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Internal Oversight Service
Evaluation Section

IOS/EVS/PI/142 REV
Original: English

Evaluation of the World Water Assessment Programme

final report

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November 2015

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Acronyms

AGFUND	Arab Gulf Programme for Development
BSP/CFS	Division of Cooperation with Extrabudgetary Funding Sources (UNESCO)
CSD	Commission on Sustainable Development
EFA	Education for All
ERI	Sector for External Relations and Public Information (UNESCO)
ERI/DPI	Division of Public Information of ERI (UNESCO)
FAO	Food and Agriculture Organization of the United Nations
FIT	Funds-in-Trust
GCC	Gulf Cooperation Council
GEF	Global Environment Facility
GEO/IGWCO	Group on Earth Observations: Integrated Global Water Cycle Observations
GMR	Global Monitoring Report
GWP	Global Water Partnership
HQ	Headquarters
IAH	International Association of Hydrogeologists
IAHS	International Association of Hydrological Sciences
ICID	International Commission on Irrigation and Drainage
IHP	International Hydrological Programme (UNESCO)
IIASA	International Institute for Applied Systems Analysis
IMELS	Italian Ministry for the Environment, Land and Sea
IO	International organization
IOS	Internal Oversight Service (UNESCO)
IPCC	Intergovernmental Panel on Climate Change
IUCN	International Union for Conservation of Nature
IW-Learn	International Waters-Learn
IWRA	International Water Resources Association
IWRM	Integrated Water Resources Management
JMP	Joint Monitoring Programme for Water Supply and Sanitation
MDG	Millennium Development Goals
MoU	Memorandum of Understanding
OECD	Organisation for Economic Co-operation and Development

PCCP	From Potential Conflict to Cooperation Potential Programme (UNESCO)
SC	Natural Sciences Sector (UNESCO)
SC/AO	Administrative Office of SC (UNESCO)
SC/EO	Executive Office of SC (UNESCO)
SC/HYD	Division of Water Sciences (UNESCO)
SDG	Sustainable Development Goals
SEI	Stockholm Environment Institute
SIWI	Stockholm International Water Institute
SPM	Senior Programme Managers
TAC	Technical Advisory Committee for WWAP (UNESCO)
TARWR	Total actual renewable water resources
ToR	Terms of Reference
UIS	UNESCO Institute for Statistics (UNESCO)
UN	United Nations
UN ACC-SWR	United Nations Administrative Committee on Coordination - Subcommittee on Water Resources (also ACC-SWR)
UNDP	United Nations Development Programme
UNDESA	United Nations Department of Economic and Social Affairs
UNECA	United Nations Economic Commission for Africa
UNECE	United Nations Economic Commission for Europe
UNECLAC	United Nations Economic Commission for Latin America and the Caribbean
UNEP	United Nations Environment Programme
UNESCWA	United Nations Economic and Social Commission for Western Asia
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNESCO-IHE	UNESCO Institute for Water Education (UNESCO)
UNICEF	United Nations Children's Fund
UNIDO	United Nations Industrial Development Organization
WB	World Bank
WASH	Water, Sanitation and Hygiene
WHO	World Health Organization
WMO	World Meteorological Organization
WSSCC	Water Supply and Sanitation Collaborative Council
WWAP	World Water Assessment Programme (UNESCO)

WWC	World Water Council
WWF	World Wildlife Fund
WWDR	World Water Development Report

Preface

The World Water Assessment Programme (WWAP) was established in 2000 and will soon be 15 years old. During the time since its creation, the programme was evaluated only once, in 2007 (UNESCO, 2007a). That evaluation was commissioned by the Internal Oversight Service (IOS), Evaluation Section, an independent division of UNESCO. In the intervening years, WWAP, UNESCO as a whole, and UN-Water all have evolved institutionally. Since 2007 WWAP itself has undergone many significant changes, including a move of its secretariat from UNESCO Headquarters in Paris, France, to Perugia, Italy.

The current evaluation looks at the evolution of WWAP since 2007 until the present. As in 2007, IOS selected an independent team to conduct the evaluation. This team, based at the University of Arizona in the United States, comprises three international water governance scholars, Drs. Andrea K. Gerlak, Sharon B. Megdal, and Robert G. Varady. Beginning in January 2015, they performed the evaluation in collaboration with Dr. Jos Vaessen and Ms. Arushi Malhotra of IOS.

The present evaluation is based primarily on oral and written interviews with key personnel and knowledgeable observers, a thorough review and bibliometric analysis of primary and secondary source materials relating to WWAP and the World Water Development Reports (WWDRs), an online survey of stakeholders, review of financial information, and the personal experience and expertise of the evaluators.

The evaluation could not have been completed without the generous cooperation of the many persons who spent valuable time recounting their experiences, volunteering opinions, and suggesting ideas for improvement. In this regard, we would like especially to acknowledge the interviewees who provided invaluable first-hand observations and insights that could not have been obtained from the literature. These individuals span the UN community, academia, the host governments, and of course, the WWAP staff, which did its utmost to answer what surely must have seemed an endless stream of inquiries. Finally, we are grateful to the members of the WWAP Evaluation Reference Group, who reviewed a draft of this report and provided useful and timely suggestions for its improvement.

The evaluation has been composed in a spirit of genuine collaboration, with an understanding that its outcome is intended to strengthen WWAP and help it achieve its full promise.

The authors (August 2015)

Executive Summary

Introduction

The World Water Assessment Programme (WWAP) was established in 2000. WWAP, a UNESCO programme, is responsible for the production of the World Water Development Report (WWDR), a UN-Water report. WWAP is currently entering a new era. After the 2007-2013 Funds in Trust (FIT) Agreement with the Italian Ministry for the Environment, Land and Sea (IMELS), WWAP's core funding is now ratified by Italian Law and managed by the Italian Ministry of Foreign Affairs. At the same time, the modality and periodicity of the WWDR has changed. Since 2014, the WWDR has become an annual thematic report. Against the backdrop of these changes, an external evaluation of WWAP was conducted.

The primary goal of the evaluation is to assess the performance—i.e., the activities, outputs, and outcomes—of WWAP, with an emphasis on the WWDR. More specifically, the evaluation focuses on four dimensions: (1) the WWDR (approach, content, quality, and policy and academic influence); (2) the strategic orientation of WWAP and other non-WWDR activities; (3) the institutional setting of WWAP; (4) the financial sustainability of WWAP (budget, staffing, and location). The evaluation is intended to inform decision-making within UNESCO, principally UNESCO's Natural Sciences Sector, the Division of Water Sciences and WWAP. In addition, the report was transmitted to the Italian Government and UN-Water.

The evaluation was conducted in the first half of 2015 by a team of external evaluators in collaboration with UNESCO's Internal Oversight Service (IOS). The methodology of the evaluation comprised an extensive desk study, a systematic bibliometric analysis, a stakeholder survey, and semi-structured interviews with key stakeholders. The findings, recommendations, and management response are presented in this report. To complement the present evaluation an audit exercise was undertaken to clarify and improve WWAP's organizational setup, especially with respect to administrative processes and controls.

Findings

Overall, the evaluation commends WWAP for its key achievement: WWAP's capacity to successfully produce periodic WWDRs in a context of institutional and financial pressures.

More specifically, the key achievements of WWAP are the following:

- WWDR is a flagship UN report on water, based on a broad collaborative approach in the framework of UN-Water.
- The periodic publication of the WWDR, within the framework of UN-Water, constitutes a key achievement of WWAP. The capacity and experience to manage and coordinate the development and production of this report are important assets of the WWAP team.
- The WWDR is one of the most visible reports produced by UNESCO (on the basis of the following criteria: web site visits, downloads of the report, international press coverage).
- On the basis of a comprehensive bibliometric analysis it was found that the WWDR continues to be an authoritative source of information on fresh water resources. The WWDRs are referenced in multiple and diverse ways in academic journals; notably they are most often referenced for the data provided in the report.

- WWAP has successfully initiated an initiative on sex-disaggregated data and indicators in the context of water and sustainable development.

Given the purpose of the evaluation which is partly formative, a major part of the evaluation has been directed at identifying challenges. The most important challenges are the following:

- Although cooperation with different sectors is posited as an important need in various WWDRs, such coordination and collaboration are difficult to achieve. As a result, non-water sectors are not as well consulted or engaged in the course of developing the WWDR or in its dissemination and communication.
- The shift from a triennial to an annual WWDR has led to a less comprehensive and less data-informed approach to reporting, which is likely to affect its overall status and its use. At the same time, the scope of the five-year synthesis report is yet unclear.
- Notwithstanding a number of successful initiatives relating to the dissemination of the WWDR, there is no clear and unified communication strategy for the WWDR among the different involved entities (UNESCO Headquarters, WWAP, UN-Water, and UN-Water members). Moreover, there has not been a clear and consistent approach to branding the WWDR.
- WWAP has drifted from its original mandate of assessment of freshwater resources, which broadly speaking encompasses three components: analytical work (e.g. on indicators, data collection and analysis) underpinning the WWDR, the WWDR itself, and dissemination and capacity development relating to the WWDR work.
- Overall, in recent years we see a general decline in WWAP programmatic activities other than the WWDR, which is in large part due to financial pressures. Apart from the WWDR itself, many of the activities WWAP does engage in do not appear to be clearly aligned to the core mandate of WWAP.
- While activities such as the PCCP Programme provide a valuable contribution to peace-building around transboundary waters, the programme is not sufficiently aligned and logically connected to WWAP's core mandate and emerging global needs around water data and monitoring.
- Even though consecutive WWDRs have reported on water-related dimensions of the MDGs, the reports have not played a key role in this regard. The water-related dimensions of the future SDGs are broader and more comprehensive. There is an opportunity space for the WWDR, especially its five-year synthesis report, to become a key synthetic reporting mechanism for Sustainable Development Goal 6.
- Notwithstanding some successful collaborations, WWAP's potential to mobilize UNESCO entities from the UNESCO Water Network to contribute to the WWDRs and the underlying analytical work remains underutilized.
- Within the framework of UN-Water, in recent years UNESCO (including WWAP) has not positioned itself clearly in the evolving discussions on the monitoring and assessment of different water issues.
- In recent years, despite significant budget cuts in the Italian public sector, the Italian Government has maintained generous financial support to WWAP. Even though core funding from the Italian Government has been reduced under the new MoU, the ratification of financial support by Italian Law has placed WWAP on a more secure footing. At the same time irregular disbursements during the 2007-2013 FIT period as well as, more recently, reduced disbursements under the new law, have significantly affected WWAP's operations, with UNESCO stepping in at times to provide financial stability.

- Core funding has been provided to WWAP with the expectation that it raises additional external funds. Yet WWAP has not been very successful in raising funds. Notwithstanding some recent successes in fundraising, WWAP has insufficiently invested in fundraising and lacks a clear strategy for doing so.
- WWAP currently lacks the in-house expertise to strengthen the analytical (e.g. data and assessment) work underlying the WWDR. The WWDR model strongly relies on external consultants for its content.
- The kind of strategic decisions that are needed to strengthen WWAP's strategic focus and positioning in UN-Water requires permanent leadership.
- For multiple reasons, the current premises of WWAP are not conducive to a sustained successful implementation of WWAP's mandate.

Recommendations

On the basis of its findings, the evaluation presents the following recommendations:

1) *WWAP should strengthen its substantive contribution to (i.e. enhance the quantity and depth of analytical work feeding into) the WWDR.* A principal mechanism through which this can be realized is by investing more in (global) networking and partnership building with academia, international (water) organizations and networks, and other relevant institutions. More specifically this includes the following elements:
   a) developing more (joint) research projects;
   b) mobilizing temporary expertise, e.g. through securing secondments or inviting researchers on sabbatical leave;
   c) strengthening collaborations with other entities within the UNESCO Water Network, e.g. UNESCO-IHE, water-related Category II Centres, and water-related Chairs.
2) *WWAP should pursue innovative approaches to collecting and reporting on case studies and indicator data*, among other things relying more on videos and narratives, and reporting on hotspots across a variety of scales (from the river basin to the national or regional levels).
3) *UNESCO in consultation with UN-Water should develop and implement a unified communication strategy for the WWDR* which among other things should include the following three elements:
   a) Clear branding of the WWDR as a UN collaborative effort within the framework of UN-Water. In this regard, the evaluation recommends that in the future there should be no separate UN agency logos on the WWDRs but only the UN-Water logo.
   b) A suggested citation for the WWDR should be made apparent on UN-Water, UNESCO, and WWAP web sites and in all WWDR communication materials, to further support consistent referencing of the report.
   c) UNESCO should take a stronger leadership role in the coordination and implementation of a communication and outreach strategy in collaboration with UN-Water and UN-Water members and partners. While for resource and coordination purposes it is important that one agency, i.e. UNESCO, leads the process, the Report should be clearly branded as a UN-Water Report based on a collaborative effort involving UN-Water members and partners.
4) *WWAP should strengthen its strategic focus, prioritizing the WWDR and analytical work in direct support of the WWDR*. Among other things, this means that PCCP should not remain a component of WWAP, as it is not closely aligned to WWAP's core mission. Through an open, participatory, and collaborative dialogue, UNESCO IHP, UNESCO-IHE, and WWAP should determine where best the PCCP Programme fits in UNESCO's Water Network and how it should be supported.

5) *UNESCO in collaboration with UN-Water members should work towards positioning the WWDR (and especially the five-year synthesis report) as a key UN-wide reporting mechanism on the Water SDG (SDG 6)*. To accomplish this, UNESCO (and principally WWAP) should: (a) contribute in the framework of UN-Water to the development of a standardized framework for periodic reporting of key indicators related to the water SDG; (b) synthesize existing data periodically collected by other UN-Water members (e.g. on WASH by WHO/UNICEF); (c) strengthen its own work on indicator development and data collection (e.g., in association with UIS).
6) *WWAP should develop a more systematic approach to extrabudgetary fundraising*. WWAP's core funding should be more strategically used to provide the necessary co-funding required to obtain substantial extrabudgetary funding from donors.
7) *UNESCO in consultation with key stakeholders should develop a plan to move WWAP from Perugia*. Consideration should be given to all aspects of a move, including the costs and benefits of alternative locations in Italy as well as potentially moving WWAP out of Italy.
8) In order for WWAP to successfully act upon the above-mentioned recommendations, *UNESCO should appoint a permanent Coordinator for WWAP*.

Management Response

Overall Management Response	
The evaluation enumerated the good work done by WWAP during the evaluated period and clearly identified impediments to its optimal functioning. It provided a number of useful recommendations that the Sector will follow. It is important for WWAP to produce, within its mandate, a strategy for its work going forward, aligned through IHP with its strategy and with the SC overall strategy. Any future repositioning of WWAP will have to be aligned with the funding available.	
Recommendation *(filled out by IOS)*	**Management Response** (*from SC*)
1. WWAP should strengthen its substantive contribution to (i.e. enhance the quantity and depth of analytical work feeding into) the WWDR. A principal mechanism through which this can be realized is by investing more in (global) networking and partnership building with academia, international (water) organizations and networks, and other relevant institutions. More specifically this includes the following elements: a) developing more (joint) research projects; b) mobilizing temporary expertise, e.g. through securing secondments or inviting researchers on sabbatical leave; c) strengthening collaborations with other entities within the UNESCO Water Network, e.g. UNESCO-IHE, water-related Category II Centres, and water-related Chairs.	Partially accepted. A strategy should be developed with all principal partners, including the question of commissioning joint research projects, which are not part of the current terms of reference of WWAP.
2. WWAP should pursue innovative approaches to collecting and reporting on case studies and indicator data, among other things relying more on videos and narratives, and reporting on hotspots across a variety of scales (from the river basin to the national or regional levels).	Accepted. The question will be raised in relation to question 3 and depending on extrabudgetary funding.
3. UNESCO in consultation with UN-Water should develop and implement a unified communication strategy for the WWDR which among other things should include the following three elements: a) Clear branding of the WWDR as a UN collaborative effort within the framework of UN-Water. In this regard, the evaluation recommends that in the future there should be no separate UN agency logos on the WWDRs but only the UN-Water logo. b) A suggested citation for the WWDR should be made apparent on UN-Water, UNESCO, and WWAP web sites and in all WWDR communication materials, to further support consistent referencing of the report.	Partially accepted. The current communication strategy is a result of a broad consultation process led by UN-Water. In any future revision of the communication strategy the position and visibility of UNESCO as lead agency will have to be maintained.

c) UNESCO should take a stronger leadership role in the coordination and implementation of a communication and outreach strategy in collaboration with UN-Water and UN-Water members and partners. While for resource and coordination purposes it is important that one agency, i.e. UNESCO, leads the process, the Report should be clearly branded as a UN-Water Report based on a collaborative effort involving UN-Water members and partners.	
4. WWAP should strengthen its strategic focus, prioritizing the WWDR and analytical work in direct support of the WWDR. Among other things, this means that PCCP should not remain a component of WWAP, as it is not closely aligned to WWAP's core mission. Through an open, participatory, and collaborative dialogue, UNESCO IHP, UNESCO-IHE, and WWAP should determine where best the PCCP Programme fits in UNESCO's Water Network and how it should be supported.	Accepted. An analysis and the future placement of PCCP will be undertaken by IHP in consultation with WWAP and donors.
5. UNESCO in collaboration with UN-Water members should work towards positioning the WWDR (and especially the five-year synthesis report) as a key UN-wide reporting mechanism on the Water SDG (SDG 6). To accomplish this, UNESCO (and principally WWAP) should: (a) contribute in the framework of UN-Water to the development of a standardized framework for periodic reporting of key indicators related to the water SDG; (b) synthesize existing data periodically collected by other UN-Water members (e.g. on WASH by WHO/UNICEF); (c) strengthen its own work on indicator development and data collection (e.g., in association with UIS).	Accepted. UNESCO will engage in discussion with UN-Water to position the WWDR as a tool to report on the progress of SDG 6.
6. WWAP should develop a more systematic approach to extrabudgetary fundraising. WWAP's core funding should be more strategically used to provide the necessary co-funding required to obtain substantial extrabudgetary funding from donors.	Accepted. Current fundraising efforts will be aligned with the UNESCO Fundraising Strategy and focus on improving coordination with IHP.
7. UNESCO in consultation with key stakeholders should develop a plan to move WWAP from Perugia. Consideration should be given to all aspects of a move, including the costs and benefits of alternative locations in Italy as well as potentially moving WWAP out of Italy.	Not Accepted. In the framework of negotiations with the host country a decision has already been taken before the publication of this evaluation.
8. In order for WWAP to successfully act upon the above-mentioned recommendations, *UNESCO*	Accepted.

should appoint a permanent Coordinator for WWAP.	A permanent Coordinator for WWAP is being appointed.

1. Introduction

1.1 Background and rationale of the evaluation

1.1.1 Establishment of the WWAP and WWDR

In 1998, the Commission on Sustainable Development (CSD) called on UN agencies to "carry out periodic global assessments and analyses of water resources availability (both quality and quantity)" (UN CSD, 1998: 7), which emerged as a World Water Development Report (WWDR) in the 19th session of the UN Administrative Committee on Coordination – Sub-Committee on Water Resources (UN ACC-SWR). In particular, during its 20th meeting (October 1999), ACC-SWR recommended that an independent unit be set up to produce the report on its behalf. The unit was to have some core staff and would be based inside an organization member of the Subcommittee, but would be independent from its technical and decision-making structure (UN ACC, 1999). The World Water Assessment Programme (WWAP) was set up in response to this call. At the 2nd World Water Forum in The Hague in March 2000, UNESCO's Director-General at that time, Mr. Matsuura, announced the establishment of WWAP within UNESCO and allocated funds for WWAP to produce periodical WWDRs.

Since 2000, WWAP has operated as a UN-wide programme hosted and led by UNESCO, taking a lead role in the collective UN system-wide water assessment and reporting process, bringing together UN agencies and partners with activities and expertise on water for a long-term programme. Through the WWDR, a UN-Water flagship publication, the UN system has presented global synthetic analyses of the world's freshwater resources and expressed its concern that the growing global water crisis threatens the security, stability and environmental sustainability of many countries around the world.

In recognition of its close kinship with the goals of UNESCO's Division of Water Sciences (SC/HYD), upon its creation WWAP was situated within and hosted as a section by SC/HYD. But because WWAP was intended to serve the UN system in its entirety in the context of the WWDR, it was considered an organ of the larger, then-recently constituted UN-Water, the UN coordination mechanism on all freshwater related issues, which was a continuation of the ACC-SWR. In particular, WWAP's then-triennial WWDR was designated as an official product of UN-Water, to be disseminated every third year at succeeding World Water Forums. On the basis of the findings of a global stakeholder survey conducted by UN-Water in 2012,[1] an important decision was taken to change the WWDR from a triennial comprehensive report to an annual thematic report starting from 2014. The theme of the report was harmonized with the World Water Day theme.

In 2014, it was formally agreed within UN-Water that WWAP is a UNESCO programme producing a UN-Water report.[2] Notwithstanding these changes, WWAP's mission has remained constant. The programme, according to its mandate, seeks to "influence leaders in government, civil society, and the private sector so that their policies and decision-making about social and economic development at

[1] Two surveys were conducted. One was an internal survey, targeting UN-Water members and partners. The other, an external survey, targeted a broad audience of international institutions and experts in the field of water.
[2] During the 20th UN-Water meeting, New York City, 27-29 January 2014, it was decided that: WWAP is a UNESCO programme and confirmed that the WWDR is a UN-Water publication.

local, national, regional, and global levels take into account the role of water and the impacts of their actions on water resources" (UNESCO, 2014a: 9). Implicit in this mission is WWAP's desire to promote sustainable social and economic development within the water sector. Apart from the WWDR, its most important output, WWAP has developed a number of activities additional to and in support of the WWDR (see Section 4). Examples are the development of future scenarios for the global water system, capacity development in the area of conflicts and cooperation on water issues, and the development of gender-sensitive water indicators.

1.1.2 WWAP: Donors, funds, and location

The funding received by UNESCO for the establishment and activities of WWAP can be divided into three periods.

Period 2000–February 2007

- Donations made by the Government of Japan formalized through a Funds-in-Trust (FIT) arrangement, amounted to USD 5,998,734 for Phase I (2000–2003) and USD 3,200,000 for Phase II (2003–2006).
- Other contributions to the budget included funding from the United Kingdom, France, Spain, Mexico, Denmark and the Arab Gulf Programme for Development (AGFUND). The Governments of France and Turkey provided in-kind support by seconding water resources experts to WWAP. Additional in-kind support came from Member States that volunteered to contribute to the WWDR series with a case study. UNESCO's International Hydrological Programme (IHP) allocated staff time to provide technical and administrative assistance to WWAP for the WWDR.[3] In addition, UNESCO, as host of WWAP, provided temporary financial assistance to WWAP for some time.

Period: February 2007–October 2013

- FIT Agreement with IMELS, for a total of 12.5 Million Euro. The FIT Agreement, signed in 2007, was extended in December 2009, amended in August 2010, and extended again in 2012 and 2013. In 2007, UNESCO signed the agreement with the local government "Regione Umbria", through which the large premises of Villa La Colombella, located in Colombella, Perugia, were made available free of charge to host WWAP. In 2008, WWAP personnel moved from UNESCO Headquarters (HQ) in Paris to the new premises in Italy. UNESCO-IHP allocated staff time to provide technical and administrative assistance to WWAP for the WWDR.[4] In addition, UNESCO, as host of WWAP, provided temporary financial assistance to WWAP for some time.

Period: October 2013–onwards

- A new Memorandum of Understanding (MoU) between UNESCO and the Italian Government was ratified. The MoU, signed in 2012 and ratified in September 2013 by the Italian Parliament,[5]

[3] It should be noted that WWAP has also financially supported IHP in several ways. First of all, in a number of occasions UNESCO(-IHP) as one of the participating UN agencies providing content to the WWDR, received financial support from WWAP for some of its contributions. Second, WWAP has been funding one professional post for the PCCP programme, a programme that falls under IHP.

[4] Same as above.

[5] A National Law, drafted on the basis of the MoU, entered into force in October 2013.

provides for recurrent annual funding (1.653 million Euro per year from the national budget) to WWAP and the activities of the programme. In addition to the core funding, in-kind support from UNESCO-IHP, and in-kind and financial contributions from external partners are being mobilized.

1.1.3 Alignment of the programme with UNESCO's mandate

The evaluation covers a time period that corresponds to several UNESCO programming periods. Specific references to WWAP can be found in the UNESCO C/5 biennial[6] programme documents. For the current 37 C/5 (2014-2017), the WWDR (and other activities of WWAP) is covered under the Main Line of Action 6 "Strengthening Freshwater Security." More particularly the document states that "UNESCO's benchmarking activities on the assessment of the world's freshwater resources will be reinforced via annual World Water Development Reports, a flagship product of UN-Water" (37 C/5, p. 100). In addition to Main Line of Action 6, WWAP has been contributing to the Global Priorities Africa and Gender Equality.

1.1.4 World Water Development Report

The WWDR is a UN-Water flagship publication. WWAP produces the report, which includes among other things the coordination of different contributions from UN-Water members and partners. WWAP has been part of a joint UN effort to monitor and report on progress in achieving the Millennium Development Goals[7] (MDGs) and, in general, to raise awareness on global water issues through the production and dissemination of the WWDR series in coordination with UN-Water.

To date six WWDRs have been published. The most recent reports (initiated or produced during the FIT period) are the following: "Water in a Changing World" (WWDR3 - 2009), "Managing Water under Uncertainty and Risk" (WWDR4 - 2012), "Water and Energy" (WWDR2014), and "Water for a Sustainable World" (WWDR2015), and the current work in progress on "Water and Jobs" (WWDR2016). Since the decision in 2012, WWDRs are now produced on an annual basis. Further, a synthesis report, to be produced every 5 years, is also in the pipeline. The report is expected to give an overview of the status and trends of water resources through key indicators, and include a summary of previous WWDR findings as well as main findings from other UN-Water reports (UNESCO, 2014a). According to WWAP, there have been preliminary exchanges with UN-Water regarding the content and the scope of the report, and a decision regarding the report is expected to be taken in UN-Water Senior Programme Managers (SPM) meetings.

1.1.5 Rationale for the evaluation

The funding period (2007–2013) of WWAP covered by the FIT Agreement (and Addendum) between UNESCO and IMELS came to an end in October 2013. The previous phase, started in 2007, also coincides with the change of location of the WWAP from Paris to Perugia (Italy),[8] and with the creation of the UNESCO Programme Office for Global Water Assessment at Villa La Colombella, which hosts WWAP.

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[6] From the 37 C/5 onwards, UNESCO operates on the basis of a quadrennial programming cycle.
[7] See Section 4.3.
[8] This was planned in 2007 and took place in 2008.

Chapter 10 of the Annex to the agreement stipulates the provision for a programme-wide external evaluation. Initially, the evaluation was foreseen for the end of 2009, but with the extension of the project, and with the delay of the last instalment from IMELS, the actual date was postponed until 2014. With the end of an operational phase, and the beginning of a new one, and taking into account the changes in modality of the WWDR, an external evaluation can provide timely added value for accountability and learning.

1.2 Purpose and scope of the evaluation

The primary goal of the evaluation is to assess the performance—i.e., the activities, outputs, and outcomes—of WWAP for the 2007–2013 period, with an emphasis on the WWDR. In addition, the evaluation will also cover the period between the end date of the previous FIT Agreement and the time of the evaluation (beginning of 2015). Annex 1 presents the terms of reference (ToR) of the evaluation.

The evaluation concentrated on the following dimensions of performance:

- First, we assessed the academic value and policy influence of the approach, quality, and contents of the WWDRs—especially in view of the change from a triennial to an annual thematic report.
- Second, we assessed the relevance of WWAP's other programmatic activities and the overall strategic orientation of the programme.
- Third, our evaluation included an assessment of the institutional setting of WWAP.
- Finally, we reviewed the sustainability and robustness of WWAP's financial situation, looking at the budget, staffing and location of WWAP.

On each of these dimensions the evaluation adopted a retrospective and forward-looking perspective[9] with action-oriented recommendations formulated on the basis of substantive findings. In addition, the final report on the FIT Agreement (2007-2013; UNESCO, 2014a) constitutes a useful basis for fine-tuning the scope of the evaluation and was used to determine which aspects of WWAP require (no) further evaluative analysis.

The findings and recommendations of the evaluation are expected to:

- Provide guidance to UNESCO (and UN-Water) on the modality, content and periodicity of the future WWDRs;
- Provide evidence to the Donor about the key achievements[10] and value added of the programme, as well as challenges;
- Provide guidance to UNESCO on the key programmatic and operational challenges that WWAP is facing;
- Provide guidance to UNESCO on the strategic focus of WWAP and the mechanisms for effective programme delivery.

[9] Taking into account the dynamic global agenda and the mandates of UNESCO and UN-Water.

[10] A comprehensive self-assessment report of WWAP has been generated. The evaluation will validate some of its contents. More importantly, it will focus on key dimensions of performance (output delivery and effects) as described in the purpose and scope sections of the Terms of Reference.

The main users of the evaluation are expected to be the following: UNESCO's Governing bodies; UNESCO's Natural Sciences Sector; SC/HYD; WWAP; UN-Water members and partners; the Italian Government as main donor of the programme (Ministry of Foreign Affairs and Ministry for the Environment, Land and Sea); and finally, the wider policy and academic community in the field of water.

1.3 Methodology

1.3.1 Overall approach

A comprehensive evaluation matrix is provided in Annex 2, illustrating the relationships between the four dimensions of the evaluation, detailed evaluation questions, and the data collection methods used to address these.

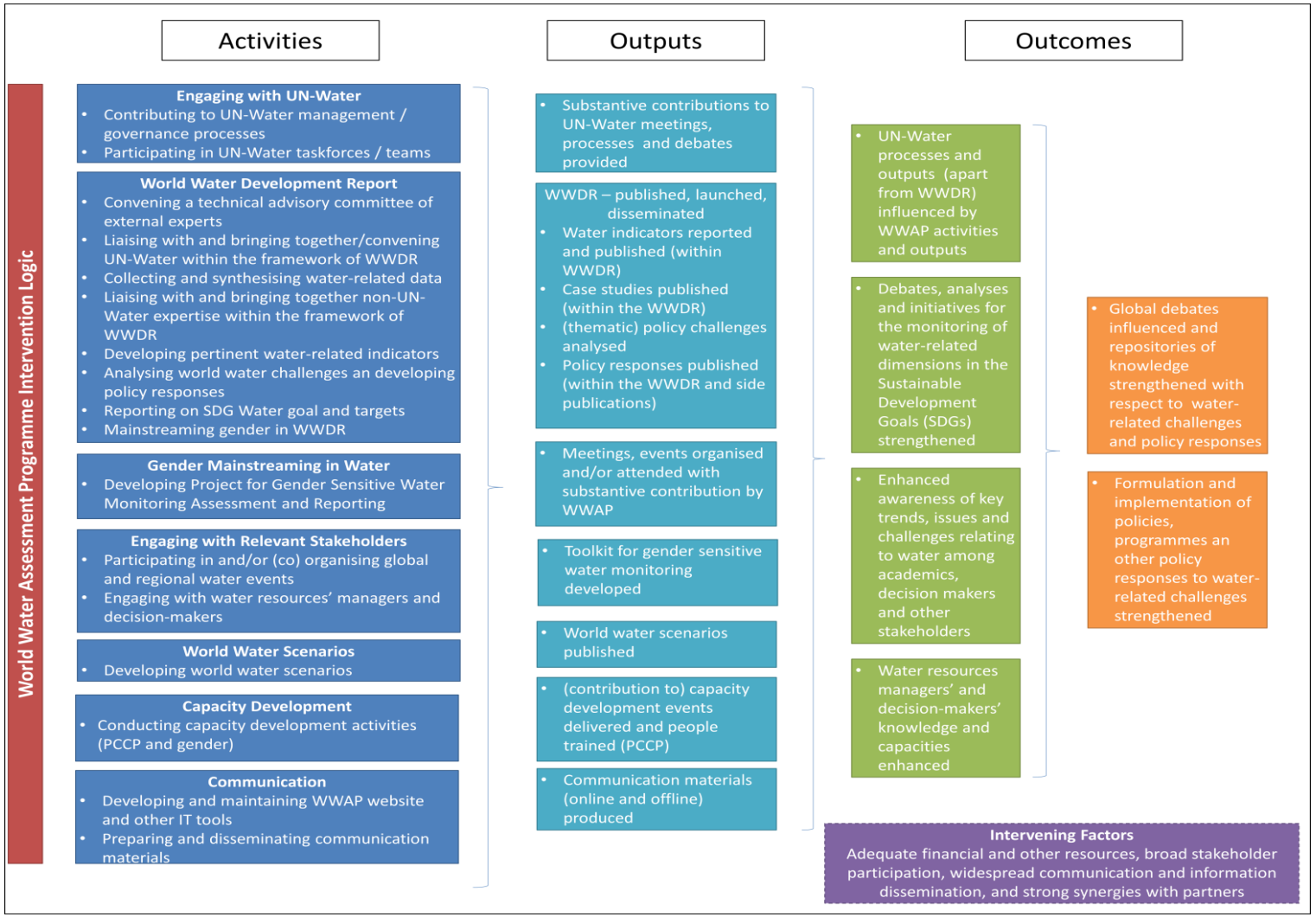
1.3.2 Intervention logic

An intervention logic constitutes a valuable framework to evaluate projects and programmes. In our evaluation of the WWAP, we propose an "evidence-based intervention logic" retrospectively from our document analysis, stakeholder interviews, surveys, and bibliometric analysis. In Figure 1.1 below, we illustrate our intervention logic.

Our theory-driven data collection and analysis approach focused on dimension 1 only, i.e., the part of the intervention logic that relates to the WWDR activities. Our data was collected and analyzed such that the causal links between activities and outcomes were treated and described compellingly. This approach permits us to reflect upon what has worked and what has not with respect to the WWDRs, and provide a systematic and cumulative study of the links between activities, outputs, and outcomes.

To demonstrate the success of this evidence-based approach, one needs to show progress on the achievement of outcomes. Indicators can guide and facilitate measurement of progress. Based on the intervention logic, we developed a number of indicators to evaluate the effects of the WWDRs. These include the scope and extent of references to the WWDR and WWAP in academic journal articles to measure and assess academic influence and use of the WWDR and WWAP. Our indicators also include scope and extent of references to the WWDR and WWAP on the web pages of leading international organizations working on water and water-related issues, and indicators associated with stakeholder use of the WWDRs from surveys with key stakeholders and users of the WWDR. These indicators permitted us to target the scope and extent of WWDRs and, thereby, measure influence on the academic and policy communities. To support this analysis, we first looked at communication activities and indicators of visibility of the report (as intermediary causal factors), such as the number of visits to the web site, number of downloads, international press coverage, and so on.

Figure 1.1. Intervention logic of WWAP



Source: Authors.

1.3.3 Data collection methods

To conduct this evaluation, we engaged in a mixed-methods approach. The evaluation included the following data collection methods.

(1) Document analysis (desk study)
Our desk study entailed an exploration of the web sites of UNESCO and WWAP as well as an examination of the comprehensive documentation about the programme provided by WWAP and other UNESCO entities (see Annex 3 for a full list of references).

(2) Bibliometric analyses
A bibliometric analysis was conducted to assess academic use and influence of the WWDR. Using a systematic keyword search approach in Scopus, we analyzed the number and nature of references to the report. To supplement the analysis, additional analyses in Google Scholar search were conducted. A second analysis was conducted to assess policy influence and use. First, we searched the web sites of a selected group of international organizations. More specifically, we looked at online repositories of policy documents and search engines. Second, the analysis was augmented with targeted questions posed in an online survey (see below).

Annex 4 provides an overview of the methodological steps followed in the bibliometric analysis (academic and policy use and influence of the WWDRs). Both academic and policy influence use analyses were supplemented with interviews with key stakeholders (see below).

(3) Online survey
A survey was conducted, covering different stakeholders and users of the WWDR to better inform our understanding of the policy influence and use of the WWDR. The sampling approach, including two separate purposive samples of both UNESCO/UN-related stakeholders and non-UNESCO/UN-related stakeholders, is presented in Annex 5.

(4) Interviews
The evaluation team administered semi-structured interviews to key actors and stakeholders, including UNESCO staff and the WWAP Technical Advisory Committee (TAC). Identified representatives from leading UN-Water member organizations were also interviewed. Table 1.1 below reports the different stakeholders groups and the number of interviews conducted, along with the interview method and evaluation dimensions captured by the interview. Annex 6 provides a complete list of all interviews conducted as part of this evaluation.

Table 1.1. Stakeholder interviews: purposive samples and modalities

Key Stakeholder Type	Number of interviews	Interview mechanism (face-to-face, or phone/Skype)	Interview Questions
UNESCO staff (SC/HYD, WWAP, others)	All relevant staff (27 interviews)	Face-to-face Phone/Skype	Evaluation dimensions 1, 2, 3, and 4
WWAP TAC	4 members	Phone/Skype/email	Evaluation dimensions 1, 2, 3, and 4
UN-Water members	5 organizations	Phone/Skype	Evaluation dimensions 1, 2, and 3
Italian and Umbria Region Govt.	4 individuals	Face-to-face Phone/Skype	Evaluation dimensions 1, 2, and 4
Academic and resource persons	8 individuals	Phone/Skype/email	Evaluation dimensions 1, 2, 3, and 4

Source: Authors.

