that frequent reporting on a short-term interval is important to monitor short-term changes. 10. Aggregation of sub-indicators - the 3 sub-indicators are collected and constructed independently without speaking to one another. It is recommended to apply an integrated approach based on the SEEA Experimental Ecosystem Accounting, where the methodology and the step of data collection and compilation of the 3 sub-indicators can be based on and integrated into one standardized framework for further compilation and analysis purpose. 11. Aggregation (section 3.1) – While the guide recommends using equal weight method to aggregating three 		<p>is to record the “extent” of a river condition as the % length of river in each condition, which can be reported as changed over time. The condition was calculated using an aggregated index very similar to 6.6.1. The approach adopted by the South African study in terms of spatial representation (by river length, ecoregion etc) could be used here for 6.6.1 and is demonstrated in the 6.6.1 Guideline document. However the aggregated index is not substantially different to that used in 6.6.1. It is proposed that the spatial reporting system could be the subject of future investigation and that it not be included yet.</p> <ol style="list-style-type: none"> 5. There is a substantial body of literature and also international practise that supports the use of “health” or “state” of ecosystems. “Resilience” is the ability of an ecosystem to recover from shock, relevant but not a replacement for health. Thus this change will not be implemented. 6. This would be a task for the IAEG. 7. The definitions of these terms will be updated and tightened but not necessarily to conform to the SEEA. 8. Spatial extent and quantity are compared to a reference condition and thus measurement of the change over time is indeed possible. All sub-indicators are thus normalised as change over time. 9. Recommendations on frequency of monitoring will be updated. Generally this should not impact on the detection of change over time other than to improve the certainty in the results. 10. The SEEA approach also makes use of the % change from reference, thus normalising and aggregating the data in the same way as recommended here.
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<p>proposed sub-indicators into a single headline indicator, it does not provide information or recommendation on aggregate different water-related ecosystem spatially (i.e. how to aggregate the measures of ecosystem health across different type of water-related ecosystem) in order to obtain a national sub-indicators. The SEEA Experimental Ecosystem Accounting provides a conceptual framework for spatial aggregation across different ecosystem types.</p> <p>12. The draft methodologies only suggest international data sources without mentioning of any national data source – national statistical office, line ministries, meteorology office, mapping agencies.</p> <p>13. Climate change indicators e.g. evapotranspiration and temperature, would be more useful than these direct measures of ecosystem change.</p> <p>14. There needs to be an inter-institutional mechanism within countries to handle this data, plus also to strengthen the capacity for these agencies to undertake the monitoring.</p> <p>15. Primary data source should be national not international. EO data is often unchecked and needs verification and furthermore was not designed for official statistics on change but rather for visual interpretation. Even with Landsat data at 30m resolution the data may not be good enough to do a number of estimates because the data are created within a generic land cover or land use dataset where trade-offs are made that do not favour certain land covers (wetlands or rivers or streams) and because of temporal considerations.</p> <p>16. Ground-truthing data done by relevant national agency is the key to valid the earth observation data, and resources have to be allocated in order to strengthen the quality of the earth observation data.</p>		<p>11. This is agreed and the SEEA will be included as an example. The guideline document will contain greater detail.</p> <p>12. National data sources are imperative and will be given emphasis.</p> <p>13. This suggestion is not supported as direct measure of ecosystem change would be the final indicator of ecosystem condition.</p> <p>14. This will be part of the roll-out plan and is strongly supported by the UNDG.</p> <p>15. Caution noted. Guidance from the likes of ESA and the Globwetlands projects are included here. The method notes that ground verification is essential for EO data.</p> <p>16. Agreed but no action required.</p> <p>17. Agreed but no action required as this will become part of the roll-out.</p>
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Review of draft monitoring methodologies for SDG 6 global indicators – Summary of feedback and responses – 6.6.1

<p>17. UNSD is working with a number of countries in developing an interinstitutional mechanism to support the SEEA implementation. It would be useful that efforts made to compile indicators in SDG 6 are done in a coordinated fashion.</p>		
<p>Change the name to Aichi Biodiversity Targets Rest of document accepted (penultimate version on 19th Jan 2017)</p>	<p>CBD</p>	<p>Approval for the method was given.</p>