1.4 Division of responsibilities between evaluation team and IOS

The evaluation was conducted by an external team of evaluators from the University of Arizona in collaboration with UNESCO's IOS. The division of labor is specified in Table 1.2 below.

Table 1.2. Division of labor between external evaluation team and IOS

Activity	Division of labor	Responsibility for delivery
Desk study	External evaluation team and IOS	External evaluation team
Interviews with key stakeholders • Identifying key stakeholders • Crafting interview questions	External evaluation team and IOS	External evaluation team and IOS
Online survey of decision makers • Identifying key decision makers • Crafting survey questions • Managing survey • Interpreting and analyzing survey results	External evaluation team and IOS	IOS

Bibliometric analysis • Identifying search databases • Conducting searches • Managing and interpreting results	External evaluation team and IOS	External evaluation team
Draft evaluation report	External evaluation team with input from IOS	External evaluation team
Final evaluation report	External evaluation team and IOS	External evaluation team and IOS

Source: Authors.

1.5 Limitations of the evaluation

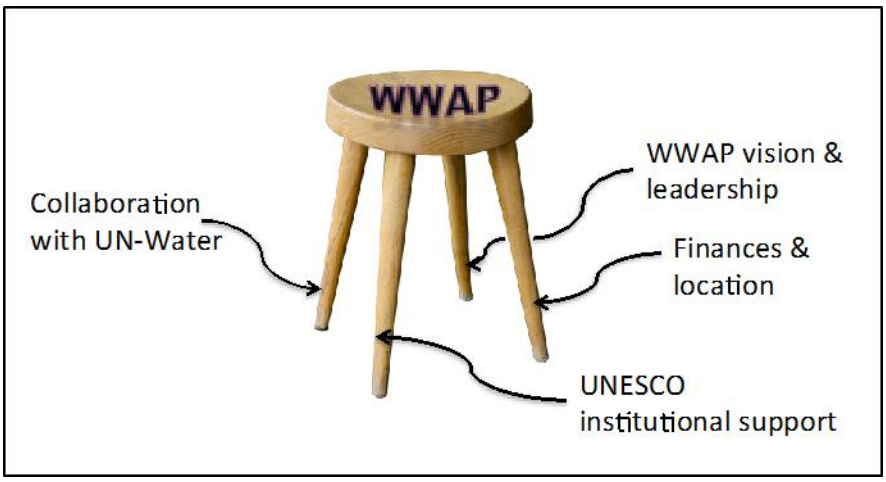
As in any evaluation the scope and depth of analysis is constrained by time and resource limitations. The evaluation's approach to data collection and the resources allocated to it are considered adequate to respond to the main questions underlying the four dimensions of interest to the evaluation. At the same time, three particular limitations are worth mentioning.

First, the WWDR's change from a triennial to an annual report has been of a relatively recent nature and the evaluation is not in a position to fully assess the effects of this change on the relative variables of interest (e.g. policy and academic influence and use). Second, the evaluation's analysis of WWAP's financial sustainability is limited by the fact that it was not possible to reconstruct a full financial picture of all costs related to WWAP. For example, certain aspects of WWAP's finances could not be analyzed on the basis of WWAP's financial records due to costs borne by the parent division (SC/HYD) and the donor. Finally, UN-Water constitutes the principal governance framework of the WWDR, a UN-Water flagship publication (as well as a programmatic and flagship publication of UNESCO). It is not the evaluation's purview to assess the UN-Water's performance with respect to the WWDR. The evaluation assessed the WWDR within the parameters of decisions agreed upon in UN-Water, i.e. to strengthen the WWDR as a UN-Water publication with a leading role for UNESCO as contributing agency. To the extent that any of the recommendations of the evaluation are touching upon decisions taken within the context of UN-Water, from the perspective of UN-Water they should be considered as elements of guidance. All of the report's recommendations are directed in one way or another to UNESCO entities, which will be included in the process of follow-up to the evaluation.

2. Structural Foundations of WWAP

By design and via evolution, the structural and programmatic architecture of WWAP places the programme upon four legs: (1) its mandated administrative placement within, and reliance on institutional support from UNESCO; (2) the stability of its financial support, its location, and its facilities; (3) effective vision and leadership of WWAP; and (4) a workable relationship with UN-Water in the production of the WWDRs.

Figure 2.1. Institutional underpinnings: The four pillars of WWAP



Source: Authors.

2.1 Leg 1: UNESCO

The first of these pillars (or stool legs, as per Figure 2.1)—WWAP's organic relationship to UNESCO—was established early on, in 1999, as a part of WWAP's mandate, by the UN ACC-SWR in its 20th session, where it was recommended that an independent unit be set up to prepare the WWDR on behalf of the UN ACC-SWR (UN ACC, 1999). As such, WWAP was treated as an autonomous, externally-funded programme "hosted" by UNESCO (in particular, by SC/HYD). These foundational developments had been set in place five years prior to the emergence of UN-Water – a continuation of the UN ACC-SWR. But as that group evolved over time, WWAP's position within the UN system became less clear. Finally, at its January 2014 meeting in New York, UN-Water formally decided that WWAP is a UNESCO programme producing a UN-Water report (UN-Water, 2014).

From UNESCO's perspective this clarification reaffirmed a basic operating premise that WWAP has functioned as an instrument of UNESCO. WWAP's embedding within UNESCO is laden with financial, organizational, hierarchical, programmatic, personnel-related, facilities-specific, and even diplomatic implications. In this evaluation, we looked at some of these characteristics as opportunities for synergy and potential sources of tension.

2.2 Leg 2: Finances and location

Next in significance is the financial-cum-locational leg of the stool in Figure 2.1. To be sure, both finances and location lie within the domain of influence of UNESCO, but these items need to be viewed as important pillars in their own right. Except in times of crisis, funding for WWAP needs to be secured externally—by tradition from UNESCO Member States. Without this core support, WWAP cannot function.

When this programmatic support was provided by the Government of Japan—and until the move to Perugia in 2007—WWAP operated from UNESCO-provided offices in Paris. Until 2007, UNESCO housed WWAP and offered some basic resources. Throughout WWAP's existence the primary responsibility for securing core extra-budgetary financial support has resided with UNESCO HQ, including the leadership of the SC/HYD. By contrast, additional extra-budgetary fundraising was considered a responsibility of the WWAP Coordinator.

Since 2007, core financing has been provided by the Government of Italy. After a series of interim agreements between the Government and UNESCO, a permanent arrangement was finally achieved in 2013.

The initial arrangement with the Italian Government was coincident with an invitation by the Government of the Region of Umbria to relocate WWAP to the region's capital, Perugia. The move occurred in 2008 and the programme has resided in the premises of Villa La Colombella outside the city ever since. Just as WWAP is fundamentally reliant on extra-budgetary funds for its operation, it requires a suitable facility as its headquarters. Since the move to Perugia, the costs of the rent and maintenance have been covered by the Region of Umbria.[11] In subsequent sections, we will review in some detail the donor and budgetary arrangements and assess the feasibility and desirability of the present physical location of the program.

2.3 Leg 3: WWAP's vision and leadership

As a part of UNESCO's SC/HYD, WWAP is a functional unit of that division and of UNESCO. Yet its mission is distinct from that of the other sections of the SC/HYD, and its activities are directed by a WWAP Coordinator (currently ad interim). Since its inception, WWAP has been led by two permanent Coordinators (each serving for approximately six years), and one interim Coordinator (since 2013). The programme is strongly dependent on a clear vision, strong leadership, and excellent negotiating skills by its Coordinator, especially as collaboration within UN-Water on the production of the WWDRs is a unique and sustained effort. At the same time, the appropriate level of functional autonomy (from HQ) needs to exist in order for the decentralized WWAP to function effectively (see Section 5.3.2).

Robust leadership, therefore, comprises the third leg of the WWAP stool. In subsequent sections, we will discuss the organizational structure and staffing of WWAP, including the role of the Coordinator (a position that is currently vacant).

[11] For a more nuanced perspective, see Section 6.3.

2.4 Leg 4: Collaboration with UN-Water

The WWDR is a UN-Water flagship publication. UNESCO-WWAP produces the report, which includes among other things the coordination of different contributions from UN-Water members and partners. As both WWAP's original mandate and its current agreement with the Italian Government make clear, the program's principal activity remains the production of the now-annual WWDRs. Recently, there have been some discussions regarding the ownership, branding, and credit concerning these reports. But as of 2014, the lines have been more clearly drawn and working relationships more firmly established among the various parties (UN-Water, 2012).

The process of developing the WWDR is discussed in Section 3.1. With two annual, thematic reports now completed (WWDR2014: Water and Energy [2014]; and WWDR2015 Water in a Sustainable World [2015]), WWAP and UN-Water appear to have cemented an effective working relationship. This collaboration between the two entities serves as the fourth leg of the stool.

3. Dimension One: The World Water Development Report

3.1 Approach and quality of the WWDR

3.1.1 The origins and purpose of the WWDR

The WWDR is a UN-Water publication. UNESCO-WWAP produces the report, which includes among other things the coordination of different contributions from UN-Water members and partners.
The WWDR can be traced to 1998, when the CSD called on UN agencies to "carry out periodic global assessments and analyses of water resources availability (both quality and quantity)" (UN CSD, 1998: 7), which emerged as the WWDR in the 19th session of the UN ACC-SWR in the same year. During the same session, the UN ACC-SWR authorized the representative of UNESCO to begin preliminary planning for the WWDR (UN ACC, 1998).

It was clear from the beginning that it would be a United Nations (UN) report and that the organizations of the UN system would play the leading role in all stages of the project (UN ACC, 1999). In addition, the Subcommittee recommended that "an independent unit" be set up to produce the report on behalf of the UN ACC-SWR. Further, "The unit would have some core staff and would be based inside an organization member of the Subcommittee, but would be independent from its technical and decision-making structure" (UN ACC, 1999: 5).

At the 2nd World Water Forum in The Hague, UNESCO announced the establishment of WWAP within UNESCO and made funds available to support WWAP and the production of the WWDR. During the UN ACC-SWR's 21st session in 2000, the Subcommittee unanimously adopted WWAP as an inter-agency initiative under the oversight of the Subcommittee and coordinated by the WWAP Secretariat (UN ACC, 2001a). In 2001, the UN ACC-SWR decided that the WWDR would be a major input to the 3rd World Water Forum. It was conceived as a triennial report that would be launched in connection with the World Water Day celebration at future World Water Forums during the sub-committee's 22nd session (UN ACC, 2001b). The 1st WWDR was released at the World Water Forum on Kyoto, Japan, in 2003.

The WWDR can be viewed as part of a larger ongoing worldwide assessment project to measure progress towards achieving the goals of sustainable development set out by the UN over the past two decades. According to some stakeholders, the WWDRs provide a mechanism for "tracking progress towards achieving targets, particularly those of the Millennium Development Goals (MDGs) and the World Summit on Sustainable Development" (UNESCO, 2014a: 12).

According to WWAP, the targeted audience for the WWDR includes "all those involved in the formulation and implementation of water-related policies and investment strategies, as well as to professionals at all levels" (WWAP, 2015a).[12] It has evolved to become a UN flagship report on water – a comprehensive[13] review of the state, use, and management of the world's freshwater resources that aims to provide decision makers with the tools to implement sustainable use of water.

[12] According to the TAC, academia (both academic work and academics) constitutes an important channel for delivering new knowledge into the policy domain.
[13] After the shift to an annual report with a thematic focus, the WWDR has become less comprehensive in scope.

3.1.2 Approach and quality of the WWDRs: 2009-2015[14]

Earlier triennial WDDRs

The first four editions of the WWDR (from 2003 to 2012) were published on a triennial basis, and released in conjunction with the World Water Council's World Water Forum. WWDR3 (2009) marked the beginning of a new institutionalization of WWAP. According to WWAP, the WWDR3 shifted to a new, "holistic picture of the water domain while recognizing the externalities and their role on the state, use and management of the earth's water resources" (WWAP, 2010: 5). The report marked a transition from the first two WWDRs in that it evolved from a report mainly for water managers to a report for leaders at all levels of the government, the private sector, and civil society (UNESCO, 2009). A number of themes were addressed in the WWDR3, including climate change, the Millennium Development Goals, groundwater, biodiversity, water and migration, water and infrastructure, and biofuels (UNESCO, 2014a; UNESCO, 2009).

WWDR3 directly acknowledged the need to engage actors beyond the water sector. It says: "government, business, civil society and a host of other actors all make decisions that have implications on water use. It is important that each target audience, both inside and outside the 'water box', appreciates that they are responsible for making the right water decisions, and that the Report's messages are relevant to them" (UNESCO, 2009: 5).

WWDR4 (2012) followed a theme of "Managing water under uncertainty and risk." The report addressed how driving forces affect water and highlighted the need to recognize increased and new uncertainties and to analyze risks that exacerbate the challenges to decision-making. It frames water users as "change agents" who affect and are affected by the water cycle, and calls for more responsible action by all water users, from local to international levels and at all levels of government, businesses and communities (UNESCO, 2012a). It outlines how water underpins all aspects of development and how past government actors' attitudes of managing "water as a sector" has created a disconnect between policies and actions (UNESCO, 2012a).

Shifting to an annual WWDR

In 2012, at the 17th UN-Water SPM meeting in Stockholm, UN-Water (including UNESCO), decided that the scope, format, and periodicity of the WWDRs would change from a triennial to an annual format. This decision was based on the findings of two surveys conducted by UN-Water, including an internal UN survey and a stakeholder survey of some 1,200 respondents from a broader audience, including academics, national governments, and private sector respondents. Overall, the survey reported that the WWDR needs to correspond better to the needs of its readers and become more reader-friendly, and be more facts-based, shorter, and with a clearer focus.
As a result of the decision, WWAP was asked to prepare an annual thematic report of approximately 100 pages with a focus on a different strategic water issue each year. The annual report would follow a standardized structure with a data annex related to the theme. In addition, every fifth year, a 40-page synthesis report would also be produced, providing an overview of the status and trends of water

[14] Any data provided on the 2015 WWDR is partial since this report is written during the first five months of 2015.

resources through key indicators, and include a summary of previous WWDR findings and main findings from other UN-Water reports. The ultimate scope of this synthesis report is expected to be decided at future UN-Water meetings.

Since the fifth WWDR - renamed WWDR2014 - WWAP has been engaged in the production of an annual, thematic 100-pages report. The WWDR2014, titled Water and Energy, recognizes the growing awareness that the energy and water domains are closely interconnected, and the nexus between energy and water sectors will play an important role in defining future development goals. It calls for innovative and pragmatic policies that prioritize "more efficient and cost effective management of water and energy services in an integrated way" (UNESCO, 2014b: vii).

The recent WWDR2015, titled Water for a Sustainable World, demonstrates how water resources and services are essential to achieving global sustainability. Considering economic growth, social equity, and environmental sustainability, the report describes how major challenges and change factors will affect and can be affected by water resources, services and related benefits. New to the WWDR in 2015, the report outlines a vision of the world where water resources and water-related services are managed in such a way that the benefits derived from water are maximized and shared equitably. In this way, the WWDR aims to "prompt readers to reflect on how our world could be, provided appropriate changes are made to the way water resources are perceived and managed" (WWAP, 2015b: viii).

The WWDRs are well organized and logical in their format. Each report begins with an Executive Summary or overview of key messages that outlines the key themes and messages. The reports are visually attractive and full of color and photos. In fact, virtually every page includes some kind of image, map, figure, or text box. References are consistently provided at the end of each chapter. Both the 2014 and 2015 annual WWDRs include two associate publications along with the two volumes (main report and case studies/indicators): an Executive Summary of approximately 10 pages, and Facts and Figures of approximately a dozen pages.[15]

Beginning in 2014, the themes of the WWDR and that of World Water Day were harmonized, and they presently coincide. On the same day of the official WWDR2014 launch in Tokyo, WWAP organized other launches for the regions with the support of UNESCO Regional Offices in Beijing, Bangkok, Jakarta, Montevideo, and Nairobi. Also, the WWDR was presented in UNESCO Paris to the permanent delegations and a press briefing was organized at UN HQ, New York, where the Lead Author presented the findings of the Report. The WWDR2015 was launched on World Water Day in March 2015 in New Delhi, India. The official launch, led by the WWAP interim Coordinator, was replayed with the collaboration of UNESCO Country Offices and/or National Commissions, on the same day or in the immediately following days, in Almaty, Bangkok, Beijing, in Ulan Bator, Bonn, Cairo, Jakarta, Kingston, Montevideo, Nairobi, New York (at UN HQ), Paris (at UNESCO HQ), San Jose, Tashkent, and Brasilia. Table 3.1 below presents an overview of the WWDRs studied in the evaluation, highlighting some key comparative elements of the report in terms of frequency, length, and details related to the launch of the report.

[15] It is worth noting that the production of the WWDR includes two volumes; the primary report that belongs to UN-Water; and a second case study volume that is considered to belong to WWAP.

Table 3.1. Comparative descriptive information of consecutive WWDRs

Criteria	WWDR3	WWDR4	WWDR2014	WWDR2015
Title	*Water in a Changing World*	*Managing Water under Uncertainty and Risk*	*Water and Energy*	*Water for a Sustainable World*
Year	2009	2012	2014	2015
Frequency	Triennial	Triennial	Annual	Annual
Number of Volumes	2	3	2	2
Page Numbers	393 total	904 total	204 total	183 total
Launch of the report	Launched in March 2009 at the 5th World Water Forum in Istanbul, Turkey	Launched in March 2012 at the 6th World Water Forum in Marseille, France	Launched during the celebrations for World Water Day in March 2014 in Tokyo, Japan	Launched during the celebrations for World Water Day in March 2015 in New Delhi, India

Source: UNESCO, 2009; 2012a; 2014a; 2014b; and 2015a.

3.1.3 Building blocks of the WWDR: Production processes and themes

The structure of the WWDRs has varied over time. The 2009 WWDR was divided into 4 parts and 16 chapters. The 2012 WWDR is characterized by 3 modules (Status, Trends and Challenges; Managing Water under Uncertainty and Risk; Knowledge Base and Supporting Documents) spread over 3 volumes and 51 chapters. The building blocks in the production of the WWDRs then changed to reflect the shift from triennial to annual report.

With the change in periodicity came a new structure and production process for the WWDR. In 2012, UN-Water approved a standard structure for the annual WWDRs. While in the past production processes of reports were consecutive, under the current annual model, production processes for the reports run in parallel. The production process for the annual report takes two years, with WWAP working concurrently on two, sometimes three reports. This results in a higher workload for WWAP, and also for its UN contributors, although the preparatory process for the annual report was designed to be simpler than the process of the earlier reports. Despite this change and increased demand on WWAP, it has delivered a high quality product under tight time constraints.

Beginning in 2014, a generic structure was adopted for the annual WWDRs that builds on the knowledge and experiences gained during the preparation of the four previous editions of the WWDR, and takes into account the results of the 2012 Survey Report on UN-Water publications that triggered a shift to the annual WWDR. Further, WWDR2014 represented a new design that will be adopted for the next four annual WWDRs in terms of the covers of the volumes of the report and the inside presentation of the report. The generic structure adopted for the annual WWDR is shown in Table 3.2.

Table 3.2. Generic structure for annual WWDRs

Executive Summary (3 to 5 pages)

Part 1: Baseline and Context (10 to 15 pages)

- Presentation of the theme – links to water and development
- Notable recent development related to water and the theme (e.g. major global crises, trends and events; evolution of key drivers/externalities)
- Theme-related highlights from previous WWDRs, other UN-Water and UN agency publications, and flagship reports by UN-Water Member and Partner Organizations
- Data availability issues (known and unknown)

Part 2: Thematic Focus (30 to 50 pages)

- Three to five chapters covering the theme from the different perspectives of the most relevant challenge areas (see '2. Proposed Process' below), including hotspots and externalities (i.e. drivers)

Part 3: Regional Aspects (10 to 15 pages)

- One comprehensive chapter (or regional chapters, depending on relevance of the theme to regional coverage). Highly focused cases, hotspots, externalities, examples, stories and/or unique perspectives from the five regions: what aspect of the theme makes it uniquely relevant to the region (and vice versa)?

Part 4: Response Options (15 to 20 pages)

- From 'in' and 'out' of the water box – these should be directly linked/applicable to the 'challenges' identified in Parts 2 and 3
- Policy implications

Data Annex

- Related to the theme

Case Studies Annex

- Related to the theme

Source: UNESCO, 2014a: 24.

Under the annual format of the WWDR, the theme of the report is selected by the UN-Water SPMs (representatives of UN-Water members), more than two years before the launch of the report. The selected theme must be "cross-cutting, cross-sectoral and should carry a strong potential for involving multiple agencies and for benefiting from their knowledge and expertise. Other considerations in selecting the theme are:

- Lead agencies contributing to the report (changing from one report to another),
- Major conferences, summits and forums (inside and outside the water box) and
- World water day themes,
- Emerging and critical issues,
- Feedback of target audience" (UNESCO, 2014a: 25).

At the 17th UN-Water SPM meeting, held in 2012, it was decided that the theme for the WWDR2014 would be 'Water and energy'. The theme was selected to reflect the growing awareness that the energy and water domains are closely interconnected and that a nexus between them will play a key role in defining future development goals (UNESCO, 2014a).

The process for theme selection of the WWDR2015 and WWDR2016 also began in 2012. WWAP identified a number of potential themes to be recommended to UN-Water agencies. This identification exercise for a set of potential themes comprised the following activities:

> "(i) a literature search for potential themes within water-related information sources, which produced 48 themes;
> (ii) screening (through a Delphi exercise) of these potential themes by a core group of experts to reduce their number to eight and increase focus and coherence;
> (iii) a survey of water-related stakeholders (over 500 individual responded) to obtain their input; and
> (iv) WWAP's analysis of the survey results to determine a set of candidate themes to be recommended to UN Water agencies. WWAP concluded that there were three potential sets of candidate themes" (UNESCO, 2014a: 28).

A first set consisted of potential themes that were developed by the core group of experts and also ranked highly by respondents. These were Ecosystem Based Solutions for Water Security Challenges; Water, Energy and Food Nexus; Water Governance; and Urban Water Services: Management and Control. A second set included themes ranked highly by respondents: Water Livelihoods: Village and Local Water issues; Water Education and Information Sharing; Transboundary Issues; and Groundwater. Finally, a set of umbrella themes was developed on the basis of the other two, which included Water and Development; Water and Jobs; Water and People; and Water Security (UNESCO, 2014a).

The findings of the survey and the candidate themes were presented by WWAP to the 18th meeting of UN-Water SPMs in Washington, DC in February 2013. The SPMs selected 'Water and Sustainable Development' as the theme for WWDR2015. The SPMs also decided to consider 'Water and Jobs' as the theme for WWDR2016. Engaging the International Labour Organization (ILO) as one of the lead agencies for the 2016 Report is a good step toward moving beyond the water sector and expanding buy-in from actors that may have been historically at the periphery of water issues.

In terms of the production process for the WWDR2014 and WWDR2015, WWAP conducted a preliminary exercise to identify the most important issues to be addressed in the report in terms of their relevance to the theme. These findings were shared among UN-Water Members and Partners for their review and comments, and then discussed in a developmental workshop, which typically occurs in May every year. The draft Storyline, an Annotated Table of Contents, and a Distribution of Tasks among the Lead Agencies and Contributors for the WWDR are produced at the developmental workshop (UNESCO, 2014a).

The process of theme selection suggests some level of stakeholder input with the ultimate decision on the theme being made by all UN-Water members and partners together. Indeed it reflects the biases and particular inclinations of this decision-making group. If we compare the theme selection process for

the 2014, 2015 and 2016 annual reports with the WWDR3 and WWDR4 theme selection processes it is clear that the extent of stakeholder consultation has been reduced.

In addition to the above, since the WWDR and World Water Day themes are aligned, proper consideration needs to be given also to the history of World Water Day themes and at the global water agenda. For example, transboundary waters, gender, climate change, all already had a World Water Day dedicated to it. Increasingly, UN-Water actors are looking to link to emerging global issues and events that may relate to water. For example, UN-Water was considering nature-based solutions as a potential theme for either the 2017 or 2018 World Water Day and selected it for 2018 because the Convention of Parties for the UN Convention on Biodiversity is scheduled for 2018.

Overall, the production model[16] for the WWDR can be seen as a contracting-out model that relies on external consultants engaged by the various UN-Water agencies for the actual writing of the various segments of the report.[17] In addition, a consultant is hired by WWAP as the Lead Author of the report. In the recent past, at various times over the years, the Lead Author was hired under several different contracts, depending upon the individual's ability to reside in Perugia or not, and by all intents and purposes is thought of by WWAP as part of WWAP's staff. The Lead Author manages the integration of the report and also represents the report in interviews associated with the launch at World Water Day. However, from the perception of other non-WWAP actors, the term Lead Author misconstrues the contributions of UN-Water agencies and suggests that one individual can claim authorship of a report produced by the UN system. There is the concern that this can negatively impact broader UN support and ownership for the WWDR and that an alternative term should be considered, such as Lead Editor.

In addition to the work performed by the Lead Author,[18] at WWAP Headquarters in Perugia, the WWAP Coordinator is in charge of the overall content of report. The WWDR Process Manager is in charge of the overall process. The Publications Officer is in charge of the publication aspects. Finally, the Communications Officer manages the pre- and post-launch communication activities, including the design of the communication campaign.

There are perceptions from participants in the process that a good deal of resources is allocated to consultants for managing the report and for the writing of particular chapters of the report. UN-Water's 2012 survey reports similar findings. It says: "The most apparent observation was that a majority of the respondents demand a greater interaction and collaborative responsibility between WWAP and UN-Water members and partners and less use of external consultants" (UN-Water, 2012: 30; see also Table 3.3).

[16] In this report we use the term production model in a rather generic sense, i.e. referring to the comprehensive set of tasks and responsibilities associated with the production of the WWDR. It should be noted that WWAP uses a different definition.
[17] Note should be taken of the fact that consultants are hired because their expertise and time are needed so that products at the required technical level are produced within the time frames established for report production.
[18] Given the widespread use of the term Lead Author we use this term in the report. In reality, the term Lead Editor more adequately captures the nature of the role.

Table 3.3. Comparison of WWDRs by structure and organization

Criteria	WWDR3	WWDR4	WWDR2014	WWDR2015
Structure of the report	Report was divided into 4 parts and 16 chapters	Report had 3 modules (Status, Trends and Challenges; Managing Water under Uncertainty & Risk; Knowledge Base & Supporting Documents) spread over 3 volumes and 51 chapters	Generic structure to be adopted for annual WWDRs - Executive Summary Part 1: Baseline and Context Part 2: Thematic Focus Part 3: Regional Aspects Part 4: Response Options Data Annex Case Studies Annex	Generic structure for annual WWDRs – Executive Summary Part 1: Baseline and Context Part 2: Thematic Focus Part 3: Regional Aspects Part 4: Response Options Data Annex Case Studies Annex
Organizational structure of the production team	WWAP Coordinator was in charge of overall content of report. Core WWDR3 Production Team was composed of Production Manager, Content Manager, and Process Manager. Each chapter had core team of two persons: a coordinator from a UN agency and a facilitator from WWAP.	WWAP Coordinator was in charge of overall content of report. WWDR Process Manager was in charge of overall process. Two lead authors were in charge of Modules 1-2, respectively. 19 UN agencies contributed to Module 3.	WWAP Coordinator was in charge of overall content of report. WWDR Process Manager was in charge of overall process. One Lead Author pulls contributions together and provides editorial and substantive contributions. For annual WWDR, new production process was initiated, in which UN-Water members and partners could contribute to writing phase of report as Lead Agencies or as Contributing Agencies. Lead agencies write WWDR chapters or sections, while contributing agencies are expected to provide data/ information/case studies/review. There were 5 lead agencies – FAO, UNEP, UN-Habitat, UNIDO, and World Bank – along with 5 UN regional commissions: UNECA,	WWAP Coordinator was in charge of overall content of report. WWDR Process Manager was in charge of overall process. One Lead Author pulls contributions together and provides editorial and substantive contributions. For annual WWDR, new production process initiated, in which UN-Water members & partners could contribute to writing phase of report as Lead Agencies or as Contributing Agencies. Lead agencies charge with writing WWDR chapters or sections, while contrib. agencies expected to provide data/ information/case studies /review. There were 10 lead thematic agencies: FAO, UNDESA, UNDP, UNEP, UNESCO, UN-Habitat, UNICEF, UNIDO, WHO, and WMO – along with 5 UN regional commissions: UNECA, UNECE,

			UNECE, UNECLAC, UNESCAP, and UNESCWA.	UNECLAC, UNESCAP, and UNESCWA.

Source: UNESCO, 2009; 2012a; 2014a; 2014b; and 2015a.

3.1.4 The role of case studies in the WWDR

From the very beginning, case studies have been a key element of the WWDRs. In early meetings of the UN ACC-SWR, it was widely held that case studies should be policy-driven, vary in scale, and have a strong focus on developing countries (UN ACC, 2001a). According to the Final Report on the 2007-2013 FIT Agreement, WWAP aims to develop case studies of water management and use in diverse countries and river basins, with the explicit aim to achieve as wide a regional coverage as possible (UNESCO, 2014a). The case studies are intended to provide "a snapshot of water in the field", and illustrate the significance of the decisions taken at local, sub-national and national levels (WWAP, 2015c).

The findings from UN-Water's 2012 global survey indicate that a substantive majority of the respondents are positive towards including more case studies. It reports: "Furthering case studies on examples both within the developing world and developed world to showcase 'best regional practices' (based on location, constraints, etc.) will provide some benchmarking and direction for policy setting in the water arena" (UN-Water, 2012: 25). The 2007 evaluation of WWAP found that the case studies do not shy away from controversial issues and in some cases have forced national governments to better organize water data collection and reporting efforts (UNESCO, 2007a). Table 3.4 below reports the cases from the WWDRs studied for the evaluation and reports the geographic scale of the case studies.

Table 3.4. Case studies in WWDRs over time

WWDR	No. of Cases	Geographic Scale
WWDR3	20	Cameroon Sudan Swaziland Tunisia The Zambezi and Congo River basins (Zambia) The confluence of the Ganges, Brahmaputra and Meghna rivers (Bangladesh) The Yellow River basin (China) Pacific Islands The Cholistan desert (Pakistan) The Han River basin (Republic of Korea) The Walawe River basin (Sri Lanka) The Aral Sea basin (Uzbekistan) Estonia The Po River Basin (Italy) The Netherlands The Autonomous Community of the Basque Country (Spain) The Vuoksi River basin (Finland and Russian Federation) Istanbul (Turkey) La Plata River basin (Argentina, Brazil, Bolivia, Paraguay, Uruguay) Lake Merín basin (Brazil and Uruguay)

WWDR4	15	Africa: Ghana; Kenya-Tanzania—Mara River basin Arab States: Jordan; Morocco Asia and the Pacific: Australia—Murray-Darling River basin; China—Yellow River basin; Korea, Republic of—Jeju Island; Pakistan (with special reference to the Indus River basin) Europe and North America: Czech Republic; France—Marseille Provence Métropole Urban Community; Italy—Tiber River basin; Portugal—Tagus River basin United States of America: Florida—St Johns River basin Latin America and the Caribbean: Costa Rica; Mexico
WWDR2014	13	Gulf countries: Desalination India: Thermal power plants Austin, TX, USA Eastern Herzegovina and Trebišnjica Hydropower System China: Three Gorges Dam project Korea: Small hydro power plants Japan: Hydropower Turkey: Geothermal energy Kenya: Geothermal energy Italy: Geothermal energy Austria: Green energy production Japan: Wastewater reclamation Mexico: PV wastewater treatment plant
WWDR2015	7	Selected Asian cities Parana river basin, Brazil Gulf Cooperation Council (GCC) countries Serchio river basin, Italy Samoa Singapore Mekong river delta Vietnam

Source: UNESCO, 2009 2012a; 2014a; 2014b; and 2015a.

Case studies appear in a separate volume to the main WWDR report and are the full responsibility of WWAP. Cases cover a variety of geographic scales from the river basin level to the national or regional scale and are intended to provide examples relevant to the WWDR discussion. The case studies in the two recent annual reports are approximately 2-6 pages in length. The force of the case studies is probably less than their individual contributions but rather their collective power to illustrate both positive practices and challenges associated with water use and governance. According to WWAP, the WWDR sets the vision and the case studies volume complements that by providing relevant examples from the field (the main volume of WWDR makes references to the case studies reports where relevant in the discussion). The main thrust behind case study development has been to showcase good practices, innovative approaches, promising commitments and, most importantly, to highlight the negative consequences of one-sided sectoral approaches and unsustainable responses to water demand.

Practically speaking, the case studies help to serve as a vehicle or mechanisms for countries to enter and participate in an otherwise largely UN report by showcasing their accomplishments and lessons learned. This may, in part, explain why the quality and depth of analysis vary greatly and do not seem to follow any particular geographic or temporal scaling pattern. Further, there is no clear observable framework for how the cases fit together. Some case studies are highly referenced while others rely on or are adapted from only one source. Generally, we observe that the case studies are less substantial and developed in the two more recent annual WWDRs than in prior reports, likely a result of time and financial constraints. In particular, in the recent 2015 report we observe that quite a few case studies

are adapted or pulled from just one report or publication. This may communicate a perception that the case studies are not well balanced in their reporting or the report does not sufficiently integrate across a more diverse set of research findings. In addition, we do not find a clear overall vision for case study inclusion or development in the WWDR.

3.1.5 The role of indicators in the WWDR

The WWDR is mandated to develop indicators and adopt a methodology for indicator development. According to the 2012 MoU between UNESCO and the Italian Government, it is part of WWAP's mandate to "develop the conceptual and methodological framework for internationally comparable data and indicators for water resources" (UNESCO, 2012b: 34). This has proven to be a difficult challenge. The 2007 evaluation of WWAP outlines challenges with refining indicators and with the scientific rigor of data collected and analyzed for the WWDR (UNESCO, 2007a). In 2009, WWAP reported on the challenges they were facing in identifying and developing indicators. According to WWAP, "Gathering harmonized data and developing indicators that are universally applicable are complex and delicate tasks, not best done in a hurry" (WWAP, 2009b: 29).

To better address these challenges, UN-Water created the Task Force on Indicators, Monitoring and Reporting and address the issue of producing key global indicators on the state of water resources. WWAP coordinated the task force, comprised of representatives from two dozen UN and partner organizations. In 2009, in its final report, the Task Force proposed a set of 15 quantitative 'key indicators' to provide a snapshot of the water sector. The indicators are at the national level scale and are intended to be updated every five years.

In addition, WWAP established the Expert Group on Indicators, Monitoring and Databases to support this work, by promoting a dialogue between indicator users and data providers. WWAP's Expert Group on Indicators, Monitoring, and Databases initiated a process to identify the key dimensions and indicators of water resources and their management in 2008. The Group concluded that "given the many different interests of decision makers and managers, the principal challenge in the field of monitoring water resources at global, regional and national level is not the identification of a set of key indicators for water resources and their management. It is rather the systematic generation of a set of core data items that will allow a wide range of such indicators to be calculated to meet the many different needs of the potential audiences. Currently, many of these data items are not reliably or systematically collected. Therefore, it is increasingly difficult to provide policy makers at the national, regional and global levels with insight into the trends of key indicators such as water use efficiency, the linkage between water and social and economic development, or even about changes in water availability and whether available resources are being unsustainably depleted" (UNESCO, 2014a: 48-49).

As a result, WWAP initiated efforts to work with partners, in generating a set of water data on a regular and systematic basis, similar to the WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation's (JMP) approach to water supply and sanitation data. In their Pilot Study on Indicators, WWAP partnered with the Global Terrestrial Network for Hydrology and Group on Earth Observations: Integrated Global Water Cycle Observations (GEO/IGWCO; Water Community of Practice) to develop an innovative methodology for estimating country-level total actual renewable water resources (TARWR) to better understand overall water availability. The methodology is new in that it is based on actual hydromet data, that would allow for trends to be monitored (WWAP, 2015d). While the methodology is

judged to be innovative, the model utilized to estimate TARWR values required considerable work for it to produce results comparable to FAO's AQUASTAT. The substantial funding required for additional modeling work does not exist and as a result, no recent activity has been reported on this initiative and the work is currently dormant.

It is clear that WWAP and its UN-Water partners have struggled in their work on indicators. A key challenge is the lack of up to date systematically collected field data. According to the 2014 FIT Agreement report, "the biggest challenge for the WWDR series has always been the lack of a systematic process for updating the data. For this reason, the set of standard indicators (focusing on quantity, sectoral water demand and demographics) utilized in WWDR series is limited in number. This is complemented by varying indicators to present the trends on issues related to the WWDR theme in each edition" (UNESCO, 2014a: 37). Nonetheless, the data and indicators annex of the WWDR compiles the most up-to-date data relevant to the theme of the report. Sometimes these data – or their presentation in the report – attract media attention. Most recently, for example, one of the graphs in the indicators section of the report was featured in newspaper coverage of WWDR to reflect global water trends.[19] Recognizing that it is not merely the number of indicators but rather the richness and scope of the indicators that likely matter most, Table 3.5 reports the raw number of indicators reported in WWDRs over time.[20]

Table 3.5. Indicators in WWDRs over time

	WWDR3	**WWDR4**	**WWDR2014**	**WWDR2015**
Number of indicators published in WWDRs	58	49	41	32

Source: UNESCO, 2009; 2012a; 2014a; 2014b; and 2015a.

Overall, WWAP has not systematically continued with its work on indicator development to monitor world water resources. There is no consensus or systematic approach within the UN system to monitor key indicators over time. The recent initiative on sex-disaggregated data (see Section 4.1.2) may be an exception to this, but it is not yet in the stage of systematic data collection and reporting. In the meantime, other UN organizations have their own indicators and monitoring programmes.

3.1.6 Stakeholder engagement in WWDR

We find two primary pathways for engaging stakeholders in the WWDR. The first pathway involves a diverse set of mechanisms to solicit external input from stakeholders, policy makers, academics, and technical experts in the development of the WWDR. The second pathway involves expert groups in the

[19] See Le Monde's article "La crise de l'eau illustrée en 5 graphiques (http://www.lemonde.fr/ressources-naturelles/article/2015/03/20/la-crise-de-l-eau-illustree-en-5-graphiques_4597592_1652731.html).

[20] For comparison purposes, it should be noted that the first WWDR included 160 indicators, ranging from global water availability figures to water withdrawals for human consumption. The number of indicators reported fell sharply to 62 with the second WWDR in 2006, "because there was no systematic process for updating the data used for most of indicators presented in the report" (UNESCO, 2009: 298).

production process. We outline these two pathways here and address the overall efficiency and effectiveness of the mechanisms for stakeholder engagement in the WWDR production process.

Beginning in 2009, WWAP publicly acknowledged the need for greater stakeholder engagement. According to WWAP's 2009 Interim Report, "the experience gained during the first two phases of WWAP (2000–2003 and 2003–2006) and the external evaluation conducted in 2007 have shown that the programme in general, and the WWDR in particular, would benefit from increased input from and involvement of the scientific and expert communities and stakeholders" (WWAP, 2009b: 10).

Subsequent to this report, we uncover a detailed and intentional process of stakeholder engagement in the production of the WWDR. The WWDR3 (2009), for example, relied on an electronic survey of world leaders and water experts for their feedback on the key messages proposed for inclusion in the report. Responses were received from some 26 leaders and 110 experts, and according to WWAP, the responses were discussed by the production team and reflected in revisions to the structure and priority areas of the WWDR3 (WWAP, 2009b). In addition, an online comment form was created to allow for public comment on the various sections of the report. WWAP received 167 comments submitted by 40 participants from 25 countries. Finally, a real-time Delphi survey was conducted to determine how best to maximize the policy relevance of the WWDR3 and its associated processes. This consultation process enabled 72 participants to go online, review draft statements of the report concerning policy relevance and priorities and targets for information, and provide their expert opinions and arguments for their opinions (UNESCO, 2014a).

Stakeholder engagement around the production of the WWDR4 (2012) was similarly multi-faceted. Several surveys and online consultations occurred including a short survey on lessons learnt from the WWDR3 process, and public consultations on the report's table of contents and draft modules. In addition, UN-Water and stakeholder electronic surveys, a UN-Water Delphi survey, a policy survey for decision makers, and an expert survey on scenario drivers were conducted in 2009 and 2010 in preparation of the 2012 report.[21] According to WWAP, the structure for the WWDR4 and the overarching topic were revised and shaped based on these consultation processes. Finally, a series of consultation events occurred at the 5th World Water Forum in 2009, Stockholm Water Week (2009, 2010, and 2011), and Africa Water Week (2010).

But the process for stakeholder consultation changed in 2012. At this time, UN-Water changed the periodicity of the WWDR, from triennial to annual. At the same time, the donor announced a substantial reduction in funding, which was included in the 2012 MoU. These two events resulted in WWAP reducing the scope and extent of the participatory efforts (see Table 3.6), which were deemed too lengthy and expensive in light of the new setting. Nowadays, UN-Water relies on surveys to engage UN-Water members and partners in providing feedback and voting on potential themes, and this feedback helped to inform selection of the themes for WWDR2017 and WWDR2018.

[21] The following ten drivers were selected in 2010 for further research: (1) Water resources and ecosystem; (2) Climate change; (3) Governance (Institutions); (4) Technology; (5) Economy and security; (6) Agriculture; (7) Infrastructure; (8) Demography; (9) Ethics, society and culture; and (10) Politics (UNESCO, 2014a: 52).

The change from a triennial to an annual report, and the subsequent increase in managerial workload for WWAP staff, has resulted in two parallel production processes running at the same time. This appears to negatively impact the extent and depth of stakeholder involvement in theme selection and content management. Although cooperation with different sectors is posited as an important need in various WWDRs, and was achieved (to a large extent) in the case of the triennial report, such coordination and collaboration are now more difficult to achieve given the report's shorter production cycle. As a result, stakeholders are not as well consulted or engaged in the course of developing the WWDR or in its dissemination and communication. This is especially true for non-water sectors which may be of particular importance depending on the theme of the annual report. Table 3.6 reports stakeholder engagement and consultation in the development of the WWDR.

Table 3.6. Stakeholder engagement in WWDR production processes

	WWDR3	**WWDR4**	**WWDR2014**	**WWDR2015**
Mechanisms to solicit external input from stakeholders, policy makers, academics, and technical experts	Real-Time Delphi surveys on policy relevance Public online consultation on table of contents Electronic surveys on report's key messages Online public consultations on report's table of contents and various sections of report	Survey on lessons learnt from WWDR3 process UN-Water and stakeholders electronic surveys UN-Water Delphi Public consultation on table of contents Expert survey on drivers Public consultation on first draft of Modules 1 & 2 Policy survey for decision makers	Surveys conducted by WWAP informed UN-Water decision-making process; theme of report selected in tandem with World Water Day theme based on inclusive process	Surveys conducted by WWAP informed UN-Water decision-making process; theme of report selected in tandem with World Water Day theme based on inclusive process

Source: UNESCO, 2009; 2012a; 2014a; 2014b; and 2015a.

In addition to stakeholder engagement in the development of the WWDR, we also observe the participation and engagement of expert and advisory groups. In 2008, WWAP created the Technical Advisory Committee (TAC), to review drafts of the WWDR drafts and to provide unbiased, scientific advice (WWAP, 2008). Also in 2008, in an effort to strengthen the scientific basis of the WWDR, seven interdisciplinary expert groups were created to provide guidance around a diverse set of topics from scenarios to climate change, and indicators to legal issues.[22] The Expert Groups were disbanded following the publication of the WWDR3.

[22] Groups were created for the topics 'Indicators, Monitoring and Databases', 'Business, Trade, Finance and Involvement of the Private Sector', 'Policy Relevance', 'Scenarios', 'Climate Change and Water', 'Legal Issues' and 'Storage'.

The TAC continues to operate and advise WWAP and the WWDR. Presently, it is composed of 12 members from academia, research institutions, and NGOs. The composition has been fairly stable over time. While it represents good geographical diversity, the TAC includes one female member, and does not necessarily reflect disciplinary expertise in water governance, policy or management, although many members have broad practical political or policy experience.[23] The TAC largely works remotely and has met only one time (in 2014) to coordinate activities at the WWAP premises in Perugia.

In addition, beginning with the WWDR4, an Advisory Group on Gender Equality was created to help WWAP in mainstreaming gender equality in its activities and products, especially the WWDR, and to better assure that WWAP products and publication are gender-sensitive. The group is chaired by the Director of UNESCO's Division for Gender Equality, housed in the Office of the Director-General. It reflects good geographic and disciplinary expertise.[24] Table 3.7 below reports the involvement of expert groups in the production process for the WWDR.

Table 3.7. Expert groups and the WWDR production process

	WWDR3	**WWDR4**	**WWDR2014**	**WWDR2015**
Involvement of expert groups in production process	Technical Advisory Committee (TAC), Expert Groups on – - Indicators, monitoring & databases - Business, trade, finance & involvement of private sector - Climate change & water - Legal issues - Policy relevance - Scenarios - Storage	TAC and Advisory Group on Gender Equality	TAC and Advisory Group on Gender Equality	TAC and Advisory Group on Gender Equality

Source: UNESCO, 2009; 2012a; 2014a; 2014b; and 2015a.

3.1.7 Communication and visibility of the WWDR

As a UN-Water report, UN-Water implements a strategy to communicate and disseminate the WWDRs. Its web page prominently advertises the launch of the latest report on its main page and includes a web cast. Past WWDRs are prominently visible on the UN-Water web site, with the WWDR featured as a UN-Water publication.[25]

[23] See TAC composition at: http://www.unesco.org/new/en/natural-sciences/environment/water/wwap/wwdr/wwdr3-2009/technical-advisory-committee-tac/

[24] See Advisory Group composition at: http://www.unesco.org/new/en/natural-sciences/environment/water/wwap/facts-and-figures/gender-equality/advisory-group-on-gender/

[25] See http://www.unwater.org/publications/world-water-development-report/en/

A good deal of past news coverage can be found on UN-Water's web site related to the launching of the various reports.[26] The WWDR3 (2009) is mentioned on its web page on Water, Sanitation and Hygiene. The WWDR4 (2012) is referenced on its web page on Water-related Hazards and on Water and Urbanization. UN-Water's web page on Statistics has several links to the WWDR2014 and discussion of water statistics from that report. The WWDR2015 is referenced on the Water and Climate Change and Transboundary Waters web page as well as UN-Water's web page titled A Global Goal for Water.

At UNESCO, a standard communication strategy is followed to communicate and disseminate the WWDR. Media calls and a press breakfast are key components of UNESCO's communication strategy related to the WWDR, according to UNESCO's Division of Public Information (ERI/DPI). So too are press releases a central element to WWDR communications. At UNESCO, the press release is drafted by ERI/DPI and validated by WWAP, UN-Water, and UNESCO's Office of the Director-General. Press releases occur in the six UN languages. Press coverage of the WWDRs is helped significantly by dispatches from leading international news agencies. These are then picked up and republished by local and regional news media outlets (UNESCO, 2014a; see also Annex 7).

The World Water Day is a key opportunity to communicate the WWDR. Since the annual WWDR in 2014, a launch is organized by WWAP within the World Water Day celebration and agreed upon with UN-Water. The launch is generally followed by a press conference and other side events where the main findings of the report are communicated to a wide audience. According to WWAP, "this event creates the momentum for all the other communications activities implemented by WWAP for the WWDR" (UNESCO, 2014a: 62). UNESCO staff in Field Offices contribute to the communication efforts as well. In 2014 and 2015, WWAP organized many parallel launches all over the world (see Section 3.1.2).

Although this evaluation did not entail an in-depth media analysis, in looking at data on media coverage for the past three WWDRs (WWDR4, WWDR2014, and WWDR2015), we find the highest international media coverage of the WWDR when the report was launched at the World Water Forum. For example, some 800 news stories were generated concerning the event and the 2012 report (see Annex 7).[27] Most of the articles related to the WWDR were published or aired on the opening day of the Forum. In its analysis of the reporting, ERI/DPI found that the countries whose press services relayed the information most include China (265 times), Germany (208), the United States (76), France (44), Canada (22), and Spain (18).[28]

For the 2014 report, the first year the WWDR was launched at the World Water Day, we can see 400 news stories from around the world mentioning the report (see Annex 7). Because the 2014 report addressed water and energy, the economic press picked up the story in a higher frequency than past WWDRs. ERI/DPI reported a decrease in the contextualization of the report to regional and national

[26] See, for example, news coverage of the launch of the WWDR2014 at: http://www.unwater.org/news-events/news-details/en/c/217795/; see also Annex 7.
[27] To arrive at these figures, ERI/DPI relies on Meltwater searches (a platform that includes more than 5000 international news sources) that locate WWDR in the headline or first paragraph of the news story.
[28] Interestingly, the launch of the UNICEF/WHO document six days prior the launch of the WWDR4 did not overshadow the media interest in the WWDR. Some news outlets, like The Guardian and Reuters, elected to adopt information from both documents to provide a more robust exploration of water resources, sanitation issues and drinking water.

levels in the various news reports, as well as less technical descriptions and references to the report. This is in line with our analysis on the academic and policy influence discussed in Section 3.2.

The launch of the WWDR2015 generated nearly 600 articles and reports in the world press, representing a significant increase as compared with the previous WWDR (see Annex 7). Most coverage appeared in the European press, followed by the Asian media, Latin America and North America.[29] A good deal of the focus on the news stories focused on the potential for a global water crisis. For example, the headline for AFP dispatch read: "Time now to act on looming water crisis, UN Warns". At Reuters, the headline read: "Business as usual will create a thirsty planet in 15 years, says UN".

According to UNESCO's analysis, the increase in international news coverage can be explained by the less technical nature of the report this year and the ongoing debates on the Sustainable Development Goals (SDG). Further, for the 2015 launch, WWAP strategically used UNESCO offices in Latin America to launch the report there. This may explain in part the increase in media coverage of the 2015 WWDR compared with the 2014 report.[30]

WWAP's web site is an important vehicle for its communications activities. All WWAP publications, including the WWDRs can be downloaded for free at the WWAP web site. The web site is available in English, French, and Spanish languages. It is an attractive web site that is easy to navigate. It includes all of the WWDRs in a downloadable pdf-version. The UN-Water 2012 survey reported that the most suitable format of publishing future WWDRs is a downloadable pdf-version (UN-Water, 2012). Table 3.8 reports on WWDR downloads from the WWAP web site.

Table 3.8. WWDR downloads

WWDR3 (2009) copies downloaded from March 2009 to February 2015: 37,000
WWDR4 (2012): copies downloaded from March 2012 to February 2015: 92,000
WWDR2014: copies downloaded from March 2014 to February 2015: 46,000

Source: UNESCO, 2014a; additional data from UNESCO's DPI.

For the most recent WWDR in 2015, WWAP reports some impressive figures in terms of the number of downloads of the report. It reports 14,837 downloads in the six weeks following the launch of the report, a 50% increase compared with WWDR2014 data from the same timeframe (WWAP, 2015e). In May 2015, ERI/DPI reported that the WWDR2015 was UNESCO's #1 viewed publication in that month (UNESCO, 2015c: 3).

Next, we looked to the web sites of the lead and regional agencies of the WWDR2015 to understand how participating partners communicate the WWDR. If the recent report was not on the front page of the homepage, the search engine of the organization's web site was used. We found that very few partners link to the WWDR report or mention the report (around the time of the launch). The relatively

[29] By late-April 2015, this number increased to 800.

[30] WWAP simultaneously initiates regional launches of WWDR in collaboration with the UNESCO field Offices. As mentioned earlier, for the 2015 WWDR, regional launches took place in: Jakarta, Almaty, Tashkent, Bangkok, Ulan Bator, Cairo, Nairobi, Rome, Paris, Bonn, New York, Kingston, Montevideo, and Brasilia (WWAP, 2015e).

low visibility of the WWDR2015 on web sites of UN-Water members (around the time of the launch) is an indicator of the level of buy-in from partners. Table 3.9 reports below reports our findings.

Table 3.9. References to WWDR2015 on institutional web sites

Lead Agencies and Regional Commissions for WWDR2015	Web site	Link to WWDR2015	Mention of WWDR2015
FAO	http://www.fao.org/home/en/	No	No
UNICEF	http://www.unicef.org/	No	No
UNDESA	http://www.un.org/en/development/desa/index.html	No	No
UNDP	http://www.undp.org/	Yes	Yes
UNECA	http://www.uneca.org/	No	No
UNECE	http://www.unece.org/info/ece-homepage.html	No	No
UNECLAC	http://www.cepal.org/	No	No
UNESCAP	http://www.unescap.org/	Yes	Yes
UNESCO	http://en.unesco.org/	Yes	Yes
UNESCWA	http://www.escwa.un.org/index.asp	No	No
UNEP	http://www.unep.org/	No	Yes
UNHABITAT	http://unhabitat.org/	No	No
UNIDO	http://www.unido.org/index.php?id=28	No	No
WHO	http://www.who.int/en/	No	No
WMO	http://www.wmo.int/pages/index_en.html	No	No

Note: This review was conducted on June 23, 2015. The following keywords were used: 1) wwdr2015; 2) wwdr 2015; 3) "wwdr2015"; 4) "wwdr 2015"; 5) "world water development report 2015".This table only reports on the WWDR2015. Further, the analysis is restricted to mentions on web pages; mentions of the WWDR2015 in PDFs, or word documents, were not included. Finally, only results in English were looked at.
Source: Authors.

According to WWAP, there is a clear division of tasks between WWAP, ERI/DPI (UNESCO HQ), and UN-Water in the WWDR communication strategy. WWAP is tasked with developing and implementing the communication strategy, which includes production of communications materials and publicity materials (including, e.g., posters, save the date, flyer, banners and info graphic, invitations to the launch ceremony, preparation of the dedicated web site, interviews to experts, photo gallery, etc.). ERI/DPI provides support in the dissemination of the WWDR main findings (e.g. preparation of the main

press release in six UN languages), in the relationship with the mass media (e.g. organization of the press breakfast conference) and in the use of UNESCO social media channels. UN-Water helps in the dissemination of the main findings of the report through its own web site.

Despite this, we find no formalized communication strategy to coordinate efforts. In part, this may explain the brand confusion found in media references to the WWDR as simultaneously a UN-Water report, a UN report, or a UNESCO report. It may also help to better understand the gap in coverage of the launch and publication of the WWDR by lead agencies participating in the development and writing of the report. A simple examination of the covers of the WWDRs over time illustrates this brand confusion. While the 2009 and 2012 WWDRs displayed a clean cover highlighting just a few logos (UN-Water, UNESCO, and WWAP), the 2015 WWDR is messy with some 13 different logos, confusing the branding of the report as a UN-Water report.[31] Figure 3.1 displays snapshots of the covers of all the past WWDRs (2003–2015).

In addition, WWAP prepares and distributes communication materials about the major findings of the WWDR. The earlier triennial WWDRs included a good many supplemental reports along with a message series that includes side papers, insight reports and a dialogue series. The aim of these supplemental reports was to further the communication with policy makers and decision makers. For example, 17 side publications are associated with the WWDR3 in 2009. It included "Messages to stakeholders" that targeted ten specific audiences. Only four side publications are associated with WWDR4 in 2012.

Figure 3.1. Covers of past WWDRs

[31] There is a long history of interagency discussion over logos on the cover of the WWDR. The first WWDR did not include UNESCO's logo on the front cover but with the branding of the subsequent reports, UNESCO's logo was predominantly displayed. As documented in the UN-Water meetings' reports, UNESCO's refusal to display the UN-Water logo only on the WWDR2014 front cover led to the development of the UN-Water Publications Policy and, ultimately, led to the front cover of the 2015 WWDR.

Source: Authors.

According to WWAP, the change to the annual format, a shortened publication cycle, along with budget restrictions, resulted in a scaled-back side publication process (UNESCO, 2014a).[32] By the time of the publication of the WWDR2014 the number of accompanying publications dropped even further. Table 3.10 below reports on the accompanying publications to the WWDR over time. Note that this reduction is not an indication of reduced productivity. Instead of producing a WWDR over a relatively longer time span along with side publications, WWAP now produces more WWDRs (with no side publications) in a similar time span.

Table 3.10. Accompanying publications to the WWDR over time

	WWDR3	**WWDR4**	**WWDR2014**	**WWDR2015**
Accompanying publications	Supporting publications (1) Stakeholder messages (10) Side publications (17) Special reports (2) Briefing notes (3)	Supporting publications (3) Stakeholder messages (7) Side publications (4) Special reports (2) Briefing notes (2)	None (Executive Summary, Facts and Figures)	None (Executive Summary, Facts and Figures)

Source: UNESCO, 2009; 2012a; 2014a; 2014b; and 2015a.

3.2 Effects of the WWDR

The 2007 evaluation described WWDR as a valuable reference and a major achievement (UNESCO, 2007a). The 2012 UN-Water survey reported that most WWDRs (including the 2003, 2006, and 2009 reports) have been used for self-learning. According to the TAC's 2014 report, "The effect of WWAP and its publications in the water world cannot be expected to be found in specific decisions by authorities and decision makers; rather, it is, and should be, via influencing the academic and professional domains that end up aiding, supporting and affecting decision-making" (WWAP TAC, 2014: 2). In this evaluation, we examine the effects of the WWDR in terms of both academic and policy influence and use.[33]

3.2.1 Academic influence and use of the WWDR and WWAP

To examine how the WWDR and the WWAP are referenced in academic publications, we conducted a bibliometric analysis of published articles and interviews with academics. We conducted independent Scopus keyword searches for the "World Water Development Report" and the "World Water Assessment Programme" (see Annex 4 for the methodology).[34] We present our findings here.

[32] According to WWAP, UNESCO's new publication selection and evaluation procedure now results in a long review process, which delays release of pending publications.

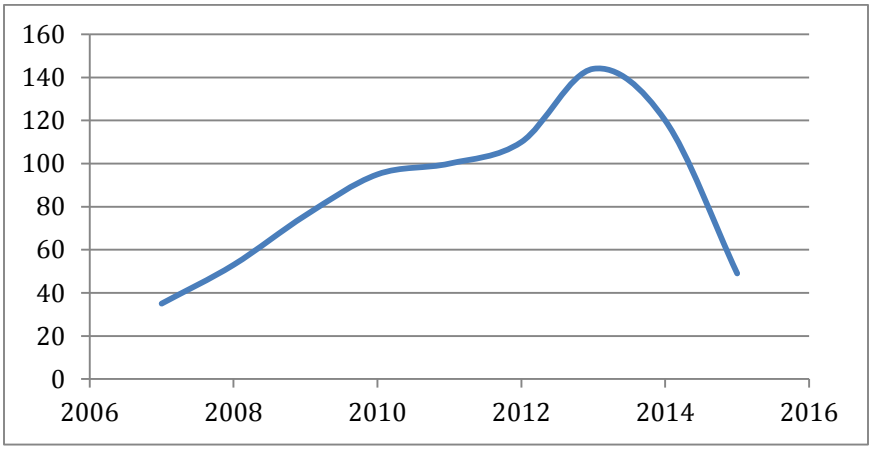
[33] Although WWAP does not consider academics as a primary audience for the WWDRs, we concur with the TAC and recognize them to be an important audience and examine academic use of WWDR as well as WWAP, more broadly.

[34] We selected these search terms after considerable experimentation searching with Scopus. Given the ToR for the evaluation, keyword searches of "World Water Development Report" and the "World Water Assessment Programme" allow for the widest range of potential hits while also reducing redundancies and overlap that may exist from conducting too many keyword searches. Although initially, the evaluation team pursued a diverse set of keyword searches for the academic references, including the acronyms WWDR and WWAP, we abandoned this approach due to the considerable duplication encountered. This decision is substantiated by the fact that authors almost always include the full name of the "World Water Development Report" or the "World Water Assessment Programme" in their bibliography.

WWDR and academic influence and use

Our bibliometric analysis revealed 782 articles published between 2007 and March 2015. We conducted a cluster analysis by randomly selecting 30% of the articles published in each year. Annex 4 reports the number of articles found and the number reviewed for the purposes of this analysis. Figure 3.2 reports the number of references over time from 2007-2015. It displays an overall increase in the number of articles referencing WWDRs over time, with a peak in 2013. Our data suggest a decrease in references to the WWDR, beginning in 2014 and continuing into 2015. This decrease indicates a break in this upward trend. It is too early to tell if this decline will hold through 2015 because we have only collected data through March 2015.

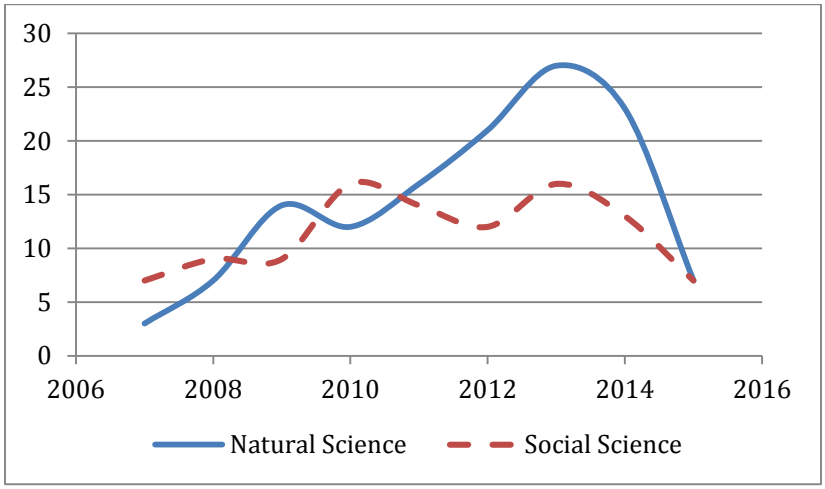
Figure 3.2. Academic references to the WWDR over time



Source: Authors.

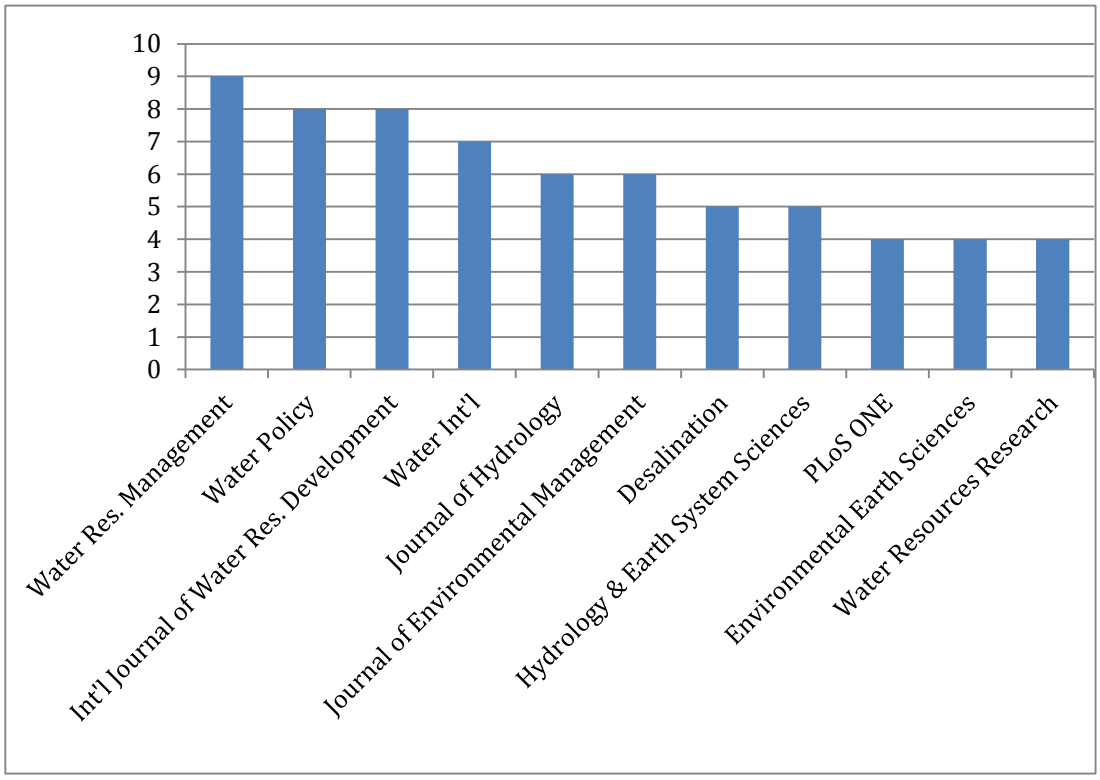
In terms of the types of journals where the WWDR is referenced, we find that 56% (130) of the articles published appear in natural science and engineering journals while 44% (103) of the articles published referencing the WWDRs appear in social science journals that address policy or management issues. Figure 3.3 reports the articles published over time by journal type. Again, we observe a peak in the referencing of the WWDRs in both natural science and social science publications in 2013, and then a decline beginning in 2014. Figure 3.4 reports the top 10 journals where references to the WWDR appear most frequently.

Figure 3.3. Academic references to the WWDR over time by journal type



Source: Authors.

Figure 3.4. Top 10 journals referencing the WWDR

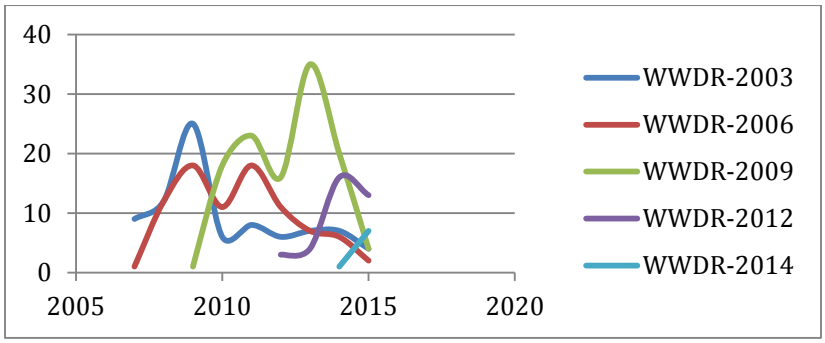


Source: Authors.

Figure 3.5 below reports WWDR report references by year. It suggests that academic use of the WWDRs follows a life cycle of sorts where the number of references to a particular WWDR increases and then tapers off over time. Overall, we found the highest number of references for the WWDR3 (2009). WWDR4 (2012), the last triennial WWDR, did not experience the same number of references. This difference suggests that the declining trend in referencing the WWDR is not explained by the shift from

a triennial to an annual report. We do see an increase in references to the WWDR2014 over the past few years, but it is unknown if we will see a slow increase that will then taper off or if we will see a steady increase that mirrors the spike associated with the WWDR3 (2009). We do recognize that there is likely a lag in the referencing of WWDRs in academic articles due to the production process for journal publications.

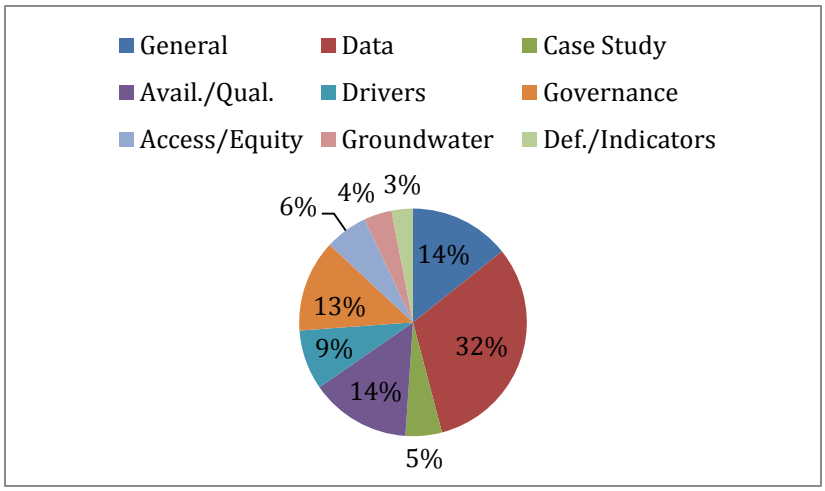
Figure 3.5. Academic references to the WWDR over time by WWDR



Source: Authors.

Finally, we examined how exactly academic articles that use or refer to the WWDR referenced the WWDRs. Figure 3.6 reports the various ways the WWDR is referenced. We find that references to data published in the WWDR is the primary way the WWDRs are referenced in published articles, capturing 32% of all of the academic references to the WWDR.

Figure 3.6. Multiple ways WWDR is referenced to in academic journals



Source: Authors.

Next, we find the WWDRs are referenced in general terms (14%), with respect to issues of availability and quality of water resources (14%), and in terms of governance (13%). In contrast, the least common references to the WWDR are in terms of reference to WWDR definitions and indicators (3%), issues of groundwater (4%), and reference to WWDR case studies (5%). To help triangulate these findings from our bibliometric analysis relying on Scopus searches, we also conducted a Google Scholar search of select WWDR keywords. Table 3.11 below shows the number of hits for the various searches conducted

as well as the nature of the sources and references. We also report the types of uses. Overall, we find support for our earlier findings reported here. The WWDR is referenced most often as a source of information and reference for particular statistics or data.

Table 3.11. Google Scholar searches for WWDRs

Keyword	Hits	Nature of Searches and References	Types of Uses
"WWDR"	1720	WWAP publications and Academic books on water resources development, climate change	- Referred to as a flagship report of the UN that provides an overall assessment of the state, uses, and management of the world's freshwater resources - Used as a reference for statistics on water
"World Water Development Report"	5430	Scientific journals	- Used as a reference for statistics on water - Used a source of information on the effects of climate change and population growth on water resources
"WWDR3"	435	WWAP publications and Academic journals focusing on sustainable development	- Used a source of information on effects of climate change and population growth on water resources - Used as a source of information on management of water-related disaster - Used as a source of water policy-related information - Used as a reference for impact of climate change and population growth on agriculture and food security
"WWDR3: Water in a Changing World"	16	Academic journals focusing on water supply	- Used as a source of information on effects of climate change and population growth on water resources - Used as a reference for impact of climate change and population growth on agriculture and food security
"WWDR2009"	45	Scientific journals and books and government-sponsored publications	- Used as a reference for statistics on water - Used as a source of information on effects of climate change and population growth on water resources - Referred to as a flagship report of the UN that provides an overall assessment of the state, uses, and management of the world's freshwater resources
"WWDR4"	133	Academic journals on natural hazards, sustainable development and Academic books focusing on natural resources	- Used as a source of information on effects of climate change and population growth on water resources - Used as a reference for impact of climate change and population growth on agriculture and food security - Used as a reference for statistics on water
"WWDR4: Managing Water under Uncertainty and Risk"	9	Academic publications focusing on agriculture and water resources	- Used as a reference for impact of climate change and population growth on agriculture and food security - Used as a reference for statistics on water
"WWDR2012"	23	Academic books focusing on environment and water issues	- Used as a reference for impact of climate change and population growth on agriculture and food security - Used as a reference for statistics on water
"WWDR2014"	12	Academic publications focusing on development and energy studies	- Used as a reference for statistics on water - Used as a source of water policy-related information
"WWDR2014: Water and Energy"	0	N/A	N/A

"World Water Development Report: Water and Energy"	4	Development manual for professionals, journal focusing on climate change, scientific journal focusing on water	- Referred to as an authoritative reports on water - Used as a reference for statistics on water

Note: The searches were all conducted on February 10, 2015. The nature of searches and references, along with the types of uses, are based on general observations from scanning the various publications. Except for the keyword searches – "WWDR", "World Water Development Report", "WWDR3" – which yielded more than over 400 hits each, every article was examined to determine how the WWDR was referenced.

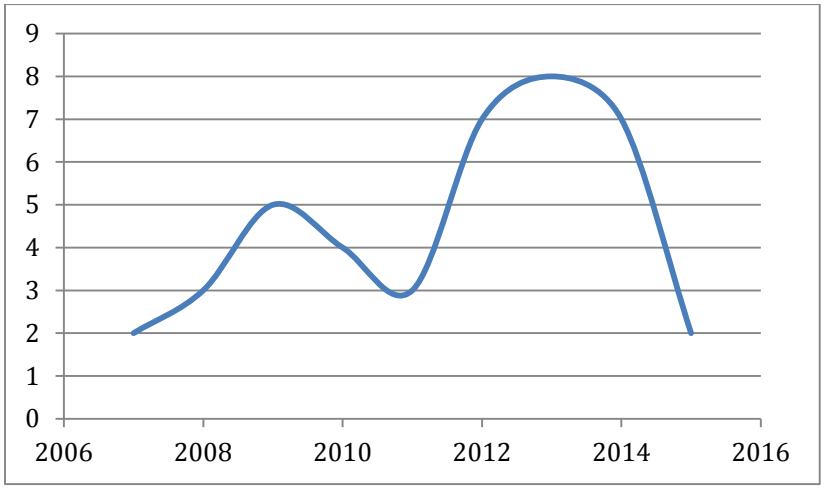
Source: Authors.

WWAP and academic influence and use

Our bibliometric analysis revealed 135 academic articles published between the years 2007 and 2015 that reference WWAP. Similar to our approach with the WWDRs, we examined 30% (41) of the articles to better understand how WWAP is referenced in academic articles (see also Annex 4).

Figure 3.7 reports the number of references to WWAP over time from 2007-2015. Similar to our findings from our bibliometric analysis of references to the WWDR in academic publications, we observe a spike in academic use or references of WWAP in 2013, followed by a decline. Again, while the image suggests a decrease in 2015, this is not a fair assessment because we have only collected data through March 2015.

Figure 3.7. Academic references to the WWAP over time

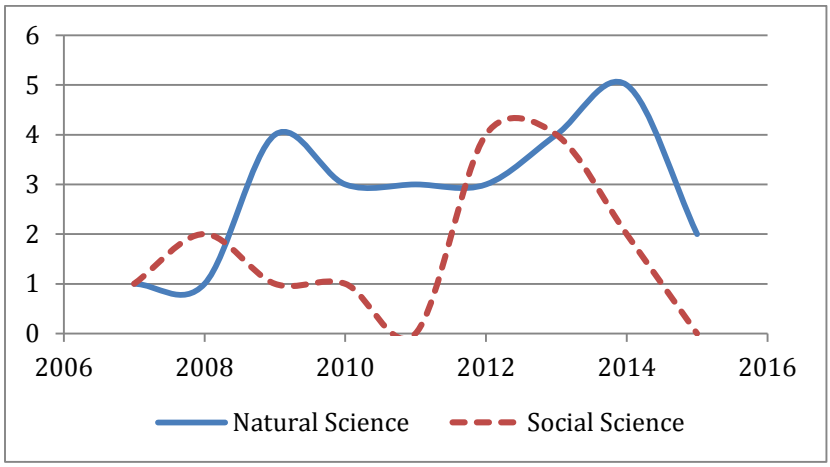


Source: Authors.

In terms of the types of journals where the WWAP is referenced, we find that 63% (26) of the articles published appear in natural science and engineering journals while 37% (15) of the articles published referencing the WWDRs appear in social science journals that address policy or management issues. For social science publications, we see a spike in 2013, following earlier patterns in our data. But for natural science publications this spike comes a year later in 2014. For both social science and natural science publications we see a decrease in 2015, although, as mentioned earlier, this is not a fair assessment because we have only collected data through March 2015.

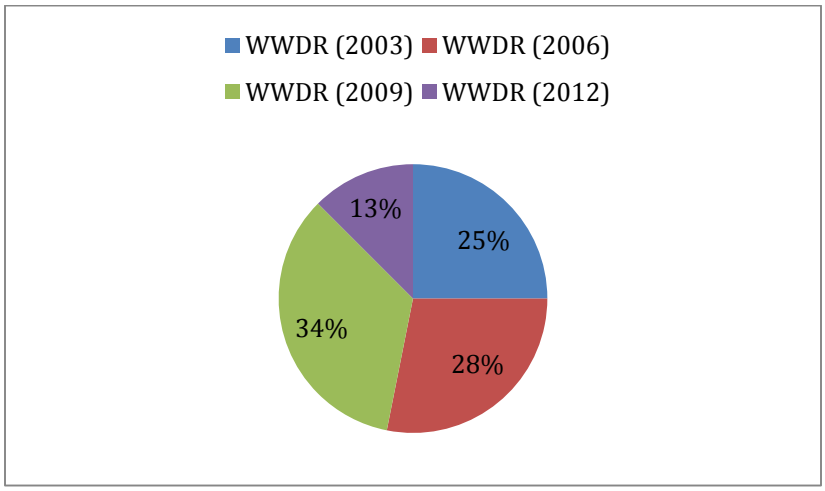
Figure 3.8 reports the articles published over time by journal type. Finally, in terms of how exactly academic articles use or refer to the WWAP, we find that the majority (78%) of the articles refer to one of the WWDRs. As Figure 3.9 reports, the most references, or 34%, are to WWDR3.

Figure 3.8. Academic references to the WWAP over time by journal type



Source: Authors.

Figure 3.9. WWDRs referenced in academic journals (through WWAP searches)



Source: Authors.

Of the 13 articles that do not refer to the WWDRs, we find that most of the references (62%) refer to various WWAP scientific papers. Other references are made to the WWAP web site, a WWAP workshop paper, WWAP's WWDR side publications, and WWAP's scenarios project.

3.2.2 Policy influence and use of the WWDR and WWAP

To examine the policy influence and use of WWDR and WWAP, we examined the web pages of several leading international organizations working on water and water-related issues. In addition, we surveyed key stakeholders and users of the WWDR. We present our findings here.

WWDR and influence and use by international organizations

We examined the web pages of a number leading international organizations (IOs) working on water and water-related issues to better understand the policy influence and use of WWDR and WWAP. Table 3.12 reports the complete list of IOs studied.

Table 3.12. International organizations in bibliometric analysis

International Association of Hydrological Sciences (IAHS)
International Association of Hydrogeologists (IAH)
International Water Resources Assoc. (IWRA)
Future Earth
Global Water Partnership (GWP)
Intergovernmental Panel on Climate Change (IPCC)
International Union for the Conservation of Nature (IUCN)
Organisation for Economic Co-operation and Development (OECD)
The International Federation of Private Water Operators (Aquafed)
RAMSAR Convention on Wetlands
Stockholm International Water Institute (SIWI)
World Water Council (WWC)
World Wild life Fund for Nature (WWF)
WSSCC (Water Supply and Sanitation Collaborative Council)
World Bank (WB)
UN-Water

Source: Authors.

We found that many IOs studied, including the International Association of Hydrological Sciences (IAHS), the International Association of Hydrogeologists (IAH), and the International Union for the Conservation of Nature (IUCN), simply refer to the WWDR or WWAP in their news and events sections of their web pages. Others, like the Intergovernmental Panel on Climate Change (IPCC), Water Supply and Sanitation Collaborative Council (WSSCC), and The International Federation of Private Water Operators (Aquafed) include the WWDR in their lists of publications posted on their web site.

Other IOs highlight their partnerships and collaborations with WWAP and the WWDR, and emphasize a couple of selected WWAP activities and programmes. For example, both the World Bank (WB) and the Global Water Partnership (GWP) highlight their partnership with WWAP on the Water for Life Award. Similarly, the Stockholm International Water Institute (SIWI), WB, and GWP promote their contributions to the WWDR. SIWI also promotes its collaboration with UNESCO on the promotion of sex-disaggregated indicators and a gender-sensitive methodology for the World Water Assessment Programme as part of their web page information on the topic of gender. The World Water Council (WWC) refers to the WWAP's From Potential Conflict to Cooperation Potential (PCCP) Programme on their web site and also refers to a particular workshop WWAP convened on integrated management and governance.

WB announces its contribution on energy to the WWDR2014 by linking to the full WB publication on its web site (World Bank, 2012a; 2013). It refers in a broad sense to the WWDR3 in its publications on energy efficiency (World Bank, 2012b). It speaks to the overall work of WWAP on global water issues

and integrated water resources management (IWRM) in its 2012 publication, *Reaching Across the Waters: Facing the Risks of Cooperation in International Waters* (World Bank, 2012c).

WB recognizes WWDR data on Water Availability per Person per Year from the WWDR3 in its 2009 report titled *Water in the Arab World Management Perspectives and Innovations* (World Bank, 2009). In a 2011 climate report, the WB speaks to indicators that may be helpful to policy makers and planners making decisions related to water resources investment and planning (World Bank, 2011).

Organisation for Economic Co-operation and Development (OECD) references both the 2009 and 2012 WWDRs. The WWDR3 is referenced in OECD reports related to financing of water and sanitation, evaluation of development cooperation, global irrigation water demand projections, *Climate Change and Tourism Policy in OECD Countries*, and an overview of international water conferences (OECD, 2009; 2010a; 2010b; 2011a; 2014a).

The WWDR4 is referenced in a water security report and as part of the OECD's reporting on the tools necessary for good governance (OECD, 2013; 2014b). WWAP programme data on conflicts over water is also referenced in the OECD's Implementation of the OECD (2008) Environmental Strategy for the First Decade of the 21st Century. More generally, WWDRs are referred to in the OECD's *Working Party on Biodiversity, Water and Ecosystems Water: Meeting the Reform Challenge* report (OECD, 2011b) as well as its 2014 inventory of *Existing Tools, Practices and Guidelines to Foster Good Governance in the Water Sector* (OECD, 2014b).

The Global Water Partnership (2012a) emphasizes that it is a "strategic ally" of the WWAP and an active participant in the WWDRs. One theme that is apparent in looking at how the WWDR and WWAP is discussed at the GWP web site and documents is gender. Work on gender in the WWDR4 is referred to in the GWP's report titled *Gender and Water on the Road to Rio* (2012a).

According to the GWP, establishing gender indicators and conducting gender audits is necessary to strengthen women's participation in governance processes. So too is collecting and analyzing sex-disaggregated data mandatory for developing effective gender indicators and conducting gender audits. On another theme, the GWP highlights WWAP's investment in information, knowledge and monitoring. The WWDR4 is called out for its work on indicators in the GWP's *Water Security: Putting the Concept into Practice* (GWP, 2014) report. WWAP reports on IWRM and investments in monitoring are mentioned on the GWP's web page titled *Sharing data for IWRM*.

Good water governance, according to the GWP, requires thorough and accurate water data be made widely available. "The need to present global water data in a comprehensible form is one spur for the proposed World Water Development Report. This should also guide information initiatives at regional, national and local level" (GWP, n.d.: 50).

In addition, the WWDR3 report is referenced in GWP publications related to climate change and national adaptation plans, and integrated urban water management (GWP, 2012b; 2013a). In a 2013 publication on water and food security, the GWP references the WWDR4 (2012), noting that the report "urged that water be the priority item on the 2012 Rio+20 agenda. The [WWDR4 (2012)] report summarized the challenges posed by the increasing demand for freshwater as a crosscutting issue, central to all development, with multiple management challenges. It called for coherent leadership,

better freshwater information gathering and sharing, and better systems for measuring and controlling water at local, national, and global levels. It stressed the need for governments, the private sector, and civil society to work closely together and integrate water as an intrinsic part of their decision-making" (GWP, 2013b: 8).

WWDR and influence and use by key stakeholders

Within the context of this evaluation, an online survey was conducted to evaluate the use and appreciation of the WWDRs by key stakeholders. Two distinct purposive samples were included of (1) UNESCO-related actors (UNESCO category I and II institutes in the field of water, IHP national committees, UNESCO chairs in water resources, UN-Water members and partners, and academics consulted by WWAP), and (2) non-UNESCO actors (academics from the field of hydrology and other related fields, and officials from national government ministries and agencies concerned with water resources in their respective countries).[35]

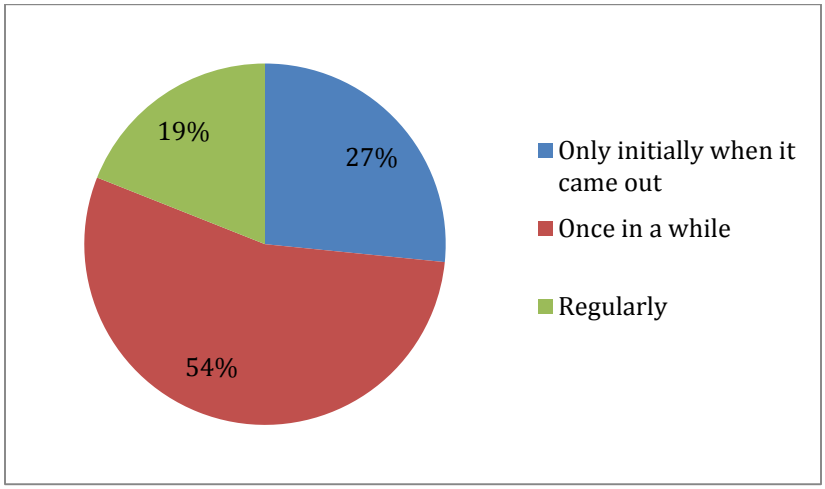
A total of 241 people responded to the survey (153 from the UNESCO sample and 88 from the non-UNESCO sample).[36] In terms of professional positions of the survey respondents, some 48% of respondents hold academic or research positions while 39% are practitioners in governmental and non-governmental institutions.

Overall, the respondents demonstrated familiarity with IHP, WWAP, and UN-Water. But, as expected, we observe greater familiarity with these entities from the UNESCO-related actors. In terms of the WWDR, only 53% of survey respondents indicated familiarity with the report. UNESCO-related actors exhibited greater familiarity than non-UNESCO actors (63% versus 35%). Of those familiar with the WWDR, only 33% of respondents (or 79) indicated that they used the report. Twice as many UNESCO actors suggested use of the report than non-UNESCO actors (40% compared with 20%).

Regarding the frequency of consultation, when asked how often do you consult or access the WWDR, most respondents (of the group identified as users) suggested infrequent use of the WWDR – accessing the report once in a while (54%) or only initially when it came out (27%). When asked how they heard about the WWDR, most users access the report online via UNESCO/WWAP or UN-Water web sites (38%). But others learn about the report through events organized by UN-Water or WWAP (20%) and through academic or policy-oriented publications (13%). Figures 3.10 and 3.11 illustrate frequency and source of access.

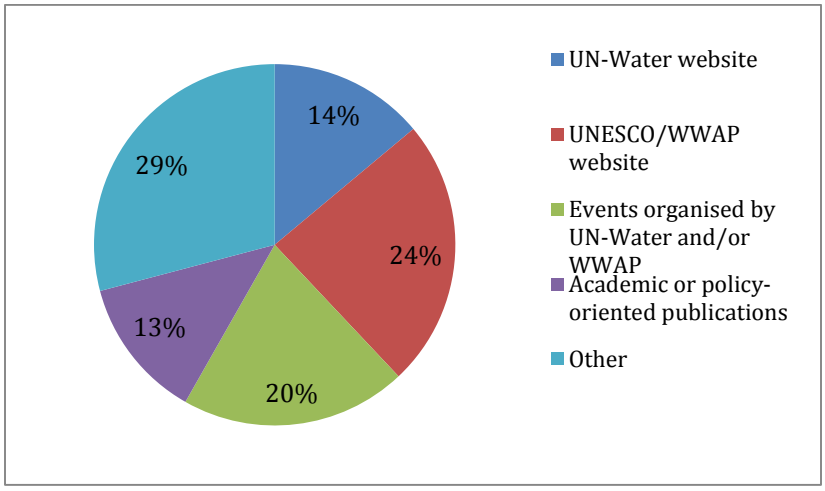
[35] See Annex 5 for more information on the methodology.
[36] See Annex 5 for additional descriptive statistics resulting from the survey.

Figure 3.10. Stakeholder frequency of use of the WWDR



N (Total users) = 79.
Source: Authors.

Figure 3.11. Source of WWDR access



N (Total users) = 79.
Source: Authors.

When asked which WWDRs users have consulted, we find that the vast majority of respondents have consulted WWDR3 (2009) compared with WWDR4 (2012) and WWDR2014.[37] Again, this is consistent with our earlier findings from our bibliometric analysis of academic use of the WWDRs (see Section 3.2.1).

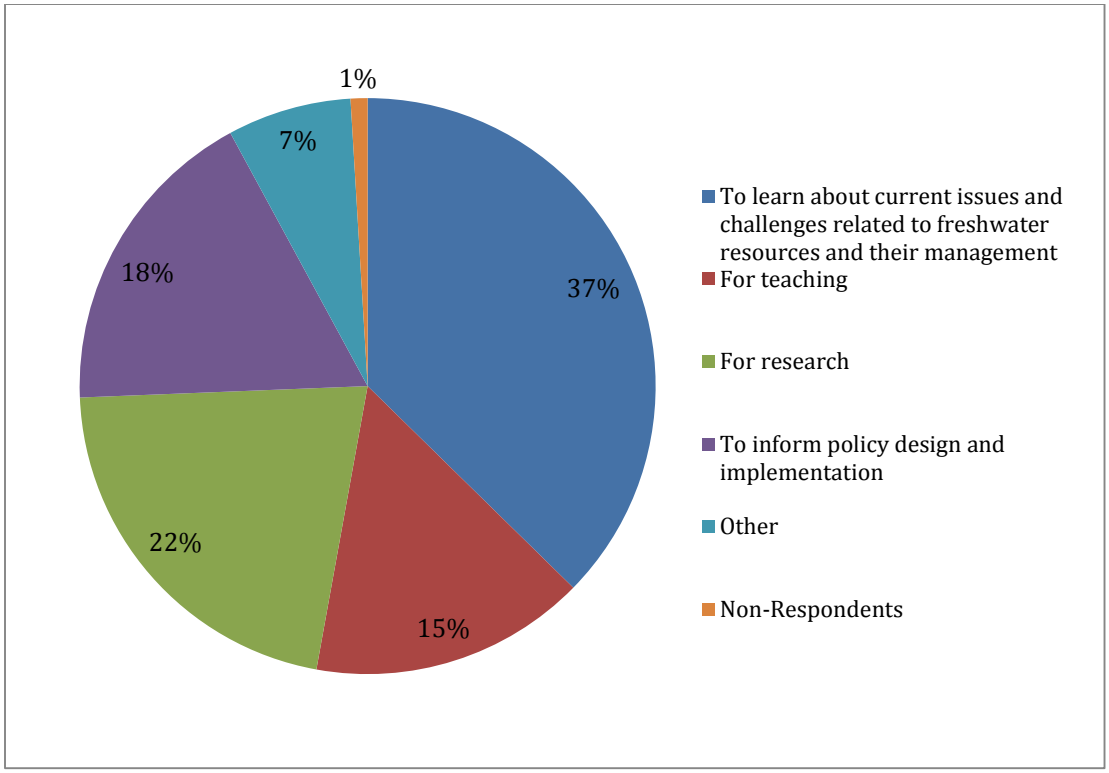
Overall, UNESCO actors are much more likely to have consulted the WWDR, almost three times as likely across the three reports studied here, than non-UNESCO actors. In terms of purpose and use (Figure 3.12), 37% of respondents (of the group identified as users) indicate that they access the WWDR to learn

[37] We should note that the sample size was particularly small here. Twelve respondents indicated they consulted the 2009 report compared with 6 for the 2012 report and 4 for the 2014 report.

about current issues and challenges related to freshwater resources and management. As Figure 3.12 reports, another 22% of respondents (of the group identified as users) use the WWDR for research purposes. In addition, 18% of respondents of this same group indicate that they use WWDR to inform policy design and implementation, and 15% for teaching purposes.

These findings are similar to those found in UN-Water's 2012 stakeholder survey that reported that most readers use WWDR to improve knowledge on water issues (UN-Water, 2012). This suggests that the WWDR serves an important educational role.

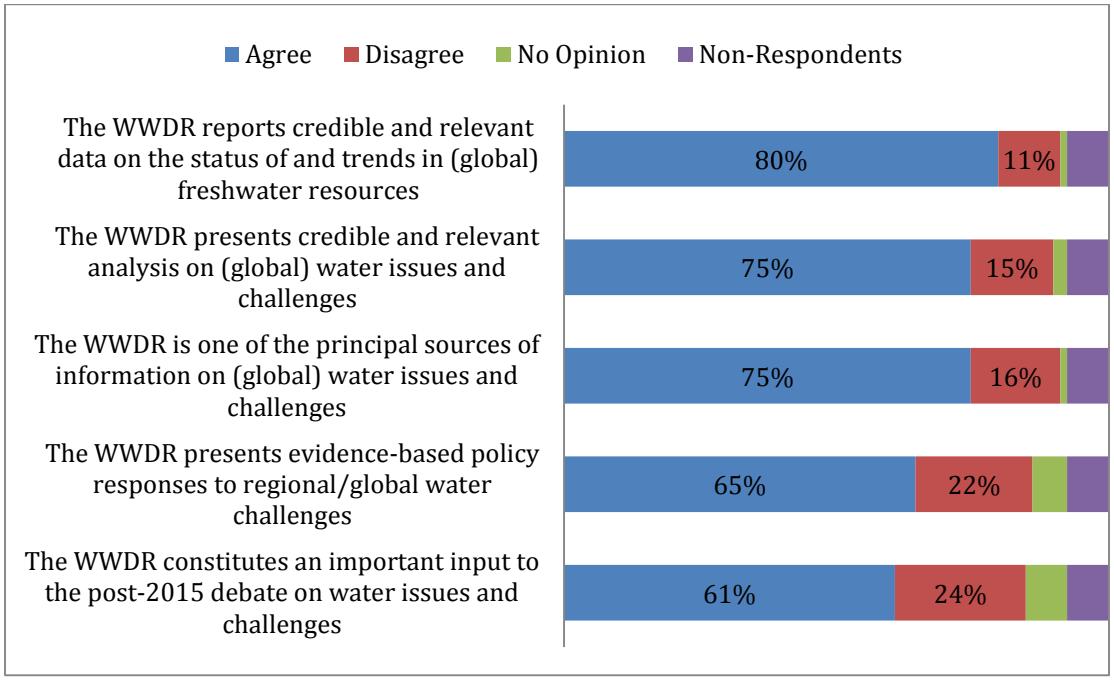
Figure 3.12. Stakeholder use of WWDRs



N (Total users) = 79.
Source: Authors.

Next, respondents (of the group identified as users) were asked to what extent they agree with a set of statements related to the WWDR. As Figure 3.13 reports, a strong majority of respondents agree that the WWDR reports credible and relevant data, and is an important source of information on global water issues and challenges. We see a little less agreement, yet still a majority, in terms of the WWDR presenting evidence-based policy responses and the WWDR constituting an important input to the post-2015 debate.

Figure 3.13. What the WWDR represents



N (Total users) = 79.

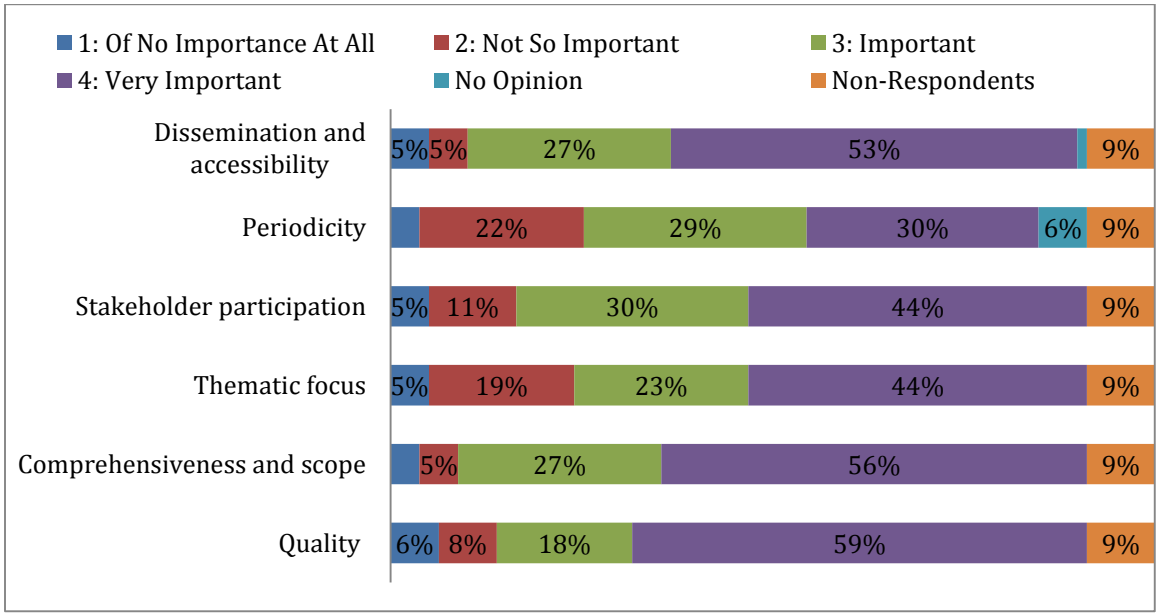
Source: Authors.

Regarding aspects of future editions of the WWDR (see Figure 3.14), respondents (of the group identified as users) ranked the following three elements to be the most important: (1) Quality; (2) Comprehensiveness and scope; and (3) Dissemination and accessibility. Yet, they find many aspects to be important to the report, including thematic focus, stakeholder participation, and periodicity.

Similarly, UN-Water's 2012 survey revealed a variety of preferences and some relative ambiguity on what the WWDR should be in terms of its scope and focus. In that survey, the single largest group responded that they would prefer a facts-based report with standardized data annex (UN Water, 2012).

This finding coincides with our finding that data are the most widely referenced aspect of WWDRs (see Section 3.2.1). Further, the UN-Water survey in 2012 showed that case studies were ranked the second highest preference. But the subsequent alternatives—future scenarios, regional, global and advocacy-focused—were considered almost equally important. UN-Water concluded that: "It is difficult to draw any other general conclusions on stakeholders' preferences on the basis of these results." (UN Water, 2012: 16). Apart from the finding on data, which confirms our earlier finding, we are similarly constrained by these findings from our survey.

Figure 3.14. Importance of potential attributes of WWDR



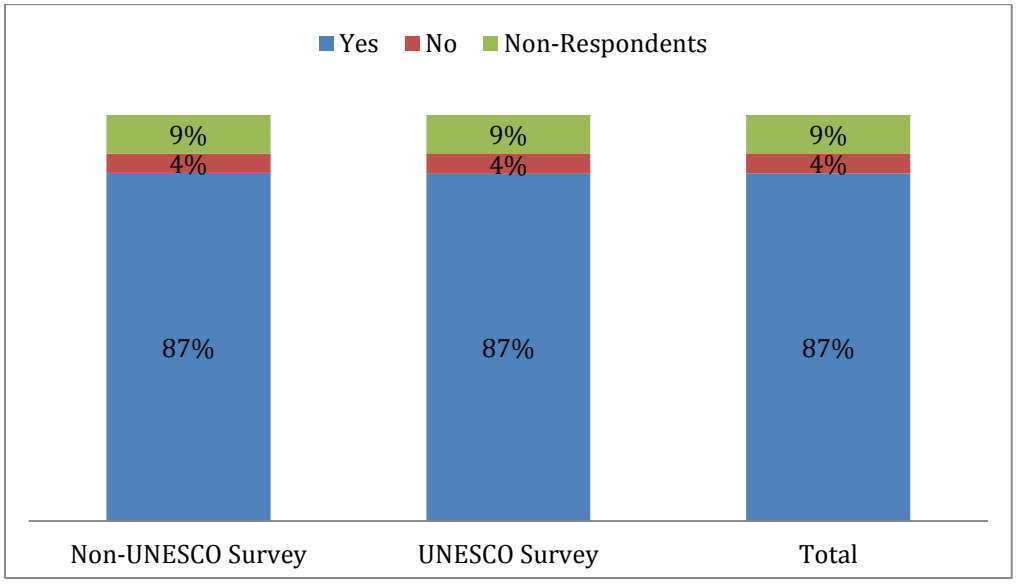
N (Total users) = 79.

Source: Authors.

Overall, an overwhelming number of respondents (see Figure 3.15) who had never consulted the WWDR communicated the need for a global periodic report on the state and challenges of world water resources and their management. This reflects a similar sentiment of stakeholders in the 2012 UN-Water survey where 96% of respondents were in favor of UN-Water continuing to produce the WWDR.[38]

[38] In this survey we make a distinction between respondents that (know about and) use the WWDR and those that do not. For the 2012 UN-Water external survey, it was unclear how many of the 96% (in favor of a WWDR) had actually known about or consulted the WWDR.

Figure 3.15. Need for a global report on freshwater resources



N (Total non-users) = 162; N (Non-UNESCO non-users) = 70; N (UNESCO non-users) = 92.
Source: Authors.

3.2.3 Effects of WWDR modality and periodicity on academic and policy influence and use

In this evaluation, we were constrained in our study of the effects of modality and periodicity of the WWDR on academic and policy influence and use. This is in part because the recent nature of the change in modality makes it difficult to fully assess how this change has affected or will affect policy and academic use and influence. Further, there is an absence of any consistent baseline data regarding this element of the evaluation. Given this, we take a cautious approach to the assessment of effects.

As best as we can tell from our data collected for this evaluation, the modality and periodicity of the WWDR has not impacted significantly its academic and policy influence and use. One notable exception is the data aspect, which is substantially less comprehensive (and systematic) in the annual reports than in the triennial reports. We expect that under the new modality, references to WWDR data will decrease. Overall, we found that the academic use of the WWDR has grown steadily over time.[39] We observe that academic use of WWDRs follows a life cycle where the number of references to a particular WWDR increases for a period of time follow their publication and then tapers off over time as more current WWDRs are released and the earlier WWDR becomes outdated. From our analysis of the web sites of international organizations, for the two greatest users of the WWDR, OECD, and the GWP, we see a fairly equal distribution of references to the earlier triennial and more recent annual reports. Because of the nature of web sites, reporting more current events and organizational documents, one might have expected more references to the more recent annual WWDRs.

From the earlier triennial reports, the WWDR3, published in 2009, has generated the highest academic use. Some of the data we produced indicate a decline in use and influence of the WWDR in natural

[39] At least until the change to annual reports. Referencing of the WWDR2014 and WWDR2015 is not yet fully reflected in the data because of time lags.

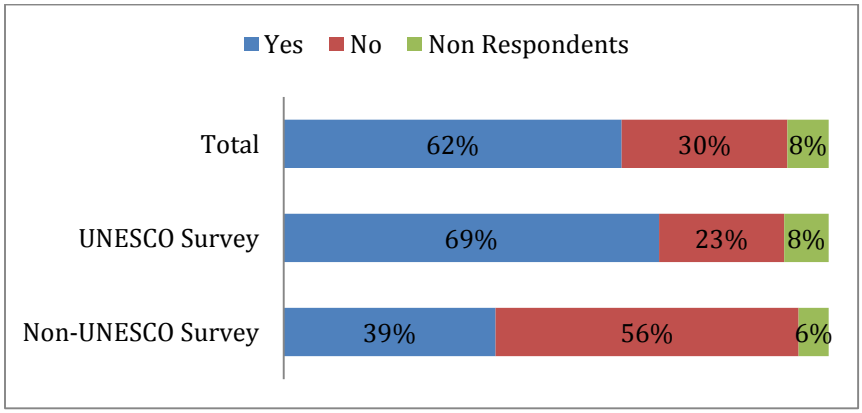
science journals. We are hesitant to place too high of a value on these results, however. Time lags in referencing and using WWDR in academic articles present a big issue to consider.

Further, while our data suggests a decrease in use of the WWDR2015 report, this is not a fair assessment because we have only collected data through March 2015. In addition, we might not expect to see much reference to the WWDR2014 in academic publications just yet given the delay in publication time. A longer period of time would be needed to really see any long-term trends in use and influence.

From our survey, we find that the majority (or 62%) of respondents that have used the WWDR in the past indicate that they are aware of the change of periodicity and modality of the WWDR (69% for UNESCO respondents and 39% of non-UNESCO respondents). For about half of the respondents aware of the change in periodicity and modality, these changes have not resulted in any change in their use of the WWDR. UNESCO respondents (40%) indicate that these changes have more positively influenced their overall appreciation of the quality and usefulness of WWDR.

Figures 3.16, 3.17, and 3.18 below illustrate responses related to the changes in periodicity and modality of the WWDR. Our interviews suggest that while some key stakeholders were initially hesitant about the change in periodicity and modality, most are now pleased with the new process and annual WWDR.

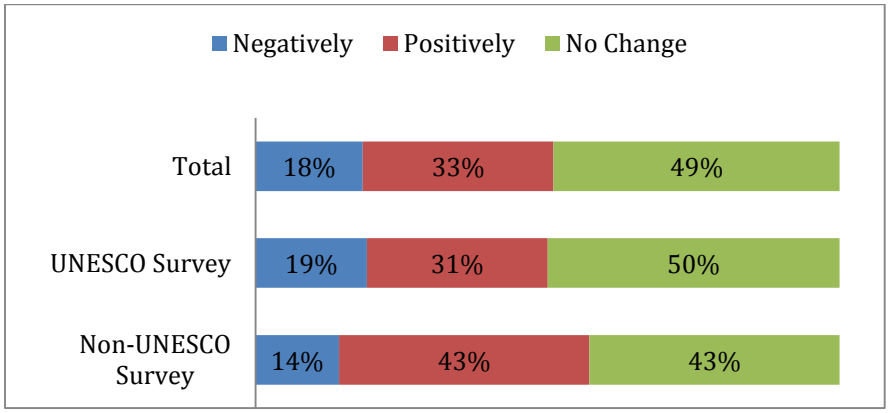
Figure 3.16. Awareness about the change of WWDR periodicity and modality



N (Total users) = 79; N (UNESCO users) = 61; N (Non-UNESCO users) = 18.

Source: Authors.

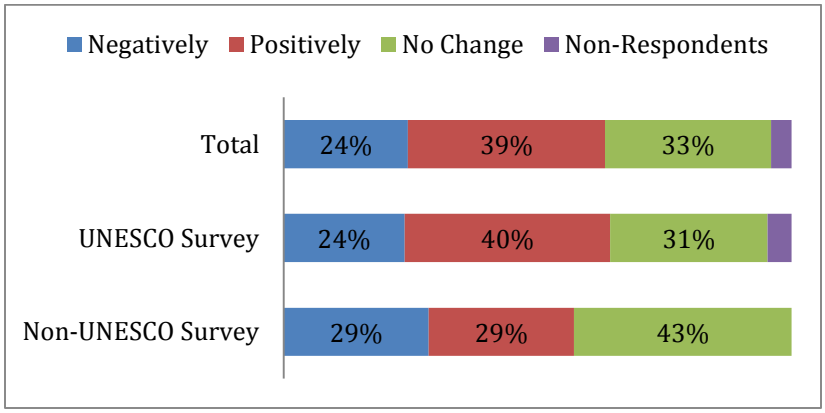
Figure 3.17. Impact of changes in WWDR periodicity and modality in terms of use



N (Total users aware of the change) = 49; N (UNESCO users aware of the change) = 42; N (Non-UNESCO users aware of the change) = 7.

Source: Authors.

Figure 3.18. Impact of changes in WWDR periodicity and modality in terms of appreciation of quality and usefulness of WWDR



N (Total users aware of the change) = 49; N (UNESCO users aware of the change) = 42; N (Non-UNESCO users aware of the change) = 7.

Source: Authors.

3.2.4 Comparability with other global water and UNESCO publications

To better understand to what extent the WWDR offers unique added value, we attempted to compare the WDDR with other global water reports. We identified 13 comparable global water reports and conducted a review of all Scopus citations for these reports in comparison with the various WWDRs.[40] Table 3.13 below reports these findings. We do not see a high number of citations in terms of the WWDR2014, but the time lag needs to be taken into consideration when comparing WWDRs. From this perspective it is more realistic to compare the number of citations for WWDR2014 and WWDR2015,

[40] Total WWDRs (searched as "World Water Development Report," from 2003 to present). Scopus: 1275 (which is fewer than the sum of the individual listings).

with those of the GLAAS report (WHO, 2014) and the JMP report (WHO/UNICEF, 2014), which have 25 and 35 citations respectively.

Table 3.13. Number of citations (Scopus) of recent reports on the theme of water

Report	No. of citations
The State of the World's Land and Water Resources for Food and Agriculture: Managing Systems at Risk (2011)	9
Energy for a Shared Development Agenda: Global Scenarios and Governance Implications (2012)	4
Aqueduct Global Maps 2.0 (2013)	17
Evolving Water Resources Systems: Understanding, Predicting and Managing Water-Society Interactions (2014)	5
Global Analysis and Assessment of Sanitation and Drinking Water (2014)	25
WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation (2014)	35
Food Security by Optimal Use of Water - Synthesis of Theme 2.2 of World Water Forum 6 (2012)	0
Roadmap for Gender Equality (2014)	2
The World's Water (2014)	1
The World's Water (2011)	2
WWDR4 Managing Water under Uncertainty and Risk (2012)	118
WWDR2014 World Water Development Report: Water and Energy (2014)	10
WWDR2015 World Water Development Report: Water in a Sustainable World (2015)	0

Note: The number of citations has been taken from Scopus. The number of citations for the WWDR3, Water in a Changing World, (2009) was 697, a high number. But this information has not been included in Table 3.14 as the report is older than the others in the table and is, therefore, not comparable.

Source: Authors.

Beyond global water publications, we also turned to UNESCO's Global Monitoring Report (GMR), an annual report that monitors and analyzes the progress made towards achieving six wide-ranging education goals agreed upon by 164 countries in the Dakar Framework for Action – Education for All: Meeting our Collective Commitments – along with providing recommendations for the global sustainable development agenda to follow in 2015.

The GMR can be considered a successful and authoritative report as evidenced by inter alia the high level of interest it generates among stakeholders worldwide, and the number and nature of references to the report in key policy documents and debates on education in the context of Education for All (EFA) and the MDGs. Although we did not consider differences in agency capacity or resources, we

nonetheless ask: What lessons can be drawn from the GMR experience that would benefit the WWDR? Table 3.14 reports several lessons that can be learned from the GMR.

Table 3.14. Lessons learned from UNESCO's Global Monitoring Report

Lesson 1. The format and content of the report The report provides comprehensive coverage of the progress made by countries in achieving the six goals, along with covering an annual theme adopted by each edition, which is central to the Education for All (EFA) process. The evidence and the recommendations in the report are supported by comprehensive research and data, many of which are directly provided by the UNESCO Institute for Statistics. Consequently, it has become a unique and authoritative source of information to monitor the state of key education indicators worldwide. In terms of format and style, the report depicts several graphics and data, presented in an attractive, accessible, and organized manner. This is an essential aspect as the report usually exceeds 400 pages and is quite dense in terms of the information it provides. Lesson 2. The outreach and visibility of the report As is the case for the WWDR, the GMR report has a very high visibility, especially on the internet. UNESCO has developed a coherent outreach and communications method, especially on various social media platforms. This allows effective dissemination of many of the key results of the report and increases interest in the same. Several international launch events, which are organized in multiple cities, ensure the report's continuous coverage by the press. The international launch of the 2015 report was held on 9 April 2015 in New Delhi, New York, and Paris, along with national and regional events in Brasilia (Brazil), Havana (Cuba), Juba (South Sudan), Mexico City (Mexico), and Santiago (Chile). This was followed by almost 30 (parallel) launch events throughout the months of April, May, and June. Lesson 3. The quality of the web site The GMR is displayed on an attractive web site that brings together a comprehensive data portal, visual aids, and additional research and policy briefs on the EFA movement. The web site can be navigated without difficulty, and is well organized. The ease with which one can access data repositories related to education has allowed GMR to create a brand for itself.

Source: Authors.

3.3 Key findings

1 WWDR is a flagship UN report on water, based on a broad collaborative approach in the framework of UN-Water.

2 The periodic publication of the WWDR, within the framework of UN-Water, constitutes a key achievement of WWAP. The capacity and experience to manage and coordinate the development and production of this report are important assets of the WWAP team.

3 The WWDR is one of the most visible reports produced by UNESCO (on the basis of the following criteria: web site visits, downloads of the report, international press coverage).

4 On the basis of a comprehensive bibliometric analysis it was found that the WWDR continues to be an authoritative source of information on fresh water resources. The WWDRs are referenced in multiple and diverse ways in academic journals; notably they are most often referenced for the data provided in the report.

5 Although cooperation with different sectors is posited as an important need in various WWDRs, such coordination and collaboration are difficult to achieve. As a result, non-water sectors are not as well consulted or engaged in the course of developing the WWDR or in its dissemination and communication.

6 The shift from a triennial to an annual WWDR has led to a less comprehensive and less data-informed approach to reporting, which is likely to affect its overall status and its use. At the same time, the scope of the five-year synthesis report is yet unclear.

7 Notwithstanding a number of successful initiatives relating to the dissemination of the WWDR, there is no clear and unified communication strategy for the WWDR among the different involved entities (UNESCO Headquarters, WWAP, UN-Water, and UN-Water members). Moreover, there has not been a clear and consistent approach to branding the WWDR.

4. Dimension Two: Other WWAP Activities and Strategic Orientation

4.1 Other WWAP activities

Apart from the WWDR and the work associated with the report, what have been WWAP's major other activities? WWAP has evolved to become a multi-component programme with a diversity of objectives (UNESCO, 2014a). We observe three principal work programmes of WWAP, and outreach activities, of interest to our evaluation. This includes: (1) The World Water Scenarios Project, (2) work on gender and water (3) the "From Potential Conflict to Cooperation Potential" (PCCP) Programme; and (4) outreach activities.

4.1.1 World water scenarios project

Beginning in 2010, WWAP initiated a world water scenarios project to examine possible futures under different policies considering major drivers. According to WWAP, the objectives of the project are: (1) to develop a second generation of global scenarios to support linkages between socio-economic anticipatory decision-making and the global water system; (2) to provide an interdisciplinary articulation of the current scientific understanding of the global water system; and (3) to support scenario-building at the national and subnational scales.

The first phase of the project was conducted in 2010 and included a review and analysis of principal drivers, like climate change, demographics, economic development, consumption patterns, environmental effects, and social and cultural trends, including the identification of linkages between them (WWAP, 2010). UN-Water members and members of the scientific and academic communities were invited to participate, and Real-Time Delphi and online surveys were conducted to collect feedback from experts. The second phase of the project focused on the preparation and sharing of 'stylized scenarios' designed to serve as a starting point for scenario development. Two reports were published in 2012 that characterize the scenario drivers in qualitative and quantitative terms (Cosgrove and Cosgrove, 2012; Gallopín, 2012). The scenarios were shared at the 6th World Water Forum and an IPCC meeting session.

In 2012, UNESCO collaborated with the International Institute for Applied Systems Analysis (IIASA) on the Scenarios project, and the project moved into phase 3. The project was renamed and received a slightly different mission. Now titled "Water Futures and Solutions: World Water Scenarios," the project was scheduled to be a five-year effort to develop "a better understanding of the impact of different water-related decisions and choices on sustainable development and human well-being through a new generation of global and regional scenarios" (UNESCO, 2014a: 54). It was set up so that WWAP would provide the monitoring and assessment capabilities, and the reporting functions, and IIASA would contribute expertise in data management and modeling. The scenarios work was designed to be linked to the IPCC 5th Assessment scenarios work carried out at IIASA. No recent activity on this work has been reported and the project is currently dormant.[41]

[41] Respondents emphasize financial constraints as the main cause.

4.1.2 Gender mainstreaming of water and sex-disaggregated indicator development

Concern with issues of gender date back to the early days of the ACC-SWR, when Subcommittee members concluded that it would be important to include gender perspectives in the production of the WWDR (UN ACC, 2001a). At that time, it was felt that a gender perspective would be essential to the report.

In terms of inclusion of gender-related aspects in the WWDRs, the WWDR3 in 2009 was not gender-mainstreamed, and did not include any specific chapter (or sub-topic) dedicated to gender-related issues or a specific gender-related indicator (UNESCO, 2014a; UNESCO, 2009). The WWDR3 did, however, highlight that water managers and professionals act within a framework that integrates gender-sensitive and equitable approaches to water (WWAP, 2010).

Since 2010, the Advisory Group on Gender Equality has assisted WWAP in mainstreaming gender equality in all of its activities and products, but particularly the WWDR. The group provides guidance and feedback on the design and implementation of the WWAP gender mainstreaming strategy and provides expertise and suggested action when needed.[42] The Group is chaired by UNESCO and by the Network of Women Water Professionals (NetWater). It is comprised of nine members who represent diverse nationalities and disciplinary and professional backgrounds. In 2011, WWAP appointed a Gender Focal point to develop activities and coordinate gender mainstreaming of WWAP publications. This was done in collaboration with the UNESCO Division for Gender Equality. UNESCO's Priority Gender Equality Checklist is used for all WWAP publications.

Since 2012, gender mainstreaming has been an important part of the process for all WWAP publications. During the project planning phase, WWAP's Gender Focal Point evaluates the proposal and offers advice on how gender concerns can be incorporated into or considered by the manuscript. UNESCO's Division for Gender Equality conducts its own subsequent review.

According to WWAP, in terms of publications, gender mainstreaming means:

- "Presenting gender-disaggregated data, where available, and where they are not, indicating the reasons for their absence and suggesting ways in which the absence could be remedied;
- Carrying out a gender analysis of sex-disaggregated data where it is available, considering not only the existence of differences between men and women, but also the causes and impacts of these differences;
- Considering the different situations of men and women, the causes of difference, and the impacts of policies and practices on men and women in all aspects of the subject area; and
- Using gender-neutral and gender-inclusive language" (UNESCO, 2014a: 72-73).

The WWDR4 was the first WWDR to be mainstreamed for gender (UNESCO, 2014a). Although the 2014 report does not include a specific chapter dedicated to gender-related issues, chapters 4 and 35 include a sub-topic on water and gender. The WWDR2015 report is also gender-mainstreamed. It includes a

[42] The Advisory Group on Gender Equality was initially created to advise on the WWDR 2012, however, WWAP decided to extend its work and the group has therefore continuously assisted on all subsequent WWDRs.

chapter on targeting gender equality. No specific gender-related indicators were included in either WWDR2014 or WWDR2015 (UNESCO, 2012a; UNESCO, 2014a; UNESCO, 2014b; UNESCO, 2015a).

Presently, WWAP is engaged in a project for Gender Sensitive Water Monitoring Assessment and Reporting that aims to develop and test the collection of key sex-disaggregated water data. According to WWAP, the project just completed Phase 1 that involved the development of a toolkit for gender sensitive water monitoring. The toolkit includes a short set of high-priority water indicators for which sex-disaggregated data is needed, methodologies for collecting and assessing such data, a manual for data gathering in the field, and a questionnaire for practitioners on sex-disaggregated interviews and data collection. Since 2014, the Working Group on Gender-Disaggregated Indicators, composed of approximately 30 experts from around the world, has been providing expert advice on the theoretical considerations and methodologies for the toolkit. According to WWAP, these indicators have been mentioned in the final declarations of the recent 2015 World Water Forum in Korea and the "Gender and Water Conference" in South Africa (2014). The project is now moving into phase 2 characterized by fieldwork to test the toolkit in the field. To help support the work, WWAP is presently seeking funding to further test its methodology and share findings with a broader community.[43]

4.1.3 From potential conflict to cooperation potential (PCCP)

The From Potential Conflict to Cooperation Potential (PCCP) programme has come to serve as WWAP's capacity development programme. It is an associated programme of WWAP and UNESCO's IHP, and UNESCO Institute for Water Education (UNESCO-IHE). According to UNESCO's web site, "the PCCP programme facilitates multi-level and interdisciplinary dialogues in order to foster peace, cooperation and development related to the management of transboundary water resources" (UNESCO-IHP, 2015a).

Historically, PCCP has promoted region-specific trainings, global trainings, and publication materials. Many of the PCCP's activities have been developed in collaboration with other UNESCO programmes, centres, and partners (UNESCO, 2014a). For example, in 2009 and 2010, through a partnership with the Mekong River Commission and UNESCO-IHE, the PCCP organized training sessions on transboundary water conflict management and water governance for decision makers and mid-level professionals and academics from Cambodia, Laos, Thailand, and Viet Nam to better resolve flood issues and disputes in the Lower Mekong Basin.

Globally, since 2008, a Master's degree with specialization in water conflict management has been offered at the UNESCO-IHE in Delft, the Netherlands, as a product of WWAP and IHP through PCCP. More recently, UNESCO-IHE, IHP, and WWAP successfully collaborated in developing a new joint Masters Programme which will be launched in 2015 in the field of water and conflict resolution with the University of Peace (Costa Rica) and Oregon State University (USA) (UNESCO-IHP, 2015b). Publications of the PCCP are targeted to water management professionals, researchers and students working on

[43] WWAP reports that it has been invited by the Global Environment Facility Secretariat to present a proposal for gender mainstreaming in the framework of the fourth phase of the GEF IW-LEARN Project (2015-2018), implemented by UNDP and UNEP and executed by a variety of Partners, including UNESCO. In doing so, WWAP is collaborating with World Wildlife Fund to prepare a joint proposal on gender and water aimed at strengthening the capacity of recipient countries in which International Waters Projects are currently being executed.

transboundary water issues, and include Disciplinary Studies, Case Studies, and an impressive Special Series on water and conflict resolution that have been produced through the programme.

A recent evaluation of IHP Phase VII, which was concluded in 2014, recognized that PCCP is particularly important as it addresses an increasingly relevant aspect of transboundary water issues where UNESCO is uniquely placed to contribute. Despite a recent reduction in activity, which could be attributed to lack of funds and personnel, the evaluation recommended that the programme should be strengthened (UNESCO, 2014c).

However, even though PCCP is a strategically significant programme for IHP, it does not fit well with WWAP's mandate related to capacity-building, which should focus on assisting "Member States to build and improve their capacities to collect and analyze data of relevance to their water policy initiatives" (UNESCO, 2012b; 34).[44]

4.1.4 Outreach activities

To further strengthen the visibility of the donor and UNESCO and to raise awareness on water issues among diverse audiences, WWAP engages in outreach activities, highlighting the importance of freshwater resources and their sustainable management. For example, as described in Section 3, WWAP actively promotes the WWDR through international (parallel) launch events and through its participation in international meetings such as the World Water Forum, the World Water Week and others. In addition to international activities to promote the WWDR, many outreach activities are local in nature and also designed to strengthen the visibility of the donor. Activities have included outreach to local schools on water quality issues and film screenings on water in local cinemas. Further, case studies of Italian river basins have been included in the past several WWDRs, recognizing the support of the donor, and the experience in water management and policies in Italy.[45]

Recently, WWAP initiated The Water Rooms, an outreach project presented at the Universal Exposition in Milan for summer 2015. The initiative "consists of a visionary and inspirational video-itinerary of five sequential "rooms" that will trigger interest and encourage learning about water resources and their sustainable management" (WWAP, 2015f). It was a creative and innovative effort, bringing together scientists and technical experts with film makers and writers to enhance awareness about water sustainability and solidarity, also key messages of the WWDRs.

4.2 Mandate and strategic orientation of WWAP

4.2.1 WWAP's mandate

We seek to better understand to what extent WWAP's activities occupy a niche or represent a strategic positioning for WWAP. Are WWAP's activities in line with the original mandate (as defined in UN ACC-

[44] For more information regarding WWAP's capacity development component and WWAP's mandate, see Section 4.2 and Annex 8.

[45] WWDR3 in 2009 included a case study on Italy's Po River Basin. WWDR2012 included a case on Italy's Tiber River Basin. WWDR2014 included a case study on the Umbria region. WWDR2015 included a case study on the Serchio River Basin.

SWR documents) and the mandate set out in subsequent MoUs signed between UNESCO and the Italian Government in 2012?

Paragraph 1 of the 2007 FIT Agreement states that (UNESCO, 2007c: 2): "WWAP was established in 2000 to meet the growing needs of Member States and the international community for a wider range of policy-relevant, timely and reliable information in various fields of water resources development and management." A similar statement is found in the 2012 MoU with the Italian Government, which states that the overall objective of the WWAP is "to meet the growing requirements of the UN member states and the international community for a wider range of policy-relevant, timely, and reliable information in various fields of water resources development and management, in particular through the production of the WWDR" (UNESCO, 2012b: 34).

The original mandate can be found in the documentation of the predecessor of UN-Water, the UN ACC-SWR. The scope of the programme, as defined during the 21st session of the UN ACC-SWR in 2000, was on assessment, but this was broadly defined as at the time of the emergence of WWAP there was no global system in place to produce a systematic, continuing, integrated and comprehensive global picture of freshwater and its management (UN ACC, 2001a). Annex VI to the Report of the UN ACC-SWR on its 21st session discusses in detail the background of WWAP, its rationale, scope, programme components, programme objectives, and benefits. Broadly speaking the mandate as set out in that document encompasses three main dimensions: information collection and assessment, reporting, and capacity development (see the figure presented in Annex 8).

Both the original mandate and subsequent refinements as set out in several MoUs between UNESCO and the Italian Government provide further detail on this broad mandate.

In addition to the preparation of the WWDR, Article 4 of the 2012 MoU outlines the five main functions of WWAP, to be carried out with the support of its donors, as the following:

- [1, 2] "Through its access to a wide range of water resources information, help Member States assess the efficiency and effectiveness of their water policy decisions and programmes and monitor the implementation of various internationally agreed water related goals, including the Millennium Development Goals (MDG)";
- [2] "Interpret and regularly prepare the WWDR series, on the global water situation with regard to water availability (both in terms of quantity and quality) and its uses, and on the likely future changes or water availability and uses in relation to global drivers in order to provide early warming to avoid potential water related conflict";
- [1] "Develop the conceptual and methodological framework for internationally comparable data and indicators for water resources";
- [1, 3] "Assist Member states to build and improve their capacities to collect and analyze data of relevance to their water policy initiatives"; and
- [1, 3] "Analyze data in partnership with policy makers and researchers, and promote wider and more informed use of data for policy purposes at different scales." (UNESCO, 2012b: 34).

Broadly speaking, the recent MoU reflects the three dimensions that capture the core of WWAP's original mandate. The numbers in the square brackets in the list above provide an indication of

alignment with one of the three main categories of activities discussed in the report of the 21st session of the ACC-SWR: (1) information collection and assessment, (2) reporting, and (3) capacity development.

4.2.2 Strategic focus and the alignment between WWAP's activities and its mandate

Despite financial and institutional pressures, WWAP has continued to focus on the quality and timely delivery of WWDRs. To simplify one could argue that WWAP's mandate comprises three core components (see previous section): analytical work (e.g. on indicators, data collection, and analysis) underpinning the WWDR, the WWDR itself, and dissemination and capacity development relating to the WWDR work.

Let us start with the first of the three components. Methodology development, including assessment methodologies and indicator development, is at the core of WWAP's mandate, and a basic building block of the WWDR. For example, we find WWAP's work around sex-disaggregated data addressing an important gap and niche in gender and water development. Through its relatively modest financial investment, and by partnering with researchers and policy makers to help develop a conceptual and methodological framework for data related to gender and water, these efforts speak directly to support WWAP's objectives related to data development and collection. More than a decade ago, the ACC-SWR noted the absence of statistical data on gender and the need for the collection of sex-disaggregated data on water (UN ACC, 2001a). In these early days, the sentiment of the ACC-SWR was for WWAP to promote the development of gender-sensitive databases/indicators and facilitate compilation of demonstration material for training with a view to promoting gender mainstreaming in development programmes. This issue continues to be of high relevance today.

Unfortunately, other initiatives on indicator development and data synthesis have declined over time (see for example Section 3.1.5). Furthermore, due to the thematic nature of the annual report, WWAP's assessments (as presented in the WWDR) have become less comprehensive (and due to the shorter production cycles) less in-depth over time. A final example in this category of work is the World Water Scenarios Project. It was well-respected and displayed great potential. The dissolution of the project, regardless if it was a UNESCO Headquarters' decision or one taken up by WWAP in Perugia, represents a lost opportunity and declining momentum.

With respect to the last component, capacity development, the following can be noted. The MoU of 2012 (UNESCO, 2012b) suggests that WWAP should assist Member States to build and improve their capacities to collect and analyze data of relevance to their water policy initiatives. Further, this is in line with what was envisaged during the UN ACC-SWR's 21st session – capacity-building was to improve country-level assessments. This included the building of capacity in education and training, in monitoring and database science and technology and in assessment-related institutional management (UN ACC, 2001a). However, even though capacity development was expected to be a component of WWAP activities during the FIT period, it has been indicated that the irregularity of funding during the FIT period did not allow this component to be developed.

The PCCP programme is largely about capacity development but is not directly related to the WWDR (see Section 4.1.3). While the PCCP has helped to produce some well-respected publications and has exhibited a broad international public presence in terms of workshops, its location in Paris away from

the WWAP premises in Perugia, further disconnects the programme from the central work of WWAP while it could help in fostering connections with IHP.

Overall, in recent years we see a general decline in WWAP programmatic activities other than the WWDR. In large part this is due to financial pressures (see Section 6 for a discussion). WWAP's original mandate of assessing the world's freshwater resources, and providing timely and policy-relevant information in various fields of water resources development and management, has not been fully covered in the sense that both on the assessment side (analytical work and data feeding into the WWDR) and on the capacity development side (connecting WWDR knowledge to policies and practices), WWAP has lost ground. Given WWAP's evolution over time, its capacities and resources, and given the comparative advantages of other UNESCO (e.g. UNESCO-IHE) and non-UNESCO entities, it is not WWAP's comparative advantage to make a difference through capacity development. Instead, it makes much more sense to strengthen WWAP's substantive (analytical) contributions to the WWDR.

Given WWAP's unique position in producing the WWDR, in close collaboration with UN-Water members and partners, and also taking into account the scarce resources of the program, one would expect that decisions on the allocation of resources and development of new activities are related to the report. In practice, WWAP's allocation of resources is determined by conflicting factors, including path-dependent historical decisions (such as those related to the PCCP) along with expectations from donors regarding outreach activities at La Colombella. These on-site workshops and other activities can be resource-intensive, time-consuming, and therefore difficult to deliver without distracting from WWAP's core mandate.

4.3 WWAP and the post-2015 development agenda

WWAP's role in the discussions surrounding the post-2015 development agenda can be traced back to its association with the MDGs. The 2012 MoU with the Italian Government formalized this relationship. According to the agreement, one of WWAP's main functions includes "monitor the implementation of various internationally agreed water-related goals, including the Millennium Development Goal (MDG)" (UNESCO, 2012b: 34). Further the WWDRs were to provide a mechanism for "tracking progress towards achieving targets, particularly those of the Millennium Development Goals (MDGs) and the World Summit on Sustainable Development" (UNESCO, 2014a: 12).

However, it must be noted that the MDG 7, Target 7.C[46] has been monitored by the WHO/UNICEF JMP. It is the official mechanism of the UN System mandated to monitor global progress towards the MDGs targets for drinking-water and sanitation. While the WWDRs have presented data related to the target, the reports have not done so in a systematic and continuous manner. For example, WWDR2014 and WWDR2015 present the data regarding the progress made by various countries towards MDG7, Target 7.C (sourced from JMP), but it is an uneven presentation, as the indicators quoted over time are not the same.

With respect to the SDGs, UNESCO has been contributing to the intergovernmental dialogue through the United Nations System Task Team, which was established by the UN Secretary-General to support

[46] Halve, by 2015, the proportion of the population without sustainable access to safe drinking water and basic sanitation.

system-wide preparations for the post-2015 UN development agenda, on a draft indicator and monitoring framework on the future SDGs. UNESCO has promoted and argued for the inclusion of existing structures and monitoring mechanisms within the Organization, such as the WWDR, as a key mechanism for reviewing the post-2015 development agenda (UNESCO, 2015b).

As a part of UN Water, WWAP (and other parts of UNESCO), has been involved in the "Integrated Monitoring of Water and Sanitation SDG targets" (formerly known as GEMI) initiative, to develop draft indicators to measure progress towards the proposed targets under SDG 6, along with a roadmap for implementation and monitoring. WWAP has contributed to this dialogue but as best as we are able to discern, has not played a major role. According to WWAP, it has recently reiterated its offer to use its expertise in reporting on global water issues, and in particular reporting through the (WWDR's) Synthesis Report (every 5 years) on the results of the monitoring mechanism that UN Water has designed and will possibly implement.

Presently, UN-Water is positioned to play an important role in the global monitoring and reporting mechanisms for the range of water targets associated with the forthcoming water SDG. A report commissioned by a UN-Water working group recommends that a survey similar to that prepared for the Rio+20 Conference should be carried out periodically to support monitoring progress.[47] Further, the scope of the proposed water-related SDG and its underlying components (see Annex 9) will be broader than the water related components of the MDGs. As a result, data will have to be collected from multiple sources. In such a scenario, WWDRs (and WWAP) can play a crucial role in the monitoring of the targets.

[47] It is suggested that the survey will supplement physical or numerical data on progress toward the water targets, and be commissioned every five years at a cost in the order of USD 2 million a year.
Reference: http://www.unwater.org/publications-detail/en/c/216087

4.4 Key findings

1 WWAP has drifted from its original mandate of assessment of freshwater resources, which broadly speaking encompasses three components: analytical work (e.g. on indicators, data collection and analysis) underpinning the WWDR, the WWDR itself, and dissemination and capacity development relating to the WWDR work.

2 Overall, in recent years we see a general decline in WWAP programmatic activities other than the WWDR, which is in large part due to financial pressures. Apart from the WWDR itself, many of the activities WWAP does engage in do not appear to be clearly aligned to the core mandate of WWAP.

3 WWAP has successfully initiated an initiative on sex-disaggregated data and indicators in the context of water and sustainable development.

4 While activities such as the PCCP Programme provide a valuable contribution to peace-building around transboundary waters, the programme is not sufficiently aligned and logically connected to WWAP's core mandate and emerging global needs around water data and monitoring.

5 Even though consecutive WWDRs have reported on water-related dimensions of the MDGs, they have not played a key role in this regard. The water-related dimensions of the future SDGs are broader and more comprehensive. There is an opportunity space for the WWDR, especially its five-year synthesis report, to become a key synthetic reporting mechanism for Sustainable Development Goal 6.

5. Dimension Three: Institutional Setting of WWAP

5.1 Origins of WWAP and the WWDRs: Timeline and organizational perspective

When WWAP was launched at the 2nd World Water Forum in The Hague in 2000, its primary charge was to address the concern that "the growing global water crisis threatens the security, stability and environmental sustainability of many developing nations" (UNESCO, 2007a: 2).

How was WWAP to tackle this challenge? Its founders and early leaders meant for WWAP to focus on assessment of freshwater resources through "data compilation (geo-referenced meta-databases), supporting information technologies, data interpretation, comparative trend analyses, data dissemination, methodology development and modelling, the preparation of a global biennial report and capacity-building to improve country-level assessment, with emphasis on developing countries" (UN ACC, 2001a: 28).

When, in 2007, UNESCO's IOS commissioned the first evaluation of WWAP (by the Medina team; UNESCO, 2007a), the evaluators were tasked with determining the success and value of the programme and of UNESCO's contribution to it. Necessarily, most of the effort was directed at resolving how well WWAP had been able to accomplish the tasks set for it. Were meaningful benchmarks and indicators being developed? Were the case studies instructive and were they being used? Was the world's water situation being accurately portrayed? And above all, were the WWDRs widely read and influential in alleviating the global crisis cited by the creators of the program?[48]

Of course, all these performance measures were necessary and appropriate elements of that evaluation. The information-gathering, analysis, compilation, articulation, and dissemination of the reports, along with other assigned activities strained WWAP's available resources. By and large, the 2007 evaluation determined that in 2006 and 2007 (the evaluation period), WWAP had been meeting most of the existing performance-based challenges.

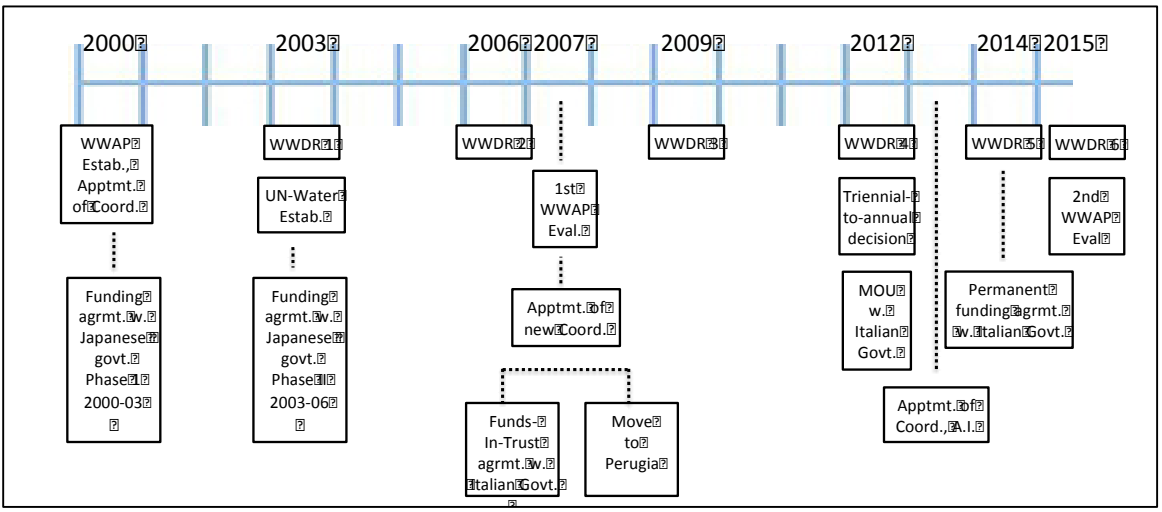
But other, arguably more difficult challenges to WWAP's success were largely unaddressed by the 2007 evaluation team. Since its establishment, structural, situational, organizational, relational, and financial—in short, institutional—features of the WWAP-WWDR landscape have posed meaningful constraints to the programme. Based on available documentation and on interviews with key stakeholders, this section of the report identifies the various institutional forces that complicate WWAP's overall ability to function effectively and analyzes and addresses their influence.

In 2007—at the time of the first evaluation—WWAP, at age seven, was still a relatively young and generally successful programme. It had completed two WWDRs and was about halfway through its assemblage of WWDR3. In 2008, the programme—with a new Coordinator—moved its operation to Villa La Colombella in Perugia, Italy, distancing itself physically from SC/HYD and the Secretariat of IHP, both of which are in Paris. Also around this time, the Japanese Government's substantial support for WWAP—available from the programme's inception in two phases (2000-03 and 2003-06)—was drawing to a close, necessitating a prolonged search for replacement support from other sources.

[48] See Section 3 for the current evaluation's assessment of these issues.

At the time of the 2007 evaluation it was probably difficult to fully anticipate the significance of a series of developments in the life of WWAP: the change in WWAP leadership, the move to a new location, the loss of major financial support and attendant need to find new sources of funding, and the discussions on WWDR's branding between UN-Water and UNESCO. These and other important events are shown in Figure 5.1, which identifies some of the key moments in WWAP's 15-year existence. In addition, the 2007 evaluation team may not have fully appreciated the impact of the then-upcoming (2009) departure of the long-time director of SC/HYD (and Secretary of IHP) and the subsequent three-year hiatus in permanent leadership at WWAP's parent organization. More recently, WWAP itself has not had a permanent Coordinator since 2013.

Figure 5.1. WWAP timeline



Note: The dotted lines do not represent hierarchical or other relationships; they are merely markers that situate the events within a particular year.

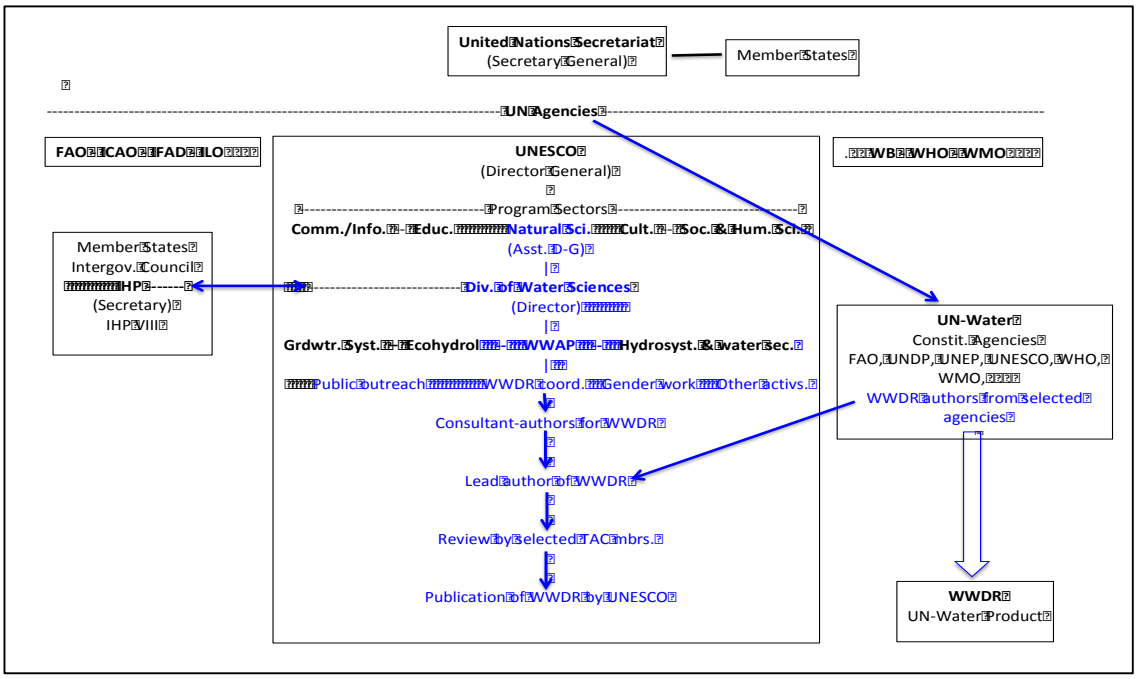
Source: Authors.

5.2 Organization & hierarchical structure of WWAP

As shown below (Figure 5.2), WWAP is a programme enmeshed within multiple institutional settings. It is at once within one UN agency, UNESCO, and at the same time the main instrument for preparing the leading product of another UN organism, UN-Water—itself a coordination mechanism for UN agencies and hosted by an agency (currently WMO). While it is understood that WWAP is part of an agency (and not an agency in itself), the resulting array of relationships, mandates, and visions forms a veritable steeplechase for all the constituents.

Figure 5.2 offers a schematic of the placement of organizations within the UN system, the hierarchical associations among them, and the situation of WWAP within this elaborate setting. In particular, the organigram depicts WWAP's position in this universe and its interactions with UN-Water in the production of the WWDRs.

Figure 5.2. WWAP and its present position within the UN system



Source: Authors.

A close examination of the organigram in Figure 5.2 suggests that WWAP's organizational placement and reporting hierarchy lie at the core of the institutional tensions identified in "Institutional Challenges," below. WWAP's decision-making chain of command flows through the channels of officialdom at UNESCO—from the Director-General, to the Natural Sciences Sector, to the Division of Water Sciences. While this would constitute a normal flow for most UNESCO-based units, WWAP's situation is made easier because: (a) its funding depends virtually completely on extra-budgetary sources (most of it from a single Member State), (b) the main bulk of its effort is the preparation of a global report, and (c) that this report is commissioned by and "belongs" institutionally to an organization outside UNESCO. UNESCO Headquarters (including the SC/HYD) provides institutional and logistical support to WWAP, thus ensuring the Programme sustainability and stability, as well as its smooth operation.[49]

5.3 Strengths and vulnerabilities of WWAP's institutional arrangements

In this section, in light of the preceding set of complications, we look at what we see as the most meaningful assets, strengths, ambiguities, uncertainties, and strains of WWAP's existing institutional framework.

Professional organizations—including quasi-permanent programmes such as WWAP—like societies at a larger scale, tend to function most effectively under conditions that embrace strong and innovative

[49] Section 6 discusses the financial support provided by UNESCO Headquarters in a time of irregular disbursements by the main donor.

leadership, predictability, equilibrium, security, reliable resource availability, good infrastructure, robust stakeholder/employee participation, favorable working conditions, and esprit de corps. Remove any of those elements and effectiveness suffers. In the case of WWAP, we seek to uncover the most palpable instabilities that affect WWAP's performance and its ability to fulfill its mission.

5.3.1 WWAP's strengths: What are WWAP's strongest assets?

WWAP's mandate

The World Water Assessment Programme is in its 16th year of operation. That durability is due in large part to the novelty and force of WWAP's original mandate, first expressed in 2000. Other contributing factors are the stability and sustainability ensured by UNESCO through the SC/HYD and the successful production of consecutive WWDRs by the WWAP team.

WWAP was tasked with assessing world's freshwater resources, and providing timely and policy-relevant information in various fields of water resources development and management (see also Section 4.2.1). This mandate was widely welcomed and WWAP began its operations on a high note in mid-2000 with a Coordinator, immediately setting out to prepare the first of its WWDRs. The goal was to distribute the first of these comprehensive assessments at the Third World Water Forum in Kyoto, three years hence, in 2003.

The WWAP mandate accorded the programme a strong initial boost, distinguishing it from other global water efforts, within and outside UNESCO. UNESCO's hosting of WWAP, in close proximity to other members of the UNESCO Water Network, also hosted and/or coordinated by UNESCO's SC/HYD—provided a measure of stability and respectability that are hard to come by for start-up enterprises with ambitious agendas.

Since its creation, WWAP has coordinated and produced six WWDRs, an achievement that has earned it recognition and respect from the global water community. In the process, as the discussion in Section 3 has shown, the capacity and experience to manage and coordinate the production of this important report are important assets of WWAP.

Building a core funding base

In a fiercely-competitive, financially-fraught world, UNESCO (primarily SC/HYD) has successfully managed to secure core financial support for WWAP throughout its existence. Initially, WWAP's promising mandate—firmly backed by UNESCO at the Director-General level—led to multiyear funding from the Japanese Government. Subsequently, generous funding was provided under the 2007-2013 FIT Agreement with IMELS. Finally, in 2013 funding for WWAP was ratified by law, providing WWAP with a secure core financial basis for the future. However, as discussed in Section 6, core funding continues to be under pressure and, while recent efforts to secure other funding sources have been promising, WWAP has had limited success in securing additional funding sources during the FIT period.

5.3.2 WWAP's institutional challenges

There is another side to the assets identified above: each is burdened with potential and actual difficulties. First of all, there is a mismatch between WWAP's original agenda and its current attenuated

set of activities. WWAP's original mission has metamorphosed from one that conducts periodic global assessments into thematic reporting on water issues combined with a set of other tasks (see Section 4.2).

Here we come upon WWAP's primary challenge: What exactly is its agenda? Which priorities determine its course of action? Most particularly, how should WWAP regard its original mission with regard to assessing the world's freshwater resources and developing water indicators?

Second, WWAP exists in a labyrinthine landscape of sometimes competing organizations: UNESCO and SC/HYD, the UNESCO-hosted IHP, other entities of the UNESCO Water Network (e.g. UNESCO-IHE), UN-Water, and the Italian and Umbrian host-country Governments. Each of these entities maintains its proper identity, aims, priorities, and actions. In such an environment, how can WWAP be strategically aligned so as to pursue its own agenda most effectively?

In light of a recalibration of WWAP's strategic orientation, three institutional challenges merit further discussion:

1. The positioning of WWAP within UNESCO
2. The relationship with the host country
3. The positioning within UN-Water

The positioning of WWAP within UNESCO

Two aspects merit particular attention with respect to WWAP's embeddedness within UNESCO. First, WWAP is part of the UNESCO Water Network which encompasses: IHP,[50] UNESCO-IHE (a Category I Institute), 30 water-related Category II Centres, 36 water-related UNESCO Chairs, and WWAP. The combined potential of this global network of water expertise in research, capacity development, and policy advisory work is substantial. In the past WWAP has successfully cooperated with parts of the UNESCO Water Network. Examples include the collaboration with IHP on the WWDR and UNESCO-IHE on PCCP.[51] Despite these successful collaborations, the potential to mobilize UNESCO entities from the UNESCO Water Network to contribute to the WWDRs and the underlying analytical work remains underutilized. A recent evaluation of IHP-VII recommended that SC/HYD strengthen the network through various means. Within this context, the issue of how different UNESCO entities can more systematically contribute to the WWDR and the underlying analytical work is very important (UNESCO, 2014c).

The second issue concerns the functional autonomy of WWAP. During the evaluation it became clear to the evaluators that the current administrative and managerial alignment between WWAP and UNESCO HQ is out of the ordinary. More specifically, in the current situation WWAP neither functions as a section nor as a functionally autonomous decentralized UNESCO entity (e.g. a Field Office). As a result, the audit section of UNESCO's IOS has conducted a so-called remote audit of WWAP. The audit will help to clarify and improve WWAP's organizational setup, especially with respect to administrative processes and controls (and the implications for SC/HYD and the Natural Sciences Sector as a whole).

[50] The IHP Secretariat is based in SC/HYD. It includes staff at UNESCO Headquarters and in the field as well as national IHP committees. The IHP is governed by an intergovernmental council.
[51] See the discussion on PCCP in Section 4.1.3.

The relationship with the host country

Both the regional government (Umbria) and the national government (Italy) have provided generous support to WWAP, respectively by providing the premises free of charge to UNESCO and by providing core funding amounting to finance WWAP staff and activities.

The 2012 MoU (UNESCO, 2012b) between UNESCO and the Italian Government cites WWAP's responsibility to coordinate the periodic WWDRs (see Section 3.1). The MoU further identifies a host of auxiliary activities (e.g., dissemination of the results of WWAP work and development of education materials) to be undertaken "subject to the availability of additional funds." Neither the 2012 MoU nor its predecessor instrument, the 2010 Addendum to the FIT Agreement, addresses the balance between WWDR-related undertakings and other WWAP activities. The agreement itself was expressly worded to avoid any intervention in the daily work of WWAP.

At the national level, the Government of the Republic of Italy acknowledges the significance of the WWDRs and its embassies have been represented at multiple release sites for the WWDR2015. At the same time, the Ministry of Foreign Affairs sees WWAP as a conduit to facilitate closer connections with the various branches of UNESCO (especially its education sector) and with other UN agencies. The Ministry would like to have WWAP use Italian funding as leverage for other sources.[52] Moreover, the Italian Government's investment in WWAP is seen as an investment in international relations.

In addition, both the regional and national Italian Governments have encouraged WWAP's efforts at capacity building—including organizing workshops, fieldtrips, and courses, and participation at local meetings to "convey issues of water at local scale." WWAP has accordingly increased its local and regional efforts, citing more than 10 such initiatives—many of them considered successes—over the past three years. Together, according to local officials, these sorts of activities have "influenced planning at regional scale" while raising WWAP's visibility.

Overall, WWAP's international mandate has the full support of its core donors (the national Government of Italy and the regional Government of Umbria). The donor's expectation that WWAP uses the core funding to mobilize additional resources has only been partially met (see Section 6). WWAP only has limited capacities to conduct capacity development activities at La Colombella and in the past the premises have been underutilized (see Section 6). Moreover, as argued in Section 4, WWAP needs to focus more on analytical work on global water assessment in support of the annual and five-yearly WWDR reports. From this perspective, the potential for WWAP to organize frequent capacity development activities and other events at La Colombella (given resource constraints and the need for strategic focus as recommended in Section 4) is limited.

[52] According to Article 5 of the MoU of 2012 (UNESCO, 2012b), "The parties may also collaborate on resource mobilization for WWAP activities and, subject to the availability of additional funds, the Parties may cooperate in consultation with other donors to implement the following additional activities, *inter alia*, within the framework of WWAP" (UNESCO, 2012b: 35).

The positioning within UN-Water

With the recent UN-Water decision that clearly designates WWAP as a UNESCO programme producing a UN-Water report, WWAP's positioning in UN-Water has become much clearer. From the WWAP perspective it is important that UNESCO be well-represented in any discussions on initiatives that relate to the preparation of periodic global water assessments; benchmarking and development of diagnostic, analytical, and monitoring tools and indicators (especially for the soon-to-be implemented water goal of the SDGs); and selection of themes for the new annual WWDRs. Since 2014, a member of WWAP is designated as the secondary focal point of UNESCO within UN-Water and, therefore, WWAP is well-informed of all UN-Water communications.[53]

In recent years, WWAP has not played the central role in discussions of the status of global water (within UN-Water but also beyond) expected of it when it was created (see also Section 4.3).Partial explanations include the three years of interim leadership in SC/HYD (which ended with the appointment of the current Director) and, more recently, the lack of a permanent Coordinator of WWAP. If WWAP is to regain its position as a synthetic global water assessment programme, it needs to re-emerge as a force within UN-Water. Among other things, this requires the appointment of a permanent Coordinator for WWAP with a strong mandate (see Section 6).

In Section 3, we reviewed the content, quality, distribution, and value of the WWDRs. Section 3.1.7, in particular, addressed how the content of the WWDRs has been communicated and assessed the visibility of the products. The extended discussion over logo placement (see Section 3.1.7), illustrated what one close observer has termed "a territorial mindset, a culture." At stake were the branding and reputation of two UN entities: UN-Water and one of its members, UNESCO. The six WWDRs have seen the logos of UN-Water, UNESCO, and WWAP float across the surface of the covers—top to bottom, left to right—seemingly scrapping for primacy (see Figure 3.1 in Section 3.1.7).[54] In the months leading up to the January 2014 meeting, several members of UN-Water argued for the display of a single logo on the cover, that of UN-Water. This argument is also shared by a number of respondents within UNESCO as well as the evaluation team. To ensure future buy-in and sustained collaboration among UN-Water members on the WWDR a single unifying identity is important. As argued in Section 3.1.7, this evaluation recommends the development of a consolidated approach to communication and visibility with a clear branding of the WWDR as a UN-Water product (and by implication the report should only display the UN-Water logo).

Overall, UN-Water and UNESCO are satisfied with the decision mentioned in the first paragraph of this subsection which opens the door to a clear and constructive way forward on the role and positioning of the WWDR. Moreover, in a recent UN-Water meeting in February 2015, the Chair highlighted that UNESCO contributed to UN-Water through WWAP/WWDR in a very efficient, transparent and useful manner. It is up to UNESCO, including WWAP, in collaboration with other UN-Water members to position the WWDR as the central mechanism for periodic and comprehensive reporting on the water SDG.[55]

[53] Except communication that relates to UN-Water decision-making which goes via SC/HYD.
[54] The WWDR2015 features the logos of all participating agencies in the WWDR on the cover.
[55] Recently, WWAP initiated a dialogue on this topic with UN-Water. See Section 4.3.

5.4 Key findings

1 Notwithstanding some successful collaborations, WWAP's potential to mobilize UNESCO entities from the UNESCO Water Network to contribute to the WWDRs and the underlying analytical work remains underutilized.

2 To complement the present evaluation, an audit exercise was undertaken to clarify and improve WWAP's organizational setup, especially with respect to administrative processes and controls.

3 Within the framework of UN-Water, in recent years UNESCO (including WWAP) has not positioned itself clearly in the evolving discussions on the monitoring and assessment of different water issues.

6. Dimension Four: Financial sustainability

6.1 WWAP's Budget

6.1.1 Scope and limitations of the analysis

Our analysis focuses on WWAP's budget in terms of expenditures and the flow of funds. Because the analysis is based on budget spreadsheets provided by and interviews with WWAP staff, it is therefore limited. Certain cost information is not included in WWAP annual budgets. As a component of SC/HYD, WWAP's direct expenditures represent only part of the costs of conducting its business. As with a component of any large organization, there are costs incurred by the "parent" division, SC/HYD, and by UNESCO generally. The situation with WWAP is even more complex due to the administrative/managerial framework. Also, WWAP's activities and programmes are the beneficiary of many in-kind contributions, particularly the members of UN-Water and other subject-matter experts, which are not monetized. Additionally and notably, most of the costs of the WWAP premises in Villa La Colombella are covered by the Umbrian Government. Therefore, the direct costs of WWAP's programmes are difficult to ascertain. In addition, WWAP's budget includes costs that are not directly related to its primary mission, the production of the WWDRs. A good example is funding for the PCCP Programme (see Section 4.1.3).

As stated in Section 5 and discussed in the audit report, the current WWAP model is between that of a fully decentralized unit and a section of SC/HYD. From a budgetary standpoint, a fully decentralized WWAP unit would be a cost centre where WWAP would assume most of its administrative and managerial costs. More autonomy would mean having more administrative duties. These greater responsibilities would necessitate modifications to WWAP's staffing.

Because clarifying the manner in which WWAP fits in UNESCO's frameworks for administration and accountability is necessary to the exploration of the constraints and opportunities associated with current and alternative WWDR production models, this section focuses on examination of the revenues and expenditures directly connected to WWAP through its annual budgets. Moreover, the annual budgetary information does not allow for disentanglement of the cross-coverage of costs by the SC/HYD and WWAP.

The analysis below covers primarily the period of the FIT Agreement between UNESCO and IMELS, dated 2 February 2007, as amended by the FIT Addendum of August 2010. The period covered is 2007 through 2012, with a partial look at 2013. Answers to some of the evaluation questions for dimension four necessarily require some limited consideration of the period since the transition from the FIT Agreement to the 2012 MoU that is currently in force (See Figure 5.1 in Section 5.1).

6.1.2 Analysis

The ratification by law of Italian financial support to WWAP has created a more secure financial basis for its operations than in the past. Even though the Italian Government suffered from significant budget cuts during the FIT period (2007-2013) with IMELS, funding to WWAP was maintained (albeit with significant irregularities in disbursements, see analysis below).

Table 6.1 was compiled based on yearly expenditure and revenue information provided by WWAP staff in early April 2015 for 2007 through 2012. The data provided for 2013, the year of transition from the FIT Agreement to the MoU, are also included for comparison. The table shows quite a bit of variation in expenditure amounts by category over time. WWAP received generous funding from IMELS during the FIT period. However, the bottom portion of the table shows that delays in the receipt of revenues from the Italian Government resulted in a mismatch of yearly expenditures and revenues. This mismatch necessitated advances of funds by UNESCO to WWAP. As revenues were received, the UNESCO advances were paid back. However, despite the generous funding, the lack of predictability in the timing of receipt of funding was a source of serious concern during the FIT period. This is further illustrated by Table 6.2. The top part of Table 6.2 shows the timing of actual funds from Italy to WWAP, with the bottom section showing the advances of funds from UNESCO. Returning to Table 6.1, although the column marked "End FIT" shows that revenues just about covered expenditures, the flow of funds hardly coincided with the timing of expenditures.

Table 6.1. Expenditure Summary

Expenditures USD (Thousands)	2007	2008	2009	2010	2011	2012	End FIT	2013
10 Project Personnel								
International & National Staff	194	711	1388	1446	1538	1227		898
Temporary Staff	134	338	157	200	258	274		243
Other Personnel Costs	19	18	48	14	15	41		4
Staff Mission Costs	40	163	172	95	115	78		18
Consultants	86	579	667	426	264	175		97
Delegates and External Individual Missions	27	19	37	0				
Other contracts		0		2	0			
10 Subtotal	500	1828	2468	2184	2190	1795		1259
20 Subcontracts								
Other contracted services		65	122	91	209	148		5
Contracted document production	0	0	33	11	17			
Contracted Research	121	370	148	127	15			
Contracted Seminars & Meetings						6		
20 Subtotal	121	436	303	228	240	154		5
30 Training and Seminars								
Grants and Fellowships		25	20					
External training and seminars	44	114	53	22	13	2		0
30 Subtotal	44	138	73	22	13	2		0
40 Equipment & Maintenance								
Equipment	24	47	541	73	24	14		14
Leases		21	14	5	19	17		6
Maintenance & Repairs		0	9	38	3	1		4
40 Subtotal	24	69	564	116	45	31		24
50 Miscellaneous								
Finance costs		0	1	1	1	1		0
Other supplies	1	8	33	50	25	86		11
Utilities	1	1		13	6	4		0

Communications	0	21	28	66	81	115		26
Financial Contributions			108					
50 Subtotal	2	30	171	129	112	205		37
80 Support Costs								
Support costs	50	179	268	174	163	140.7		72
80 Subtotal	50	179	268	174	163	140.7		72
TOTAL EXPENDITURES	**739**	**2680**	**3846**	**2853**	**2763**	**2327**	**15209**	**1397**
REVENUES RECEIVED ITALY	3415	0	6992	680.3	0	3955		0
INTEREST	73	50	8	5	1	0		0
REVENUES FROM ITALY + INTEREST	**3489**	**50**	**7000**	**685**	**1**	**3955**	**15180**	0
CUMULATIVE REVENUES – EXPENDITURES							**-29**	

Source: Information combined from tables provided by WWAP.

Table 6.2. Payments from Italy and advance allotments from UNESCO

Payments from IMELS	**Amount (EUR)**	**Expected Payment Date**	**Payment Amount (EUR)**	**Actual Payment Date**	**Delay in Months**
1. FIT	2,500,000	March 2007	2,500,000	May 2007	2
2. FIT	2,500,000	March 2008	2,500,000	April 2009	13
3. FIT	2,500,000	March 2009	2,500,000	November 2009	7
4. Addendum	500,000	August 2010	500,000	October 2010	2
5. Addendum	2,000,000	January 2011	2,000,000	April 2012	15
6. Addendum	2,000,000	January 2012	1,000,000	December 2012	11
			1,000,000	September 2014	32
7. Addendum	500,000	May 2012	160,003	September 2014	28
Total Received from Italy, FIT Period	12,500,000		12,160,003		

Advance Allotments from UNESCO	**Amount (USD)**	**Advance Date**
1st advance allotment	2,865,800	September 2008
2nd advance allotment	1,130,000	July 2009
3rd advance allotment	950,000	March 2011
4th advance allotment	3,621,262	June 2011
5th advance allotment	1,010,500	December 2012
Total Advance Allotment from UNESCO	9,577,562	

Source: WWAP.

Although the lack of reliability in the timing of transmittal of funds during the FIT period is a legitimate source of concern, it is believed that the 2012 MoU, which is predicated on Italian national legislation that authorizes the yearly contributions to WWAP going forward, will result in a more predictable

revenue stream. However, the amount of annual funding, which was reduced substantially from 2.5 million Euro to 1.63 million Euro, now stands at an expected 1.5 million Euro.[56] These reductions have been attributed to the overall economic conditions in Italy and Europe. Italy's percentage reductions to WWAP funding were lower than those imposed on other external partners, signalling strong support for WWAP's activities. It is expected that the reliability of transmittal of funds, though lower in amount annually, will be more predictable under the MoU.

Moving forward under the MoU, WWAP intends to focus on three lines of activities. For the October 2014 to October 2015 period, WWAP has provided staff and budget allocations for the following three lines of activity: (1) reporting and dissemination on water resources status, use and management and its interconnections with other dimensions and sectors, specifically the WWDR and case studies volumes and related communications; (2) strengthening countries' capacity in the assessment of their water resources, and assisting regions in establishing monitoring/reporting mechanisms, including those related to gender equality concerning water resources management; and (3) supporting anticipatory decision-making on sustainable management of water resources through the identification of alternative futures (indicators, scenarios).

It is clear from documents, interviews, and actual outputs, that preparation of the WWDRs is the priority activity for WWAP. The reductions in budget, changes in staffing, and changes in WWDR format between the start of the FIT agreement and mid-2015 make it difficult for an external review to ascertain the actual expenditure level required to produce the annual WWDR at the expected quality. While WWAP does budget by lines of activity and spreads staff time across them, it nevertheless is unclear to what extent the reduction in funding from Italy will affect WWAP's WWDR-related outputs.

WWAP had minimal revenues from other sources during the 2007-2013 FIT phase of its existence. WWAP-provided information shows a 2005 award by the Danish Government of almost USD 1.2 million, with the last disbursement of funds from this award in 2008. A Norwegian grant for approximately USD 500,000 was dispersed over 2011-2012. Some limited funding (USD 65,000) was provided through UN-Water to PCCP over 2012-2013. Both UNESCO and the Italian Government have harbored expectations that WWAP use the core funding from the latter as a basis to secure more funding from other sources (see footnote 52). WWAP has in fact been working more recently to secure additional extrabudgetary resources. WWAP-provided information shows an award of USD 200,000 from AGFUND in January, 2014, with USD 160,000 received in March 2015. Additional funds totalling approximately USD 263,000 are expected in 2015 to cover WWAP participation in the Water Rooms Communication Activity at the Milan Expo[57] and for gender mainstreaming work for the Global Environment Facility (GEF). Of the funding expected for 2015, about USD 93,445 is coming from IMELS, the source of funding during the FIT period, for the Milan Expo activity. GEF, through its IW-Learn efforts, is seen as a potential source of funding over time for indicator development related to gender and water.

[56] The reduction of 1.653 million Euro to 1.5 million Euro has not been officially communicated to UNESCO. At the same time there has been no amendment to the MoU (which specifies the 1.653 million). Consequently, it is not clear whether there will be a reduction in the agreed upon 1.653 million Euro as specified in the MoU (and ratified by law).

[57] This initiative was initiated during the time of the evaluation. At that time, both the funding and the coordination with other UNESCO actors (*e.g.,* the Office in Venice) were unclear.

6.2 WWAP's staffing

Table 6.2 (above) shows the delays in disbursements from the Italian Government to WWAP. The delays significantly affected WWAP staffing, especially staff who were appointed on a contractual basis. Out of necessity, often contracts were issued for short periods only, with no guarantees for extension. This has had a negative effect on staff motivation and retention.

Both the instability in funding and the overall decline in core funding between 2007 and the present have (among other things) affected staff retention. Staff lists were provided by WWAP for 2009 and 2015. As shown in Table 6.3, during this period, staff levels declined from 28 to 19. Twelve of the personnel listed in 2009, including one senior consultant and two staff members located in Paris, were also on the 2015 list, although not all were continuously employed by WWAP over the time span represented. Three individuals were listed as WWAP in 2015 but not in 2009: a part-time person on a part-time service contract (non-graded position), a senior level consultant, and a middle level consultant. Consultants include WWDR Lead Authors, mostly with the Senior Consultant designation, who work remotely. They are referred to as "Main" and "Lead" authors in 2009 and 2015, respectively. In 2015, there were two author consultants, with one listed as part-time. The 2009 staff listing included six author consultants.

Table 6.3. WWAP staff, including consultants, by type and location

Year	**2009**	**2015**
Total Staff	28	19
Distribution by Grade		
Grade D	1	0
Grade P	9	4
Grade G	6	4
Grade not specified	4	4
Consultant – Junior Level	0	3
Consultant – Middle Level	2	2
Consultant – Senior Level	6	2
Distribution by Location		
Perugia, Italy	17	15
Paris, France	3	2
Remote	8	2

Source: Information from tables provided by WWAP (June 2015).

The currently vacant WWAP Coordinator position was a D-1 (Director) grade position. The Deputy Coordinator is the highest P grade position, with a P-5 designation. Whereas in 2009 there were four personnel at the P-4 level and above, the 2015 list provided to the evaluation team showed only two individuals at the P-4 level or above, with the P-4 level staff member based in Paris. With the Coordinator post (a D-1 level post) vacant, the Deputy Coordinator, who holds a P-5 grade classification, has assumed the role of Coordinator on an interim basis. The low number of senior personnel indicates a limited number of people on-site in leadership roles. Of the 15 personnel based in Perugia in 2015,

almost all are Italian nationals and mostly junior staff.[58] The staff listings indicate that the shrinkage in staff since 2009 resulted in less diversity by nationality. There have been limited opportunities to hire staff; all but one of the non-consulting personnel listed in 2015 also appeared on the 2009 list. It should be noted that the vacancy in the Coordinator position has allowed some redistribution of funding within the human resources budget. According to WWAP-provided information, budget allocated to the Coordinator's position has been "distributed in human resources, given the relevant reduction of the staff".

An ongoing interim leadership situation is not desirable for reasons already discussed in the report. Acting upon the recommendations of strengthening the strategic focus of WWAP and its positioning in UN-Water requires leadership with a strong mandate for change.

6.3 WWAP's location

For the first seven years of its existence, WWAP was housed at UNESCO HQ, its offices in Paris. In 2006 UNESCO negotiated an agreement with the (regional) Umbrian Government, in Italy, to move WWAP to Villa La Colombella, a facility outside the city of Perugia. This new location was given the name UNESCO Programme Office on Global Water Assessment, which was to house the WWAP Secretariat (UNESCO, 2007b). Around that same time, parallel discussions between UNESCO and the Government of Italy resulted in an arrangement for financing WWAP. With the resulting FIT Agreement completed and in place, WWAP prepared to move to Villa La Colombella. Upon completion of necessary modifications to the facility and compliance with UN security regulations, WWAP moved to its new home in Perugia, with part of the staff remaining at UNESCO Headquarters.

Discussion of the challenges associated with WWAP's location in Perugia has persisted throughout the evaluation period. The location has a lot of potential and some opportunities have not yet been explored. For example, Villa La Colombella could be an excellent site for academics or practitioners wishing to spend a portion of their sabbaticals in a beautiful, albeit secluded, location working on important world water assessments. Individuals on sabbatical often require less compensation due to coverage of at least a portion of their salaries by their home institutions, and assisting UNESCO, UN-Water, and WWAP could be a nice entry on a curriculum vitae.

However, there a number of disadvantages to the location that merit consideration:

- *Location and accessibility of the premises.* Perugia is relatively isolated and difficult to access. There is no truly international air service into the region. Consequently, travelling by plane requires changing planes in Rome, the closest international city, to take a local flight to Perugia. Other travel options from Rome can be lengthy and tedious whether by train or via scheduled bus service. The fact that it is isolated from UNESCO HQ can be a disadvantage if minimum conditions of functional autonomy are not met.
- *Attractiveness of the location for international staff.* While there have been some international staff working in Perugia, the location is not attractive for posting international staff. For example, there are no international schools in Perugia. Currently, WWAP personnel based in Perugia are predominantly Italian nationals.

[58] Two of the more senior posts being based in Paris.

- *Underutilization of the premises as a training facility.* The Umbrian and Italian Governments harbor the expectation that Villa La Colombella is regularly used for capacity development purposes. This has not been the case. WWAP does not have the capacity to engage in capacity development on a regular basis (see Section 4.2). Rather than strengthening the capacity development component, this evaluation recommends strengthening the analytical work underpinning the WWDR (see Section 4).
- *Absence of a business plan for sustainable use of the premises.* WWAP's budget and programmatic activities do not show evidence of plans to utilize fully the Villa La Colombella premises. Funds are expended from a significantly reduced budget to maintain sufficient security for an under-utilized, large facility. A business plan showing how the costs of the facility would be covered by uses (beyond that required by the core staff) should be a prerequisite to consideration of continuing Villa La Colombella as the WWAP site.
- *Potential financial risk associated with premises.* The rent and running costs of the premises are paid by the Umbrian Government. In 2014, the Umbrian Government issued a request to UNESCO to cover the running costs. This would be an additional financial burden on an already reduced core budget of WWAP. Moreover, the maintenance costs of the premises, which are also covered by the Umbrian Government, are potentially high given the size of the premises. It is likely that these potential costs could be the subject of future negotiations in an era where also the donor is facing budgetary constraints. Already, there are indications that some maintenance activities are at expense of the WWAP budget.

A serious discussion of opportunities associated with the location of WWAP will require expert facilitation. Such a discussion needs to be articulated to the broader strategic reflection on WWAP's financial sustainability, consultations with the Government of Italy, the identification of potential sources of funding from other Member States (and other donors), as well as the debate on the future of the Regional Bureau for Sciences and Culture in Europe and North America (currently based in Venice).

6.4 Key findings

1 In recent years, despite significant budget cuts in the Italian public sector, the Italian Government has maintained generous financial support to WWAP. Even though core funding from the Italian Government has been reduced under the new MoU, the ratification of financial support by Italian Law has placed WWAP on a more secure footing. At the same time irregular disbursements during the 2007-2013 FIT period as well as, more recently, reduced disbursements under the new law, have significantly affected WWAP's operations, with UNESCO stepping in at times to provide financial stability.

2 Core funding has been provided to WWAP with the expectation that it raises additional external funds. Yet WWAP has not been very successful in raising funds. Notwithstanding some recent successes in fundraising, WWAP has insufficiently invested in fundraising and lacks a clear strategy for doing so.

3 WWAP currently lacks the in-house expertise to strengthen the analytical (e.g. data and assessment) work underlying the WWDR. The WWDR model strongly relies on external consultants for its content.

4 The kind of strategic decisions that are needed to strengthen WWAP's strategic focus and positioning in UN-Water requires permanent leadership.

5 For multiple reasons, the current premises of WWAP are not conducive to a sustained successful implementation of WWAP's mandate.

7. Recommendations

On the basis of its findings, the evaluation presents the following recommendations:

1 *WWAP should strengthen its substantive contribution to (i.e. enhance the quantity and depth of analytical work feeding into) the WWDR*. A principal mechanism through which this can be realized is by investing more in (global) networking and partnership building with academia, international (water) organizations and networks, and other relevant institutions. More specifically this includes the following elements:

- developing more (joint) research projects;
- mobilizing temporary expertise, e.g. through securing secondments or inviting researchers on sabbatical leave;
- strengthening collaborations with other entities within the UNESCO Water Network, e.g. UNESCO-IHE, water-related Category II Centres, and water-related Chairs.

2 *WWAP should pursue innovative approaches to collecting and reporting on case studies and indicator data*, among other things relying more on videos and narratives, and reporting on hotspots across a variety of scales (from the river basin to the national or regional levels).

3 *UNESCO in consultation with UN-Water should develop and implement a unified communication strategy for the WWDR* which among other things should include the following three elements:

- Clear branding of the WWDR as a UN collaborative effort within the framework of UN-Water. In this regard, the evaluation recommends that in the future there should be no separate UN agency logos on the WWDRs but only the UN-Water logo.
- A suggested citation for the WWDR should be made apparent on UN-Water, UNESCO, and WWAP websites and in all WWDR communication materials, to further support consistent referencing of the report.
- UNESCO should take a stronger leadership role in the coordination and implementation of a communication and outreach strategy in collaboration with UN-Water and UN-Water members and partners. While for resource and coordination purposes it is important that one agency, i.e. UNESCO, leads the process, the Report should be clearly branded as a UN-Water Report based on a collaborative effort involving UN-Water members and partners.

4 *WWAP should strengthen its strategic focus, prioritizing the WWDR and analytical work in direct support of the WWDR.* Among other things, this means that PCCP should not remain a component of WWAP, as it is not closely aligned to WWAP's core mission. Through an open, participatory, and collaborative dialogue, UNESCO IHP, UNESCO-IHE and WWAP should determine where best the PCCP Programme fits in UNESCO's Water Network and how it should be supported.

5 *UNESCO in collaboration with UN-Water members should work towards positioning the WWDR (and especially the five-year synthesis report) as a key UN-wide reporting mechanism on the Water SDG (SDG 6)*. To accomplish this, UNESCO (and principally WWAP) should: (a) contribute in the framework of UN-Water to the development of a standardized framework for periodic reporting of key indicators related to the water SDG; (b) synthesize existing data periodically collected by other UN-Water members (e.g.

on WASH by WHO/UNICEF); (c) strengthen its own work on indicator development and data collection (e.g., in association with UIS).

6 *WWAP should develop a more systematic approach to extrabudgetary fundraising.* WWAP's core funding should be more strategically used to provide the necessary co-funding required to obtain substantial extrabudgetary funding from donors.

7 *UNESCO in consultation with key stakeholders should develop a plan to move WWAP from Perugia.* Consideration should be given to all aspects of a move, including the costs and benefits of alternative locations in Italy as well as potentially moving WWAP out of Italy.

8 In order for WWAP to successfully act upon the above-mentioned recommendations, *UNESCO should appoint a permanent Coordinator for WWAP.*

Annex 1. Terms of Reference

1. Background

1.1 Establishment of WWAP and the WWDR

In 1998 the Commission on Sustainable Development called on UN agencies to combine their efforts to produce a periodic World Water Development Report (WWDR). In particular, during its 20th meeting (October 1999), the Administrative Committee on Coordination - Sub-Committee on Water Resources (ACC-SWR) recommended that an independent unit be set up to produce the report on its behalf. The unit would have some core staff and would be based inside an organization member of the Subcommittee, but would be independent from its technical and decision-making structure. The World Water Assessment Programme (WWAP) was set up in response to this call. At the 2nd World Water Forum in The Hague in March 2000, UNESCO's Director-General at that time, Mr Matsuura, announced the establishment of the WWAP Secretariat within UNESCO and allocated funds for WWAP to produce periodical WWDRs. Ever since, WWAP has operated as a UN-Wide programme hosted and led by UNESCO,[59] taking a lead role in the collective UN system-wide water assessment and reporting process, bringing together UN agencies and partners with activities and expertise on water for a long-term programme. Through the WWDR, a UN-Water flagship publication, the UN system has presented global synthetic analyses of the world's freshwater resources and expressed its concern that the growing global water crisis threatens the security, stability and environmental sustainability of many countries around the world.

1.2 WWAP: donors, funds, locations

The funding received by UNESCO for the establishment and activities of the WWAP Secretariat can be divided into two periods. The first period was 2000-2007, when WWAP was located in Paris, with Japan as the main funder. The second period started in 2007, when WWAP moved to Perugia, Italy, with Italy as the main contributor.

Period 2000- February 2007

- Donations made by the Government of Japan formalized through a funds-in-trust arrangement, amounted to US$ 5,998,734 for Phase I (2000-2003) and US$ 3,200,000 for Phase II (2003-2006).
- Other contributions to the budget included US$ 642,372 (United Kingdom); US$ 94,786 (France); US$ 320,285 (Spain); US$ 30,000 (Mexico); US$ 1,110,000 (Denmark); and US$ 150,000 (AGFUND). Governments of France and Turkey provided in-kind support by seconding water resources experts to the Secretariat.
- Additional in-kind support came from Member States that volunteered to contribute to the WWDR series with a case study.
- UNESCO-IHP allocated staff time to provide technical and administrative assistance to the WWAP Secretariat for the WWDR. In addition, UNESCO, as host of the WWAP Secretariat, provided temporary financial assistance to WWAP for some time.

[59] Since 2014, as per UN-Water Decision, WWAP is formally not a UN-Water programme anymore but a UNESCO Programme. The WWDR however, is a UN-Water publication (UN-Water meeting, New York City, January 27-29, 2014).

Period: February 2007- October 2013

- Funds in Trust Agreement with the Italian Ministry for the Environment, Land and Sea (IMELS), for a total of 12.5 Million Euro. The FIT signed in 2007 was extended in December 2009, amended in August 2010 and extended again in 2012 and 2013.
- In 2007 UNESCO signed the agreement with the local government "Regione Umbria", through which the large premises of La Villa Colombella, located in Colombella, Perugia, were made available free of charge to host WWAP Secretariat. In 2008, WWAP personnel moved from UNESCO Headquarters in Paris to the new premises in Italy.
- UNESCO-IHP allocated staff time to provide technical and administrative assistance to the WWAP Secretariat for the WWDR. In addition, UNESCO, as host of the WWAP Secretariat, provided temporary financial assistance to WWAP for some time.

Period: October 2013-onwards

- A new Memorandum of Understanding between UNESCO and the Italian Government was established. The MoU, ratified in August 2013 by the Italian Parliament, provides for recurrent annual funding (1.653 Million Euro per year from the national budget) to the WWAP Secretariat and the activities of the Programme. This constitutes a milestone in the process of institutionalization of the WWAP Secretariat, and marks the beginning of a period of financial stability. In addition to the core funding, in-kind support from UNESCO-IHP and in-kind and financial contributions from external partners are being mobilized.

1.3 Mission statement and objectives of WWAP

As a United Nations system-wide programme (see footnote 1), WWAP aims to influence leaders in government, civil society and the private sector so that their policies and decision-making about social and economic development at local, national, regional and global levels take into account the role of water and the impacts of their actions on water resources.

WWAP also seeks to equip water managers with the knowledge, tools and skills to:

- Effectively inform and participate in the development of policies and decision-making;
- Plan for, develop and manage water resources to meet the above objectives and more specifically, promote sustainable social and economic development.

The Programme's objectives are to:

- Monitor, assess and report on the world's freshwater resources and ecosystems, water use and management, and identify critical issues and problems;
- Help countries develop their own assessment capacity;
- Raise awareness on current and imminent/future water-related challenges to influence the global water agenda;
- Learn and respond to the needs of decision makers and water resource managers;
- Promote gender equality;[60]

[60] In the context of the water sector.

- Measure progress towards achieving sustainable use of water resources through robust indicators;
- Support anticipatory decision-making on the global water system including the identification of alternative futures.

1.4 Alignment of the Programme with UNESCO's Mandate

The evaluation covers a time period that corresponds to several UNESCO programming periods, specifically 33 C/5 (2006-2007), 34 C/5 (2008-2009), 35 C/5 (2010-2011) and 36 C/5 (2012-2013). Specific references to WWAP can be found in the UNESCO C/5 biennial[61] programme documents. For the current 37 C/5, the WWDR (and other activities of WWAP) is covered under the Main Line of Action 6 "Strengthening Freshwater Security". More particularly the document states that "UNESCO's benchmarking activities on the assessment of the world's freshwater resources will be reinforced via annual World Water Development Reports, a flagship product of UN-Water" (37 C/5: 100).

In addition to Main Line of Action 6, the Programme has been contributing to the Global Priorities Africa and Gender Equality.

1.5 Main activities and outputs of WWAP

WWAP is part of a joint UN effort to monitor and report on progress in achieving the Millennium Development Goals and, in general, to raise awareness on the global water crisis through the production and dissemination of the WWDR series in coordination with UN-Water.
In line with the objectives of WWAP, activities (and outputs) of the programme have been classified by WWAP into eight components (see for example the Final Report to the FIT, 2014):

1. The World Water Development Report (WWDR)
2. Case studies
3. Development of water indicators
4. Development of world water scenarios
5. Capacity development and institutional collaborations
6. Communication and visibility, and mainstreaming gender equality
7. Publications (apart from the WWDR)
8. Climate change-related activities[62]

Regarding the first component, to date five WWDRs have been published. The most recent reports (initiated or produced during the FIT period) are the following: "Water in a Changing World" (WWDR3 - 2009), "Managing Water under Uncertainty and Risk" (WWDR4 - 2012), "Water and Energy" (WWDR2014 - 2014) and the current work in progress on "Water for a Sustainable World" (WWDR2015 – 2015) and "Water and Jobs" (WWDR2016 – 2016). The WWDR3, WWDR4 and WWDR2014 reports, apart from the main volume of the report, also included a complementary volume on case studies and on data and indicators prepared by the WWAP Secretariat in close collaboration with UNESCO Member States, field offices and other institutions.

[61] From the 37 C/5 onwards, UNESCO operates on the basis of a quadrennial programming cycle.
[62] Climate Change, though reported separately in the final report to the FIT (2014), is regarded as a cross-cutting theme for WWAP's activities.

On the basis of the findings of a global stakeholder survey conducted by UN-Water in 2011, an important decision was taken to change the WWDR from a triennial comprehensive report to an annual thematic report starting from 2014. The theme of the report was harmonized with the World Water Day theme. Evidently, this has had implications for the size, format and content of the report and consequently is likely to have affected the potential use (and the composition of the population of 'users')[63] and impact of the report.

1.6 Rationale for the evaluation

The funding period (2007-2013) of the World Water Assessment Programme covered by the Funds in Trust Agreement (and Addendum) between UNESCO and the Italian Ministry for the Environment, Land and the Sea (IMELS) came to an end in October 2013. The previous phase started in 2007 which also coincides with the change of location of the WWAP from Paris to Perugia (Italy),[64] and with the creation of the UNESCO Programme Office for Global Water Assessment at Villa La Colombella, which hosts the WWAP Secretariat. A self-assessment report (see list of documents) was produced, providing an overview of the Programme's activities, outputs and indications of outcomes for the period covered by the FIT Agreement (and Addendum).

Chapter 10 of the Annex to the agreement stipulates the provision for a programme-wide external evaluation. Initially, the evaluation was foreseen for the end of 2009, but with the extension of the project, and with the delay of the last instalment from IMELS, the actual date was postponed until 2014. With the end of an operational phase, and the beginning of a new one, and taking into account the changes in modality of the WWDR, an external evaluation can provide timely added value for accountability and learning.

2. Purpose and scope

2.1 Purpose

The main purpose of the evaluation is to assess the performance (activities, outputs, outcomes) of the World Water Assessment Programme for the period 2007-2013[65] and to generate recommendations for the future. In addition, the evaluation will also cover the period between the end date of the previous FIT agreement and the starting date of the evaluation (November 2014).

2.2 Main dimensions

More particularly, the evaluation will focus on four main dimensions of performance:

- The approach, quality and effects of the WWDRs in terms of academic and policy influence and use;

[63] One hypothesis to be assessed by the evaluation is whether this change has made the report more useful (and influential) for policy purposes.
[64] Which was planned in 2007 and took place in 2008.
[65] The period covered by the previous FIT Agreement between UNESCO and IMELS.

- The relevance, efficiency and effectiveness of WWAP's other activities;
- The institutional setting of WWAP, particularly its configuration within UNESCO and UN-Water;[66]
- The financial situation[67] and its effect on performance.

On each of these dimensions the evaluation will adopt a retrospective and forward-looking perspective[68] with action-oriented recommendations formulated on the basis of substantive findings. In addition, the final report on the FIT Agreement (2007-2013) constitutes a useful basis for fine-tuning the scope of the evaluation and will be used to determine which aspects of WWAP require (no) further evaluative analysis.

2.3 Evaluation questions

The main questions of the evaluation will be further refined in the evaluation's inception report. Indicative questions are provided below.

The approach, quality and effects of the WWDRs in terms of academic and policy influence and use (focusing on the change from a triennial report to an annual thematic report):

- What are the key building blocks in the production of the WWDRs? How have these changed over time? What was the rationale for these changes?
- What are the main mechanisms for ensuring stakeholder participation and quality throughout the process? How efficient and effective are these mechanisms?
- What activities were undertaken to enhance the visibility and outreach of the WWDR?[69]
    - Has there been an adequate strategy and funding for communication and information dissemination?
    - What activities were undertaken to strengthen the visibility of the donor and UNESCO?
- What have been the effects of the WWDR in terms of academic and policy influence and use?[70]
    - How have the changes in modality and periodicity of the WWDR affected academic and policy influence and use?
    - To what extent does the report offer unique added value taking into account other (global) water publications?[71]
    - To what extent is the original need (as defined by the Commission on Sustainable in 1998 and the subsequent ACC-SWR meeting[72]) for the WWDR still valid?

[66] In the 2014 UN-Water meeting in New York City, it was decided that the relationship between WWAP and UN-Water (including the role of WWAP in the development of the WWDR) should be clarified.
[67] Especially for the period prior to the most recent MoU (2013), which was ratified by the Italian Parliament and provides for recurrent annual funding.
[68] Taking into account the dynamic global agenda and the mandates of UNESCO and UN-Water.
[69] It should be noted that a lot of the communication and dissemination work is managed by UN-Water and outside the direct control of WWAP. The evaluation should take into account both WWAP's and UN-Water's contributions in this regard.
[70] The evaluation will be significantly constrained to address this dimension for at least three reasons: the recent nature of the change in modality, making it difficult to fully assess how this change has affected or will affect policy and academic use and influence; the absence of consistent baseline data on most relevant effect dimensions; the resource requirements for assessing effects in a rigorous manner. Given these constraints, the evaluation will take a more cautious approach to the assessment of effects, where necessary changing the formulation of findings to more tentative wording, i.e. statements on the likelihood of effects.
[71] Or reports that include water as a component.
[72] The precursor to UN-Water.

The relevance, efficiency and effectiveness of WWAP's other activities.

- Apart from the WWDR and the work feeding into the report, what have been WWAP's major other activities (e.g. WWAP's work on global water monitoring and assessment, communication and dissemination activities, capacity development activities)?
- To what extent have these activities been:
    - relevant and occupying a niche (from the perspective of UNESCO, UN-Water and taking into account the work of other institutional actors);
    - efficient (in terms of the use of financial and human resources);
    - effective (in terms of outreach and contribution to the achievement of UNESCO's objectives)?
- What has been WWAP's contribution to the post-2015 development agenda? What are the implications of the ongoing debates on the positioning of the post-2015 Sustainable Development Goals for WWAP's work on global water monitoring and assessment (including the WWDR)?[73]

The institutional setting of WWAP, particularly its configuration within UNESCO and UN-Water:

- What has been the role and added value of WWAP within UN-Water and within the framework of the global water agenda?
- How are the activities of WWAP articulated to other UN-Water Members? (How does WWAP contribute to activities of other UN-Water Members and vice versa?)[74]
    - What are the main challenges and opportunities?
- How are the activities of WWAP articulated to the work of other UNESCO entities working on water-related issues (e.g. UNESCO-IHE, IHP Secretariat, Field Offices, Category 2 Centres)? (How does WWAP contribute to the work of other UNESCO entities and vice versa?)
    - What are the main challenges and opportunities?
- How should WWAP position itself within UN-Water and UNESCO?[75]

The financial situation and its effect on performance:

- To what extent have financial constraints affected the activities and outputs of WWAP?
- What are the financial risks in the current funding situation?
    - What is the capacity and willingness of UN-Water members to contribute to the WWDR?
    - To what extent are WWAP resources used to fund IHP (Secretariat) activities (not directly related to the core mandate of WWAP) and vice versa?
- How can WWAP's extrabudgetary funding base be strengthened?
- How can the efficiency and cost-effectiveness of WWAP's core financial resources be enhanced?
- How can UNESCO and WWAP make optimal use of the premises at Villa La Colombella?

[73] Taking into account the Sustainable Development Goals, the indicators, the targets and the assessment activities in the field of water and environment. These will be decided upon by UN member states by September 2015.
[74] See footnote 59.
[75] This question is not only an institutional question but touches upon the fundamental issue of the strategic profile of WWAP.

Many of the questions (apart from some in the previous paragraph) are formulated in a retrospective manner. However, all questions and corresponding responses will feed into the formulation of forward-looking recommendations.

2.4 Potential uses of the evaluation

The findings and recommendations of the evaluation, among other things, will:

- Provide guidance to UNESCO on the modality, content and periodicity of the future WWDRs under the ratified MoU;
- Provide evidence to the Donor about the key achievements[76] and value added of the Programme;
- Provide guidance on the organizational structure of WWAP and its configuration within UNESCO and UN-Water;
- Provide guidance on the strategic focus of WWAP and the mechanisms for effective programme delivery.

The main users of the evaluation are expected to be the following: the WWAP Secretariat; UNESCO's SC/HYD Division; UN-Water members; UNESCO's governing bodies, the Italian Government as main donor of the Programme (Ministry of Foreign Affairs and Ministry of Environment, Land and Sea); and finally, the wider policy and academic community in the field of water.

3. Methodology

The evaluation will include the following methodological elements (tasks):

1. Desk study of key WWAP, UNESCO and UN-Water documents, as well as any other relevant documentation that provides insights into the evaluation questions.
2. Development of a Theory of Change of the WWDR and related activities.
3. Semi-structured interviews with key stakeholders (face to face/phone/skype): UNESCO staff (SC/HYD; WWAP), WWAP's Technical Advisory Committee members, UN-Water Members, relevant leading researchers and decision makers.
4. Policy influence and use analysis: on the basis of semi-structured interviews (phone/skype; purposive sample of decision makers around the world) and an online survey (and bibliometric analysis; see below).
5. Academic influence and use analysis: on the basis of semi-structured interviews (phone/skype; purposive sample of leading researchers around the world) and a bibliometric analysis of major academic databases (e.g. Web of Science, EBSCO, Google Scholar).[77]

The evaluation will include two missions to WWAP in Perugia and one short mission to UNESCO in Paris.

[76] A comprehensive self-assessment report of WWAP has been generated. The evaluation will validate some of its contents. More importantly, it will focus on key dimensions of performance (output delivery and effects) as described in the purpose and scope sections of these ToR.

[77] Bibliometric analysis of the 'grey' literature (e.g. policy-oriented research) would also be a useful proxy for policy influence and use. The inception report should provide an extensive list of academic databases and international institutions (e.g. World Bank, OECD, UN) to be included in the bibliometric analysis.

An initial list of documentation is included below. At the start of the data collection process, WWAP will provide comprehensive documentation about the Programme to the external evaluator. The same goes for SC/HYD which will provide supporting documentation as well. For the preparation of the proposal the potential external evaluator is invited to explore the web sites of UNESCO (http://www.unesco.org) and WWAP (http://www.unesco.org/new/en/natural-sciences/environment/water/wwap/).

4. Roles and responsibilities

The evaluation will be managed by UNESCO's internal oversight service (IOS). The modality of work is a so-called hybrid model: joint implementation by IOS and an external evaluator.

IOS will have a management and quality assurance role in the evaluation. In addition, IOS will actively participate in some of the data collection, analysis and reporting activities. Broadly the division of labor in data collection, analysis and reporting is presented in the Table below. The precise division of labor will be determined during the inception phase.

Table A1.1. Division of Labour

Activity or output	Division of labor	Responsible for delivery
Inception report	External evaluator	External evaluator
Desk study	External evaluator	External evaluator
Interviews with key stakeholders	External evaluator and IOS	External evaluator and IOS
Survey	IOS and external evaluator	IOS
Bibliometric analysis	External evaluator and IOS	External evaluator
Draft evaluation report	External evaluator with inputs from IOS	External evaluator (with final quality assurance by IOS)
Final evaluation report	External evaluator with inputs from IOS	External evaluator (with final quality assurance by IOS)

WWAP and SC/HYD will assist in the preparation and organization of the evaluation exercise and will facilitate the activities of the evaluation team (including logistical support in Paris and Perugia). SC/HYD will be in charge of the Paris-based activities with the help of the WWAP senior officer based in Paris, while WWAP will be in charge of the Perugia-based activities. The external evaluator is responsible for all travel-related costs, including transport to and from the airport and transport to and from interviews (if applicable).[78]

A Reference Group will be established to guide the evaluation. The Reference Group will consist of one representative from each of the following entities: IOS, SC/EO, SC/HYD, WWAP, Government of Italy, UNESCO-IHE and UN-Water. The Reference Group will comment on the Terms of Reference and the draft evaluation report and can provide guidance (unrequested or upon request) throughout the evaluation process. IOS will convene the Reference Group and manage the correspondence throughout the evaluation process.

[78] The travel costs should be itemized in the financial proposal.

5. Schedule and deliverables

There are two main deliverables: the inception report and the evaluation report (first in draft, then a final version). These deliverables are the responsibility of the external evaluator (with inputs from IOS, see above). The following guidelines apply:

1. The inception report (max. 10 pages excluding annexes) will include: refined evaluation questions, a concise description of the intervention logic of WWAP (first version of a Theory of Change), the methodological framework for the evaluation, and a detailed activity schedule. The methodological framework will include a simple evaluation matrix which shows the relationships between the main evaluation questions and the methods of data collection and analysis.
2. The final evaluation report (of around 50-75 pages excluding annexes) will present in a concise manner the following elements:
    - Executive Summary (maximum 4 pages)
    - Evaluation purpose and scope
    - Methodology
    - Intervention logic and programme description
    - Findings
    - Recommendations
    - Annexes

Table A1.2. Tentative schedule (to be finalized in the inception phase)

Task	Responsible for delivery	Deadline
Establishment of the Reference Group	IOS	End of August 2014
Finalization of ToR	IOS	End of September 2014
Call for proposals	IOS	Mid October 2014
Selection of external evaluator	IOS	Beginning of November 2014
Inception report	External evaluator	End November 2014
Data collection phase	External evaluator and IOS	November 2014 to March 2015
Draft evaluation report	External evaluator	Mid March 2015
Final evaluation report (after feedback and comments)	External evaluator	Mid April 2015

6. Qualifications external evaluators

IOS in consultation with SC/HYD and WWAP will select the external evaluators. They/he/she will possess the following qualifications.
Mandatory qualifications:

- At least 15 years of professional experience in a research and/or policy-related position in the field of international development.
- Advanced degree in the Natural or Water-related Sciences, or advanced degree in another field but with professional experience in Water-related research and policy initiatives.
- Experience in policy and programme evaluation in the context of international development.
- Experience in the evaluation of policy-oriented research programmes.
- Knowledge of international debates on water and sustainable development.
- Knowledge of the UN system and other international organizations.

- Fluency in English (written and spoken).

Desirable qualifications:

- Knowledge of the role and mandate of UN-Water.
- Knowledge of the role and mandate of UNESCO and its programmes.
- Knowledge of gender perspectives in evaluation.

The recommendable composition of the evaluation team is one senior and one junior evaluator (approximately 50-65 working days).

7. Request for proposals

Individuals and companies interested in conducting the evaluation should submit a technical and financial proposal, following the rules set out in the solicitation documents. The technical proposal should include the recent cv(s) of all proposed personnel that would be working on the evaluation.

List of relevant documents:

CSD (1998) “Decision 6/1. Strategic approaches to freshwater management”, Commission on Sustainable Development, 6th session, New York.

ACC-SWR (2001) Minutes of Administrative Committee on Coordination - Sub-Committee on Water Resources (ACC-SWR), Meetings 19 and 20, New York.

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UNESCO (2010) Extensions of the FIT Agreement on WWAP (2010-2013), UNESCO and Italian Ministry for the Environment, Land and Sea, Paris.

UNESCO (2012) Memorandum of Understanding on WWAP (2012), UNESCO and Italian Government, Paris.

UNESCO-WWAP (2012), supplementary analysis of the UNW surveys, Perugia.

UNW (2012a) UN-Water Decisions the new WWDR structure, Stockholm.

UNW (2012b) Findings of the 2011 UN-Water general survey on “*UN-Water publications with specific attention to the future of the World Water Development Report process*” and - Findings of the UN-Water internal survey on UN-Water publications, New York.

UNESCO-WWAP (2014) Final report of the Funds in Trust Agreement between UNESCO and the Italian Ministry for the Environment, Land and Sea for the Transfer of the United Nations World Water Assessment Programme, Perugia, Italy.

Annex 2. Evaluation Dimensions and Data Collection Methods

A comprehensive evaluation matrix is provided below, illustrating the relationships between the four dimensions covered by the evaluation, detailed evaluation questions, and the data collection methods used to address these. The areas shaded in grey suggest use of the data collection method to answer the set of evaluation questions. The areas in white suggest that the method does not apply.

Table A2.1. Evaluation Matrix

Dimensions of the evaluation		**Data collection methods**			
Dimensions	Key questions	Document analysis	Bibliometric analysis	Interviews	Survey
***Dimension 1**: The approach, quality and effects of the WWDRs in terms of academic and policy influence and use*	• What are the key building blocks in the production of the WWDRs? • How have these changed over time? • What was the rationale for these changes?				
	• What are the main mechanisms for ensuring stakeholder participation and quality throughout the process? • How efficient and effective are these mechanisms?				
	• What activities were undertaken to enhance the visibility and outreach of the WWDR? • Has there been an adequate strategy and funding for communication and information dissemination? • What activities were undertaken to strengthen the visibility of the donor and UNESCO?				
	• What have been the effects of the WWDR in terms of academic and policy influence and use? • How have the changes in modality and periodicity of the WWDR affected academic and policy influence and use? • To what extent do targeted audiences find that the WWDR highlights the world's most salient water issues and problems? • To what extent does the report offer unique added value taking into account other (global) water publications? • To what extent is the original need (as defined by the Commission on Sustainable in 1998 and the subsequent ACC-SWR meeting) for the WWDR still valid?				

***Dimension 2**: The relevance, efficiency and effectiveness of WWAP's other activities*	• Apart from the WWDR and the work feeding into the report, what have been WWAP's major other activities (e.g. WWAP's work on global water monitoring and assessment, communication and dissemination activities, capacity development activities)?				
	• To what extent have these activities been relevant and occupying a niche (from the perspective of UNESCO, UN-Water and taking into account the work of other institutional actors)? • To what extent have these activities been efficient (in terms of the use of financial and human resources)? • To what extent have these activities been effective (in terms of outreach & contribution to achievement of UNESCO's objectives)?				
	• What are the main mechanisms for ensuring stakeholder participation and quality assurance of these activities? • What activities were undertaken to enhance the visibility and outreach of these activities?				
	• What has been WWAP's contribution to the post-2015 development agenda? • What are the implications of the ongoing debates on the positioning of the post-2015 Sustainable Development Goals for WWAP's work on global water monitoring and assessment (including the WWDR)?				

***Dimension 3**: The institutional setting of WWAP, particularly its configuration within UNESCO and UN-Water*	• How is WWAP positioned within the UNESCO Water Network? • How are the activities of WWAP articulated to the work of other UNESCO entities working on water-related issues (e.g. UNESCO-IHE, IHP Secretariat, Field Offices, and Category 2 Centres)? • How does WWAP contribute to the work of other UNESCO entities and vice versa?				
	• How is WWAP positioned within UN-Water? • How does WWAP contribute to activities of other UN-Water Members and vice versa? • What has been the role and added value of WWAP within UN-Water and within the framework of the global water agenda?				
***Dimension 4**: The Financial sustainability of WWAP*	• To what extent have the financial arrangements, including the flow of funding to WWAP, affected staff recruitment and retention, activities and outputs of WWAP? • To what extent are WWAP resources used to fund IHP (Secretariat) activities (not directly related to the core mandate of WWAP) and vice versa? • What is the current extrabudgetary funding base? • What steps have been undertaken to strengthen the financial capacities and sustainability of WWAP?				
	• What are the financial constraints of the current WWDR production model? • What are the financial requirements of alternative WWDR production models? • What is the capacity and willingness of UN-Water members to contribute to the WWDR?				
	• How are the premises of Villa La Colombella currently used? • What are the opportunities and constraints regarding Villa La Colombella as the location for WWAP Secretariat?				

Source: Authors.

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Annex 4. Bibliometric Analysis

4.1 Methodology academic influence and use

To perform a bibliometric analysis of academic influence and use of the WWDR, we accessed Scopus to examine the scope and extent of coverage of the WWDR in academic research since 2007. Concretely, this period concerns the WWDR3, WWDR4, and WWDR2014. We adopted the following keyword searches:

"World Water Development Report"
"All Fields"
"Article"

The table below reports the number of articles found from each search by year. We randomly selected 30% of the articles in each search to further investigate more deeply the scope and extent of how the WWDR was referenced in the academic article.

Table A4.1. Articles Reviewed (1)

Years	Articles Found	30% reviewed
2007-2007	35	10
2008-2008	53	16
2009-2009	76	23
2010-2010	95	28
2011-2011	100	30
2012-2012	110	33
2013-2013	144	43
2014-2014	120	36
2015-2015	45	13
TOTAL	778	232

Source: Authors.

In addition, we accessed Scopus to examine the scope and extent of coverage of WWAP in academic research since 2007. We adopted the following keyword searches:

"World Water Assessment Programme"
"All Fields"
"Article"

The table below reports the number of articles found from each search by year. We randomly selected 30% of the articles in each search to further investigate more deeply the scope and extent of how the WWAP was referenced in the academic article.

Table A4.2. Articles Reviewed (2)

Years	Articles Found	30% reviewed
2007-2007	6	2
2008-2008	9	3
2009-2009	17	5
2010-2010	13	4
2011-2011	10	3
2012-2012	23	7
2013-2013	26	8
2014-2014	24	7
2015-2015	7	2
TOTAL	135	41

Source: Authors.

4.2 Methodology policy influence and use

To evaluate the effects of the WWDR in terms of policy influence and use, we analyzed policy- oriented research of major international organizations. This involved a search of the international organization's web site through their respective search engines using keyword searches below:

"World Water Development Report" or "WWDR"
"World Water Assessment Program(me)" or "WWAP"
"[full title]" of the WWDR3, WWDR4 and WWDR2014
"UN-Water"
"UNESCO" and "water"

Annex 5. Survey

5.1 Sampling

The online survey was sent to two purposively constructed samples – UNESCO and Non-UNESCO. The distinction was made in order to be able to assess the potential UNESCO and UN bias in responses.

The questionnaires sent to both samples were the same, except for one question. Due to the difficulty of constructing comprehensive population frameworks for the different stakeholder groups, purposive samples were reconstructed. The principles for constructing the different purposive samples have been listed in Table A5.1.

Further, to avoid implicit bias and gaps in the purposive samples and taking into consideration a partial response from the different stakeholder groups, the principle of snowball sampling was applied. This basically entailed that respondents were requested to forward the link to the survey to other colleagues. As a result of these principles, the data generated by the survey responses cannot be used for statistical inference beyond the actual sample of respondents without further information on the differences between respondents and non-respondents.

Table A5.1. Survey Stakeholders

Groups	Principles of Selection	Sample
UN-Water Members and Partners	List provided by IHP and WWAP	UNESCO
UNESCO Category I and II Institutes (water-related)	List provided by IHP	UNESCO
UNESCO Chairs (water-related)	List provided by IHP	UNESCO
National Government Agencies	List of the 195 member states and the relevant ministries in the countries that are responsible for water management was provided by IHP, along with their web sites (where available). From these web sites, the contact details were listed for professionals and/or the heads of water-related departments (such as water resources division, water policy division, or hydrology division).	Non-UNESCO
IHP National Committees	List provided by IHP	UNESCO

Academic Institutions - QS World University Rankings® by Subject	A two-pronged approach was adopted to create a list of academic institutions with a strong water department. The first step involved creating a list of the top 10 universities in the fields of Environmental Sciences, and Agriculture and Forestry, using the QS World University Rankings by Subject. Full professors, or chairs within these universities' water departments were then listed.	Non-UNESCO
Academic Institutions – Journals	The second approach involved looking at the top 12 scientific journals (ranked according to their impact factor – up to 2.630) in the field of water resources (obtained from Web of Science), and then looking at the most cited articles in those journals. The institutional affiliations of the authors of these articles were then listed, and the author details of those institutions that appeared more than twice in the list were retained. Those institutions that were already included in the previous list were not included again. Full professors in water, or water-related departments (civil, environmental, and hydraulic engineering, and environmental sciences) with a research background on hydrological issues were listed as the contact points for the survey.	Non-UNESCO

Note: The lists concerning key decision makers (4) and academics (7 and 8) are the ones with the most gaps and biases.
Source: Authors.

5.2 Questionnaire

Both purposive samples were an almost identical questionnaire. The questionnaire for the UNESCO sample had one extra question:

Are you currently a member, or have you been a member of a national IHP committee?

On the basis of question 8, respondents were identified as 'users' or 'non-users' of the WWDR. The users were then asked about the nature of their use of the report(s) that they had consulted, and to assess quality of the same.

Background of the Respondent

1. What is your main professional position?
    - Researcher/lecturer/professor/academic staff in a national or international research organisation/academic institution
    - Practitioner/manager in an intergovernmental institution
    - Practitioner/manager in a governmental institution
    - Practitioner/manager in a non-governmental institution
    - Other, please specify:
2. Are you familiar with the International Hydrological Programme (IHP)?
    - No
    - Yes, I have heard of it, but I do not know what it does
    - Yes, I am familiar with the IHP and its work
3. If yes, are you currently a member, or have you been a member of a national IHP committee?
    - Yes
    - No
4. Are you familiar with the World Water Assessment Programme (WWAP)?
    - No
    - Yes, I have heard of it, but I do not know what it does
    - Yes, I am familiar with WWAP and its work
5. Are you familiar with UN-Water?
    - No
    - Yes, I have heard of it, but I do not know what it does
    - Yes, I am familiar with UN-Water and its work
6. If yes, are you currently employed, or have you been employed at an organization that is a member or a partner of UN-Water?
    - Yes
    - No

Use and Appreciation of the WWDR

7. Are you familiar with the World Water Development Report (WWDR)?
    - No (skip to Ideal WWDR for non-users, question 18)
    - Yes
8. If yes, have you ever consulted and used a WWDR?
    - No (skip to Ideal WWDR for non-users, question 18)
    - Yes
9. If yes, how often do you consult or access the WWDR?

- Only initially when it came out
- Infrequently
- All the time

10. How did you hear about the WWDR?
    - UN-Water web site
    - UNESCO/WWAP web site
    - Events organised by UN-Water and/or WWAP
    - Academic or policy-oriented publications
    - Other, please specify
11. Which of the following WWDRs have you consulted? Select all that apply.
    - WWDR3: Water in a Changing World (2009)
    - WWDR4: Managing Water under Risk and Uncertainty (2012)
    - WWDR2014: Water and Energy (2014)
    - WWDR3 and WWDR4
    - WWDR3 and WWDR2014
    - WWDR4 and WWDR2014
    - All three of the reports
12. For what primary purpose(s) do you consult the WWDR? You can select multiple uses.
    - To learn about current issues and challenges related to freshwater resources and their management
    - For teaching
    - For research
    - To inform policy design and implementation
    - Other, please specify
13. To what extent to you agree with the following statements. Please rate them on a scale from 1 to 4: 1 = completely disagree; 2 = disagree; 3 = agree; 4 = completely agree; NO = no opinion.
    - WWDR is one of the principal sources of information on (global) water issues and challenges
    - WWDR reports credible and relevant data on the status of and trends in (global) freshwater resources
    - WWDR presents credible and relevant analysis on (global) water issues and challenges
    - WWDR presents evidence-based policy responses to regional/global water challenges
    - WWDR constitutes an important input to the post-2015 debate on water issues and challenges
14. Are you aware of the recent changes in periodicity and structure from the WWDR4 (2012) to the WWDR2014 that shifts from a triennial production to an annual one?
    - No (skip to Future WWDRs for users)
    - Yes
15. If yes, how have these changes influenced:
    - Your use of the report: negatively/positively/no change
    - Your overall appreciation of quality and usefulness of the report: negatively/positively/no change

Future WWDRs (for respondents who have used past WWDRs)

16. To what extent do you find the following aspects important for future editions of the WWDR? Please rate them on a scale from 1 to 4: 1 = of no importance at all; 2 = not so important; 3 = important; 4 = very important; NO = no opinion.
    - Quality (e.g., carrying out peer and academic reviews)

- Comprehensiveness and scope (e.g., inclusion of case studies, standardized data annex, regional water issues and challenges, and future water scenarios)
- Thematic focus (e.g., water and energy)
- Stakeholder participation (e.g., inclusion of scientists or academics, decision makers, and UN agencies in the of development of the report, and external consultations with stakeholders)
- Periodicity (e.g., annual, biennial, triennial, or every 5 years)
- Dissemination and accessibility (e.g., print or digital copies of the report, language of the WWDR)

17. What should be the key elements of a World Water Development Report? Please summarize in one or a few sentences.

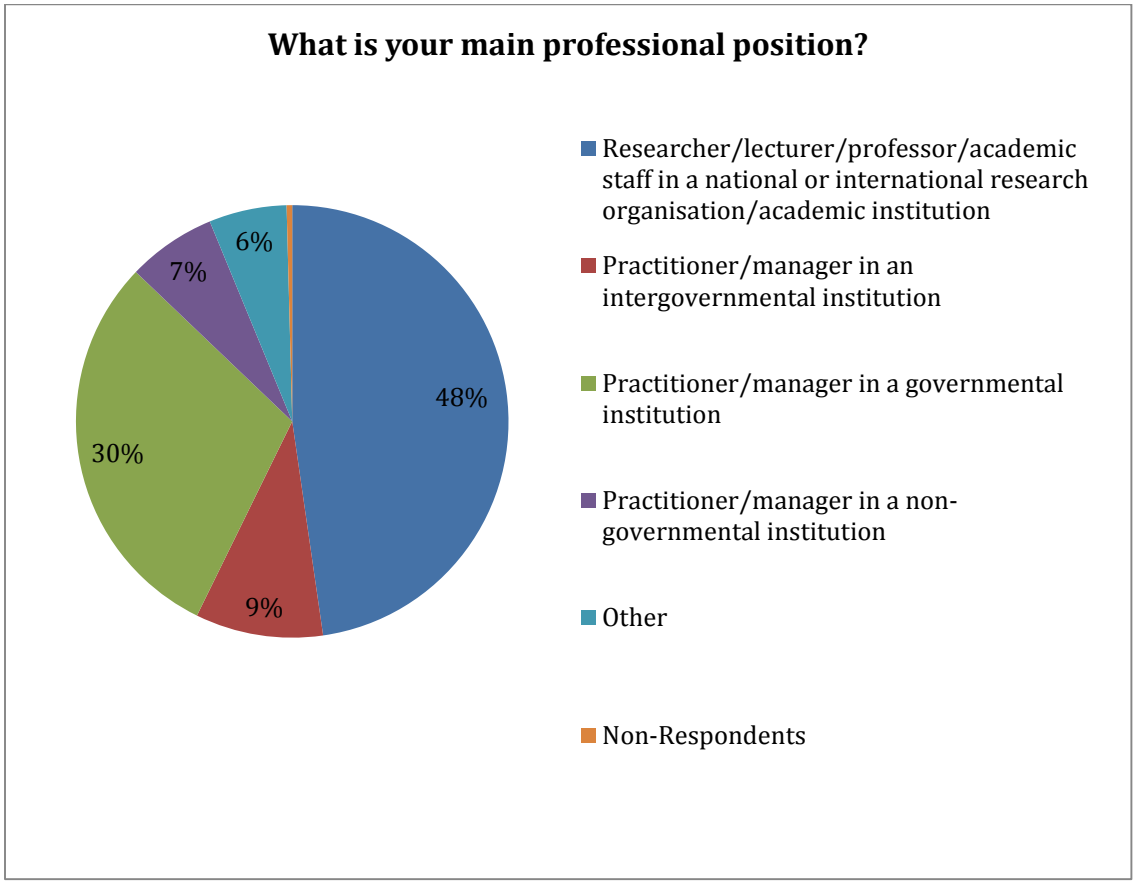
Ideal WWDRs (for respondents not familiar with / not having used past WWDRs)

18. Do you think there is a need for a global periodic report on the state and challenges of world water resources and their management?
    - No (end survey)
    - Yes

If yes, please describe in one or a few sentences why it is important to have such a report.

5.3 Findings

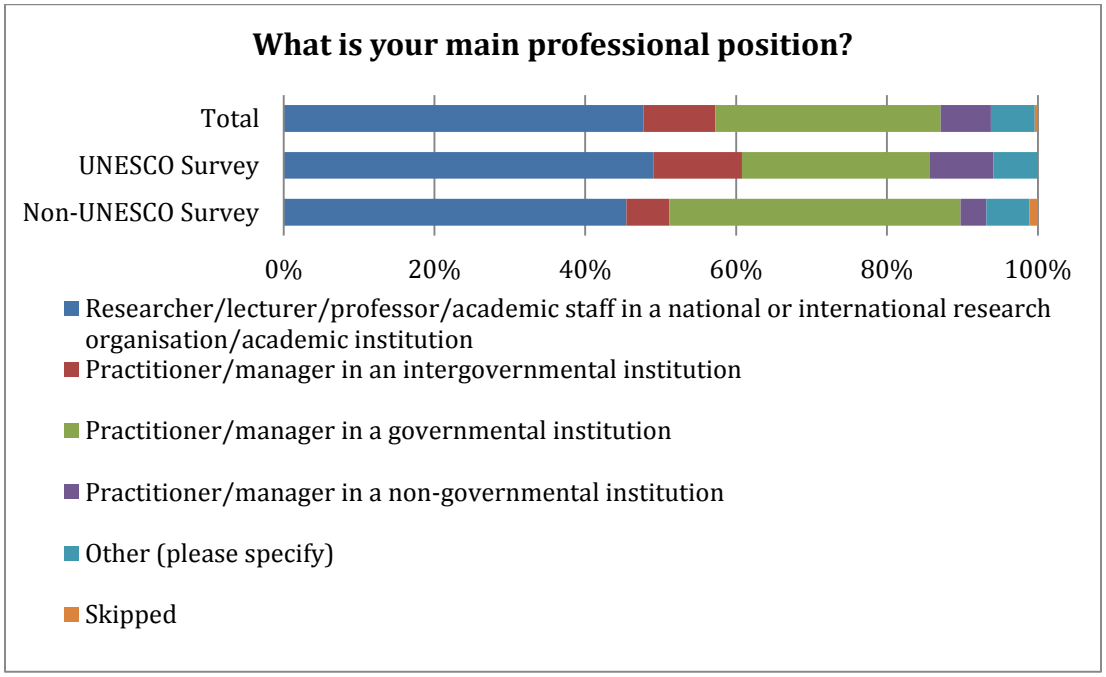
Figure A5.1. Professional Position (1)



N (Total respondents) = 241.

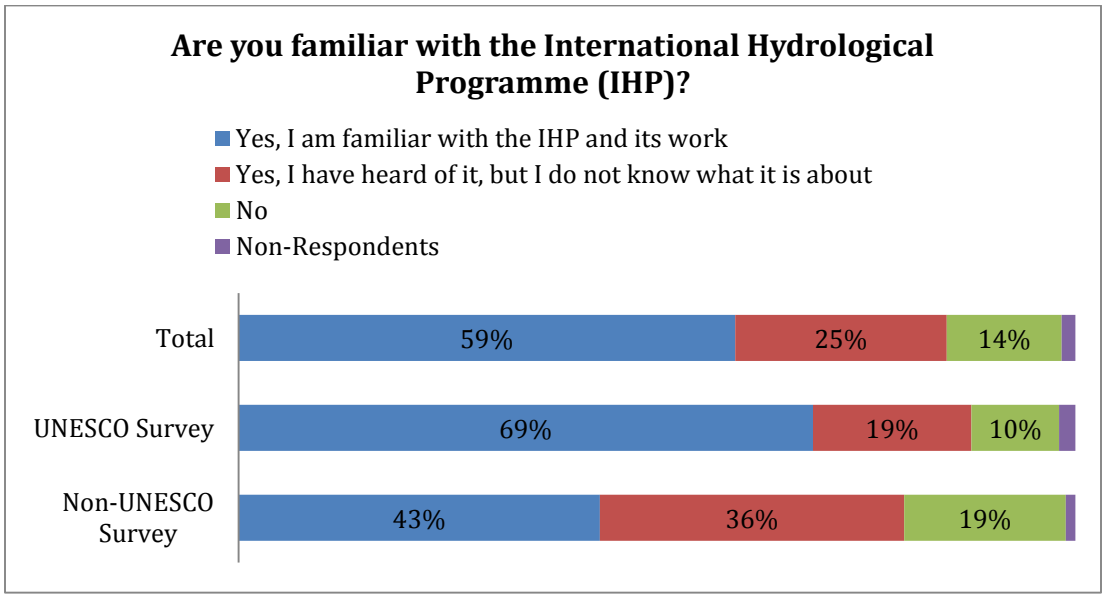
Source: Authors.

Figure A5.2. Professional Position (2)



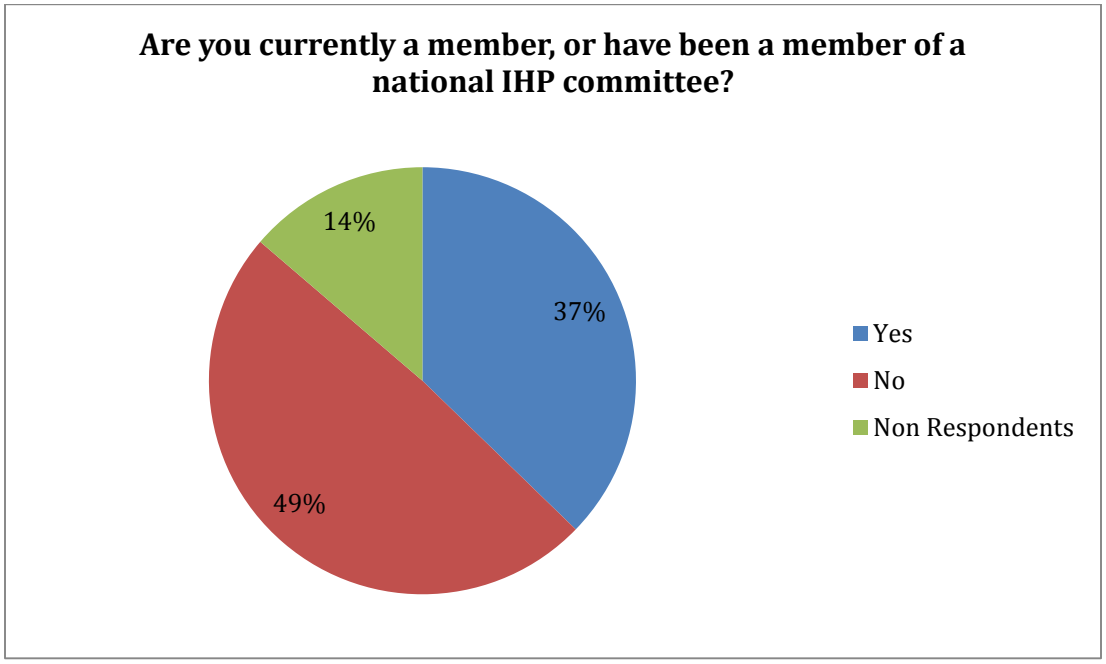
N (Total respondents) = 241; N (UNESCO respondents) = 153; N (Non-UNESCO respondents) = 88.
Source: Authors.

Figure A5.3. Familiarity with IHP



N (Total respondents) = 241; N (UNESCO respondents) = 153; N (Non-UNESCO respondents) = 88.
Source: Authors.

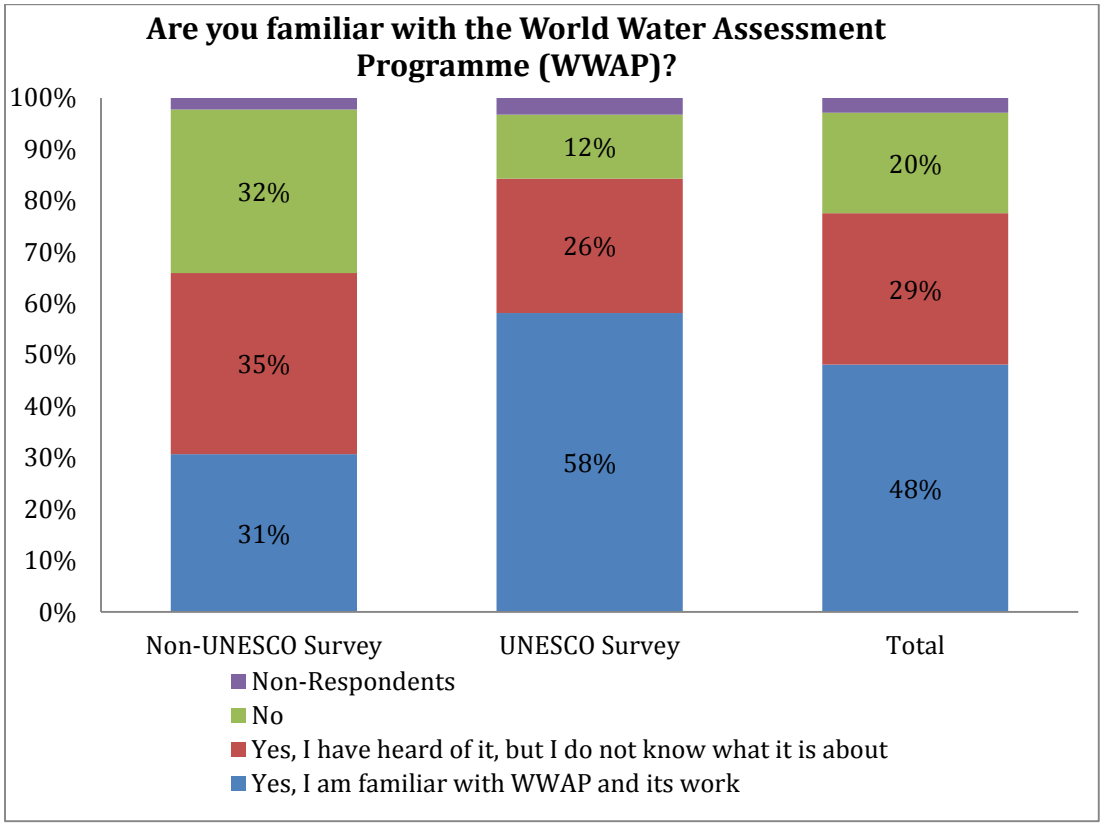
Figure A5.4. Membership of IHP National Committees



N (UNESCO respondents aware of IHP) = 153.

Source: Authors.

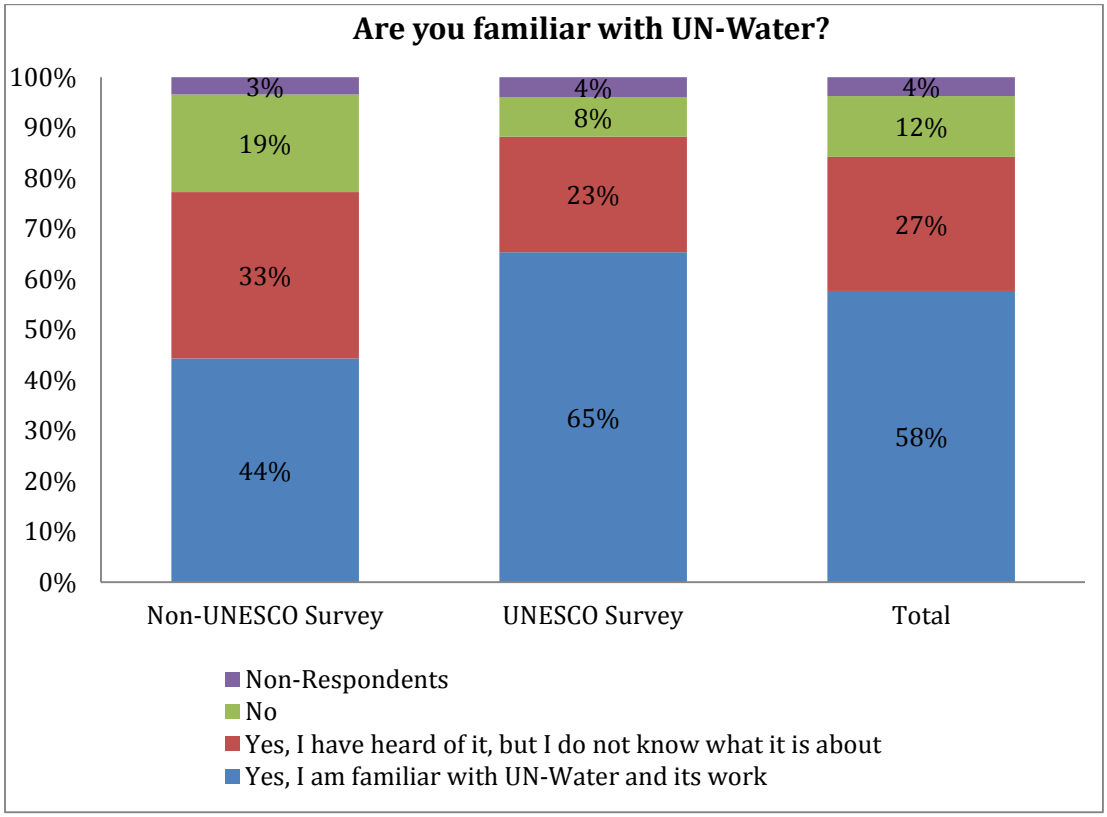
Figure A5.5. Familiarity with WWAP



N (Total respondents) = 241; N (UNESCO respondents) = 153; N (Non-UNESCO respondents) = 88.

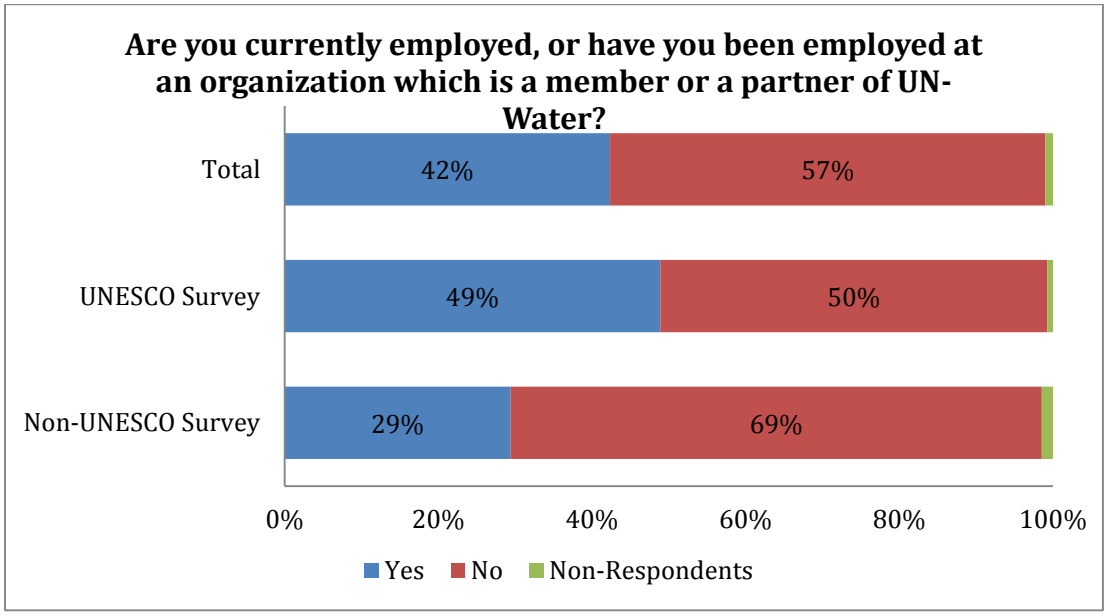
Source: Authors.

Figure A5.6. Familiarity with UN-Water



N (Total respondents) = 241; N (UNESCO respondents) = 153; N (Non-UNESCO respondents) = 88.
Source: Authors.

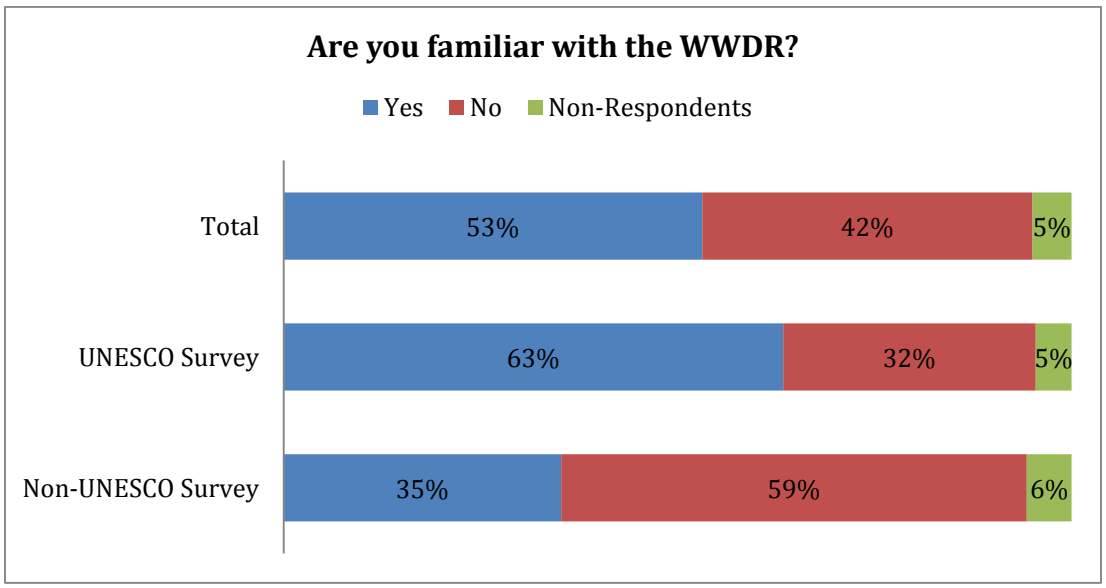
Figure A5.7. Employment with UN-Water Members and Partners



N (Total respondents aware of UN-Water) = 203; N (UNESCO respondents aware of UN-Water) = 135; N (Non-UNESCO respondents aware of UN-Water) = 68.

Source: Authors.

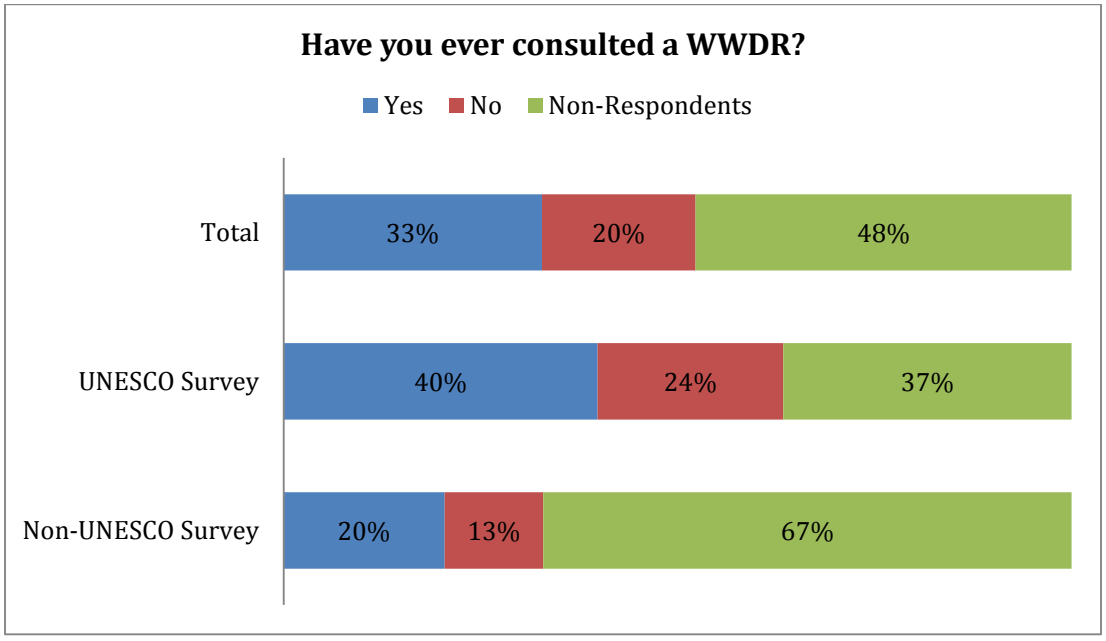
Figure A5.8. Familiarity with WWDR



N (Total respondents) = 241; N (UNESCO respondents) = 153; N (Non-UNESCO respondents) = 88.

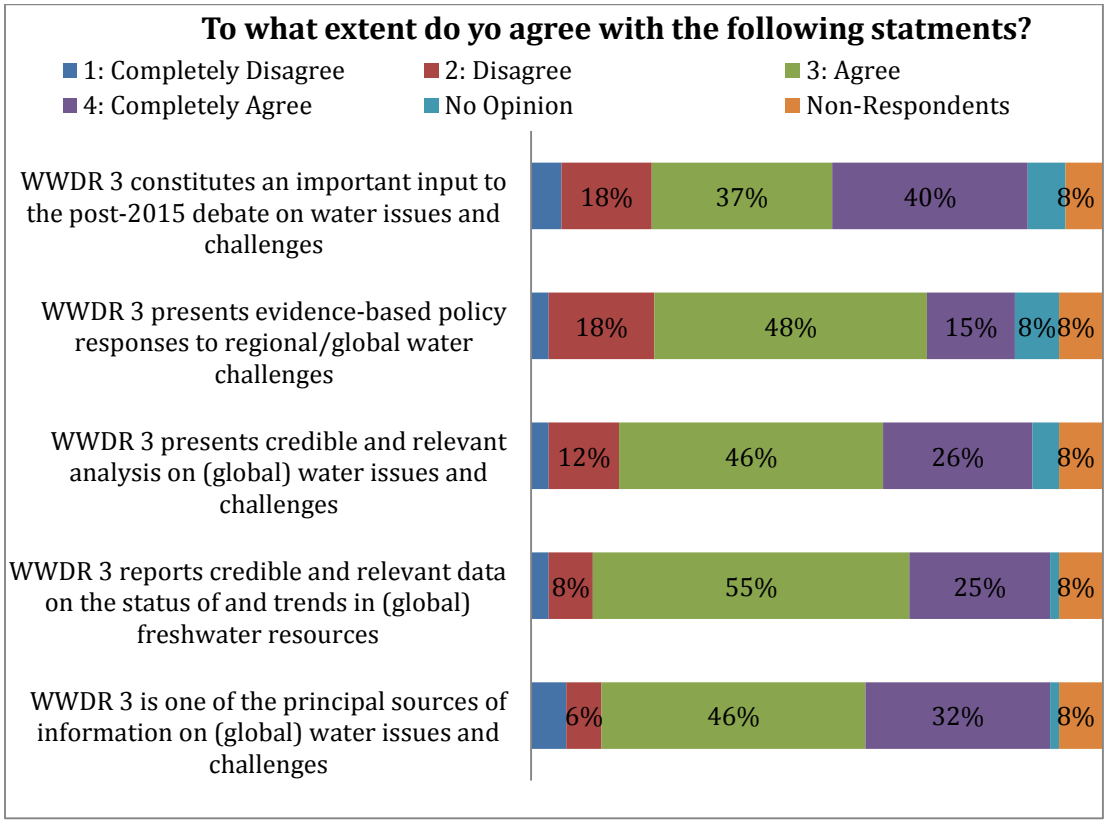
Source: Authors.

Figure A5.9. Use of the WWDR



N (Total respondents) = 241; N (UNESCO respondents) = 153; N (Non-UNESCO respondents) = 88.
Source: Authors.

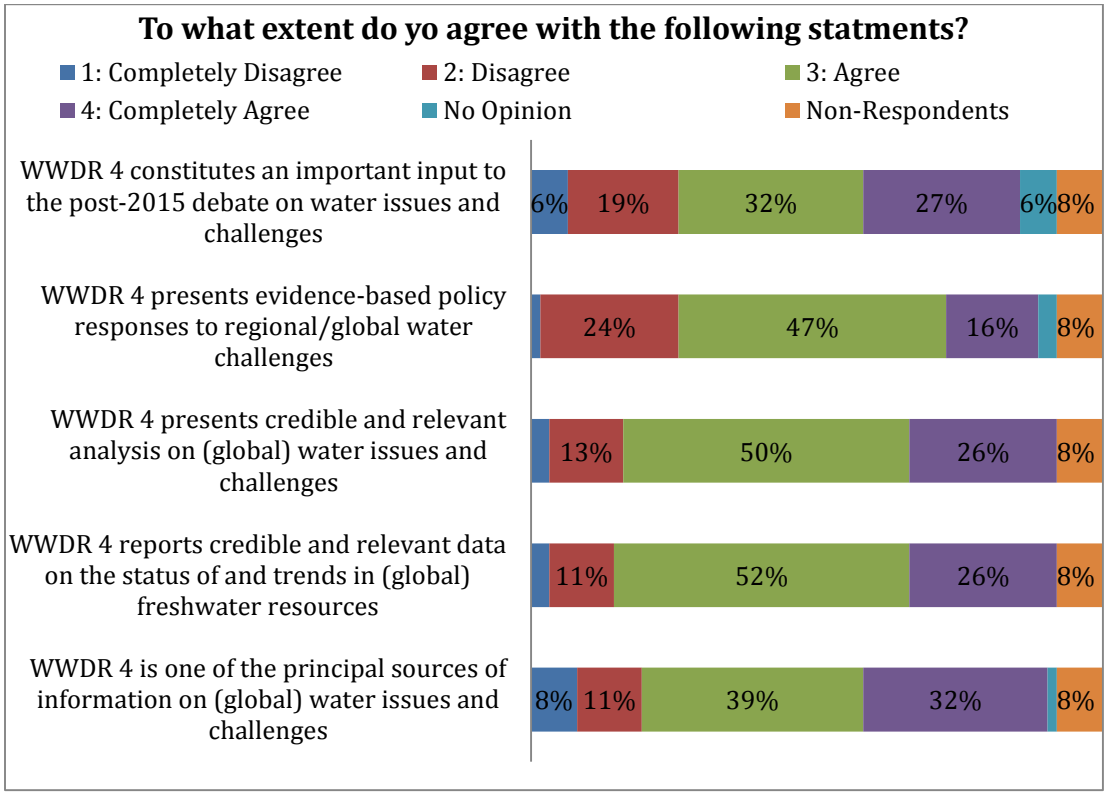
Figure A5.10. Appreciation of WWDR3



N (Total users of WWDR3) = 65.

Source: Authors.

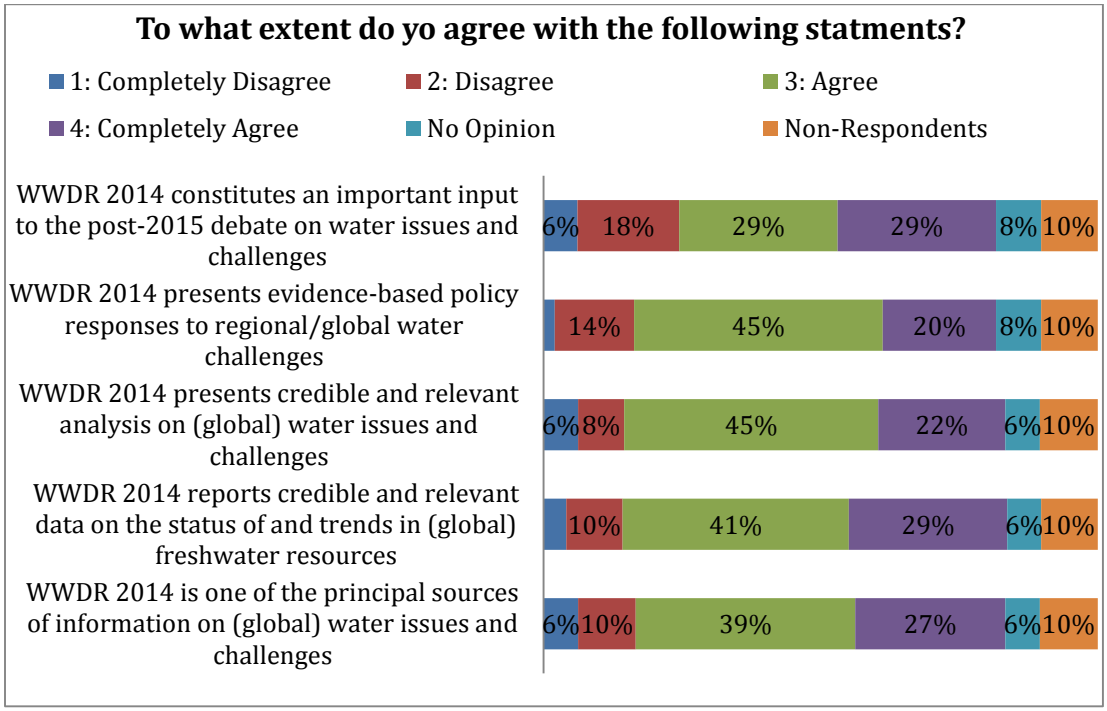
Figure A5.11. Appreciation of WWDR4



N (Total users of WWDR4) = 62.

Source: Authors.

Figure A5.12. Appreciation of WWDR2014



N (Total users of WWDR2014) = 49.
Source: Authors.

Annex 6. Interviews

The following individuals were interviewed as a part of the evaluation:

- Moujahed Achouri — FAO
- Giuseppe Arduino — UNESCO SC/HYD
- Fatma Attia — UNESCO WWAP TAC
- Agnes Bardon — UNESCO ERI/DPI
- Nicola Berni — Government of Umbria
- Anna Bonetti — UNESCO BSP/CFS
- Anathea Brooks — UNESCO SC/EO
- Anne Candau — UNESCO SC/EO
- Claudio Caponi — WMO
- Richard Connor — UNESCO WWAP
- Siegfried Demuth — UNESCO SC/HYD
- Eric Falt — UNESCO ERI
- Neil Ford — UNESCO ERI/DPI
- Simona Gallese — UNESCO WWAP
- Lisa Gastaldin — UNESCO WWAP
- Francesca Greco — UNESCO WWAP
- Simone Grego — UNESCO WWAP
- Joakim Harlin — UNDP
- Blanca Jimenez — UNESCO SC/HYD
- Engin Koncagul — UNESCO WWAP
- Jong Chol Lee — UNESCO SC/AO
- Elena Lopez-Gunn — University of Leeds
- Michela Miletto — UNESCO WWAP
- Lucilla Minelli — UNESCO WWAP
- Naho Mirumachi — King's College
- Stefanie Neno — UNESCO WWAP
- Josh Newton — Independent Consultant
- Marc Paquin — UNESCO WWAP
- Federico Properzi — UN-Water
- Diego Juan Rodriguez — World Bank
- Manuela Ruosi — Government of Italy
- Flavia Schlegel — UNESCO SC
- Mario Schreider — Universidad Nacional del Litoral
- Uri Shamir — UNESCO WWAP TAC
- Andras Szollosi-Nagy — UNESCO-IHE
- Francisco Tafuri — Government of Italy
- Kuniyoshi Takeuchi — Yamanashi University
- Olcay Unver — FAO
- Pieter van der Zaag — UNESCO-IHE
- Henk van Schaik — UNESCO WWAP TAC

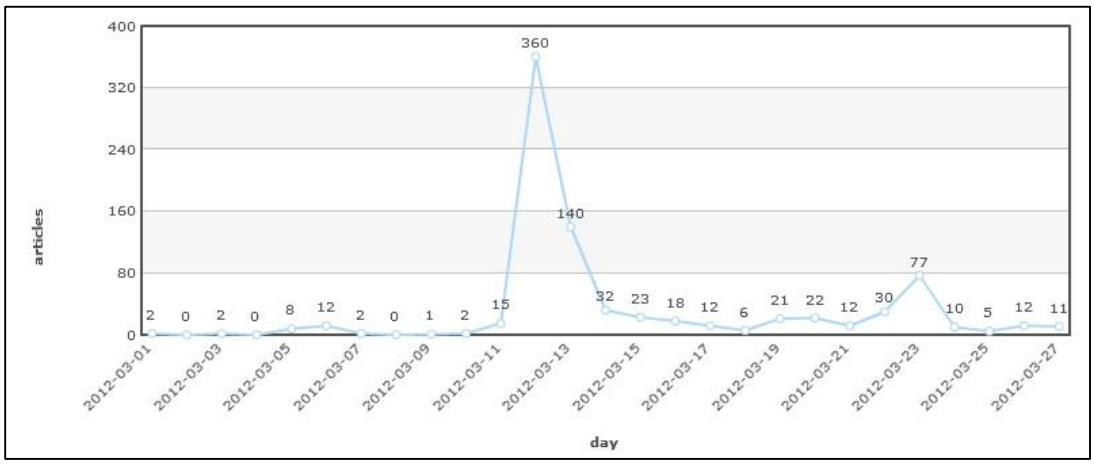
• Angelo Viterbo	Government of Umbria
• Sue Williams	UNESCO ERI/DPI
• Aaron Wolf	Oregon State University

Annex 7. Press Coverage

UNESCO's ERI/DPI regularly collects media information, covering various UNESCO events. The following graphs represent the press coverage around the launches of the WWDR4, WWDR2014, and WWDR2015.

1 WWDR4 (2012):
The WWDR4 was launched at the World Water Forum in Marseilles, France, which took place between 12th and 16th March, 2012. See Figure A7.1 for details about its international press coverage.

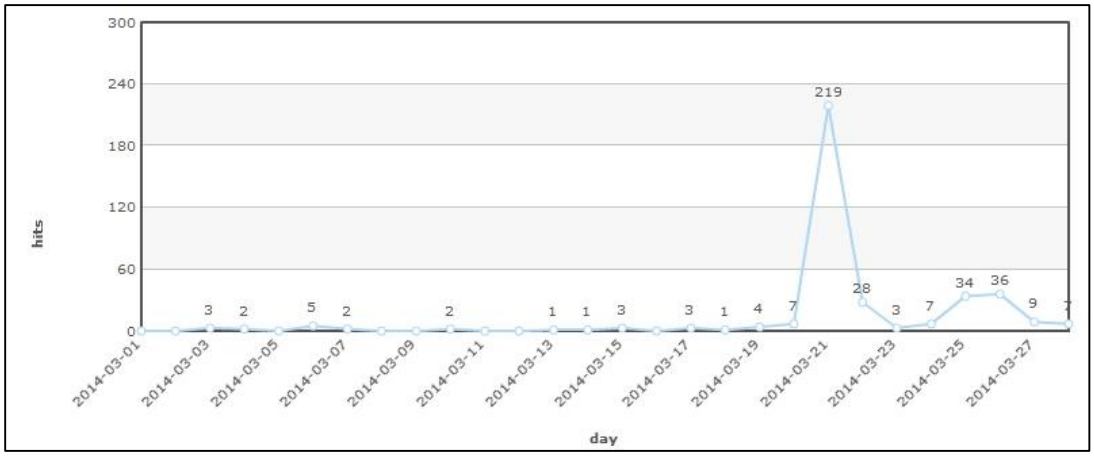
Figure A7.1. Number of articles published in March 2012 mentioning the WWDR4



Source: ERI/DPI.

2 WWDR2014:
The WWDR2014 was launched on the World Water Day – 21st March, 2014 – in Tokyo, Japan. This was the first WWDR under the new annual and thematic format. See Figure A7.2 for details about its international press coverage.

Figure A7.2. Number of articles published in March mentioning the WWDR2014

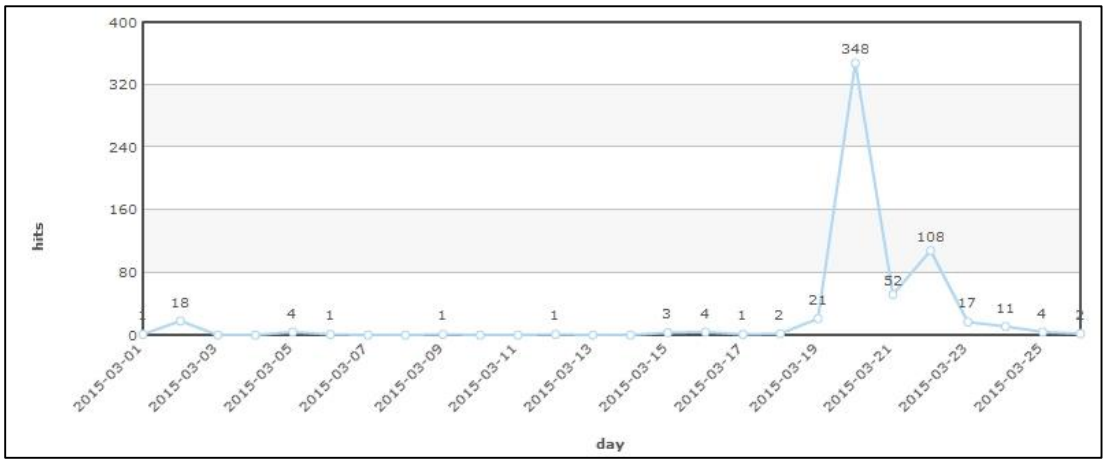


Source: ERI/DPI.

3. WWDR2015:

The second edition of the WWDR under its new format was launched in tandem with the World Water Day celebrations on 20 March, 2015, in New Delhi, India. See Figure A7.3 for details about its international press coverage.

Figure A7.3. Number of articles published in March mentioning the WWDR2015



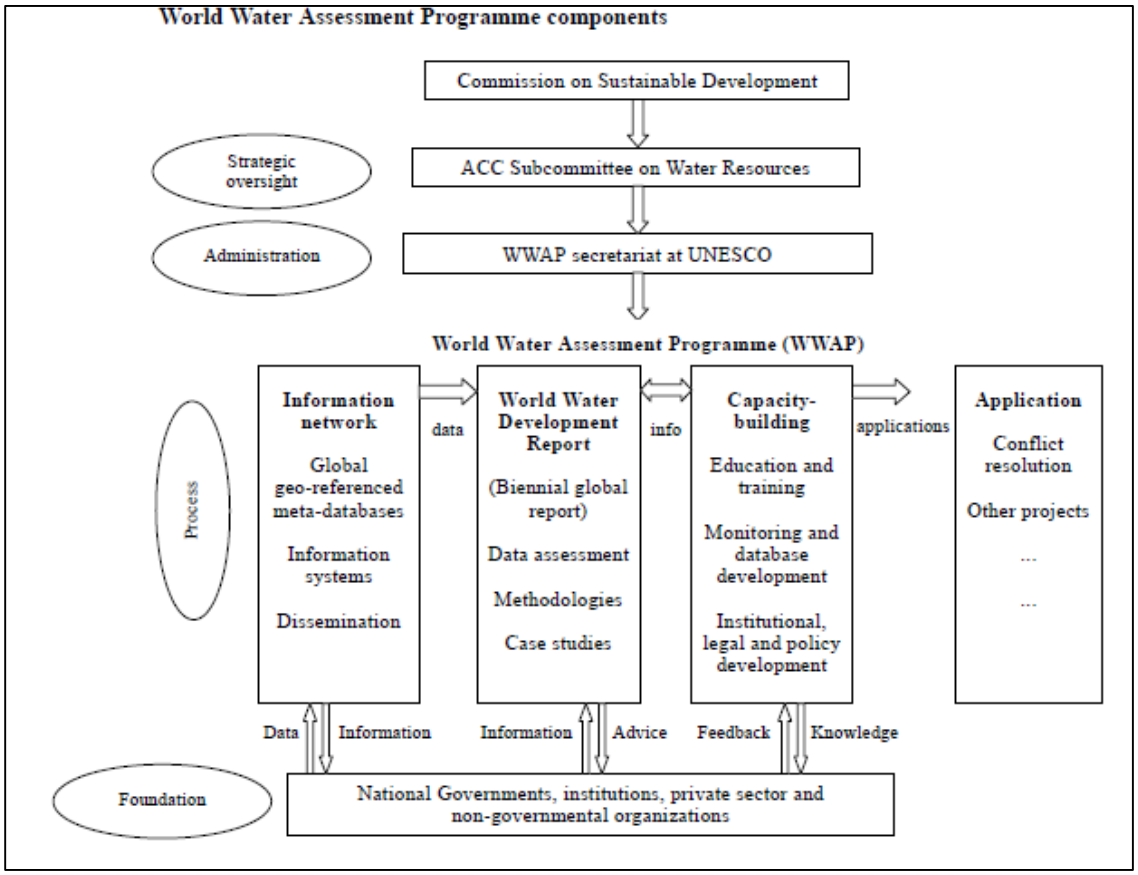
Source: ERI/DPI.

Annex 8. WWAP's original mandate - background information

WWAP was established in 2000 as an "independent unit" to produce the WWDRs on behalf of the UN ACC-SWR (UN ACC, 1999). During the UN ACC-SWR's 21st session in 2000, when WWAP was adopted unanimously by the members, it was understood that WWAP would "evolve as a programme in support of WWDR" (UN ACC, 2001a). Fifteen years since its establishment, WWAP has undergone several financial and institutional changes, but its mandate has remained unchanged.

Annex VI to the Report of the ACC-SWR on its 21st session discusses in detail the background of WWAP, its rationale, scope, programme components, programme objectives, and benefits. Figure 8.1 presents the components of WWAP as presented in the work plan approved by the ACC-SWR in its 21st session.

Figure A8.1. WWAP's programme components as presented during UN ACC-SWR's 21st session



Source: Annex VI, Report of the ACC-SWR at its 21st session (UN ACC, 2001a).

Paragraph 29 of Annex VI provides the background for WWAP:
"At the urging of the Commission on Sustainable Development and with the strong endorsement by the Ministerial Conference at The Hague in March 2000, the Administrative Committee on Coordination (ACC) Subcommittee on Water Resources has undertaken a collective United Nations system-wide continuing assessment process, the World Water Assessment Programme (WWAP)."

Paragraphs 32 and 33 of the same Annex discuss the rationale behind WWAP:
"Currently, there is no global system in place to produce a systematic, continuing, integrated and comprehensive global picture of freshwater and its management."

"The United Nations system, through the ACC Subcommittee on Water Resources, has the mandate, credibility and capacity to take on the task of systematically marshalling global water knowledge and expertise to develop over time the necessary assessment of the global water situation, as the basis for action to resolve water crises."

Figure 8.1 shows that WWAP's mandate broadly encompasses three main dimensions: information collection and assessment, reporting, and capacity development. Each of these components was meant to inform national governments and the international community with policy-relevant and timely information. Capacity building, for instance, included the building of capacity in education and training, in monitoring and database science and technology and in assessment-related institutional management in order to improve country-level assessment, especially in developing countries (UN ACC, 2001a).

Annex 9. Sustainable Development Goals

The SDGs, as of October 2015, have been listed below.[79] Details of the SDG 6 (on water) are provided.

Goal 1: End poverty in all its forms everywhere

Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture

Goal 3: Ensure healthy lives and promote well-being for all at all ages

Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

Goal 5: Achieve gender equality and empower all women and girls

Goal 6: Ensure availability and sustainable management of water and sanitation for all

- 6.1 by 2030, achieve universal and equitable access to safe and affordable drinking water for all
- 6.2 by 2030, achieve access to adequate and equitable sanitation and hygiene for all, and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations
- 6.3 by 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater, and increasing recycling and safe reuse globally
- 6.4 by 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity, and substantially reduce the number of people suffering from water scarcity
- 6.5 by 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate
- 6.6 by 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes
- 6.a by 2030, expand international cooperation and capacity-building support to developing countries in water and sanitation related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies
- 6.b support and strengthen the participation of local communities for improving water and sanitation management

Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all

Goal 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

Goal 10: Reduce inequality within and among countries

Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable

[79] As presented here: https://sustainabledevelopment.un.org/sdgs.

Goal 12:	Ensure sustainable consumption and production patterns
Goal 13:	Take urgent action to combat climate change and its impacts
Goal 14:	Conserve and sustainably use the oceans, seas and marine resources for sustainable development
Goal 15:	Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss
Goal 16:	Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels
Goal 17:	Strengthen the means of implementation and revitalize the global partnership for sustainable development