PROGRESS REPORT ON IMPLEMENTATION ROADMAPS
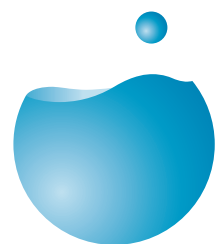
OCTOBER 2017

Ministry of Land,
Infrastructure and Transport

KOREA WATER FORUM
KWF

WORLD
WATER
COUNCIL

CONTENTS

INTRODUCTION

Implementation Roadmaps are a formal mechanism for tracking and monitoring progress between each triennial gathering of the World Water Forum. Over 90 organizations are coordinating their efforts to ensure the implementation of 16 Roadmaps, which embrace social, economic and environmental aspects of water.

Each Implementation Roadmap sets out the commitments to specific actions articulated in the Daegu-Gyeongbuk Implementation Commitment (DGIC). The Roadmaps have a long-term horizon but are living documents and, as they will be reviewed regularly, will evolve over time.

Implementation Roadmap reports are published twice a year by the World Water Council and Korea Water Forum on behalf of the Government of the Republic of Korea to document progress in addressing challenges identified during the 7th World Water Forum. By displaying information provided by the DGIC Champions and which is made available on the Action Monitoring System (AMS) website, the progress reports reflect extensive efforts made by the global water community to move forward on the global water agenda.

The Daegu-Gyeongbuk Implementation Commitment was signed in the presence of champion organizations during the 7th World Water Form on 17 April 2015 and launched the process of the Implementation Roadmaps.

The Action Monitoring System and Implementation Roadmaps monitor continuous progress in water-related issues across the globe in between World Water Forums. Implementation Roadmaps are an innovative mechanism to provide a strategic bridge between World Water Forums and have all been successfully integrated within the 8th World Water Forum Thematic Framework.

Collective action, through the Implementation Roadmaps, has considerably advanced since 2015. Such achievements would not have been possible without the dedication of DGIC Champions and the strong involvement of members from Core Groups.

This report is the last intermediary update of a series of four on the Implementation Roadmap initiative. It reflects on the extent of the work achieved so far and at a point six months before the next World Water Forum. A majority of the Implementation Roadmaps has made significant headway and the following months will be decisive in delivering on the Daegu-Gyeongbuk Implementation Commitment signed in April 2015.

In September 2017, a second Annual Review meeting was held during Korea International Water Week. On this occasion, the DGIC Champions and Theme coordinators of the 8th World Water Forum gathered to take stock of progress on the Implementation Roadmaps and align their respective work. Successful case studies on implementing water solutions were presented and discussed. They will be further detailed in a final publication to be launched during a special session at the 8th World Water Forum.

To keep track of the Implementation Roadmaps, please visit the Action Monitoring System website: ams.worldwaterforum7.org

Themes and goals of the Implementation Roadmaps

The Implementation Roadmaps were designed by Champions and Core Groups members around the 7th World Water Forum Thematic Framework. They embody the water community's determination to move forward on water related issues covering 16 themes. Specific goals were identified for each theme at the outset of the Implementation Roadmaps process and summarized in the Daegu-Gyeongbuk Implementation Commitment as follows.

1. WATER SECURITY FOR ALL

**1.1.
Enough Safe
Water for All**

To enhance water security towards ensuring 'enough' 'safe' water for all users and all uses through the dissemination and sharing of knowledge, appropriate technologies, scientific innovation, best practices and policy tools on: improving water quality by reducing all types of pollution and improving wastewater management; augmenting water supplies through both demand management and the use of non-conventional water resources such as safe wastewater reuse, desalination and rainwater harvesting; and expanding access to water services to those lacking access to safe water

**1.2.
Integrated
Sanitation
for All**

To advocate for the improvement and development of sanitation and wastewater services and management considering the whole sanitation chain: access, evacuation and treatment (for both non-collective systems and for collective systems), reuse and resources recovery

**1.3.
Adapting
to Change:
Managing Risk
and Uncertainty
for Resilience
and Disaster
Preparedness**

To respond to the dynamic, evolving nature of the water cycle and highlight sustainable approaches to water resources management, disaster management, climate adaptation and economic development

**1.4.
Infrastructure
for Sustainable
Water Resource
Management
and Services**

To strengthen and maintain existing water systems and further develop new water storage infrastructure, and to develop adaptable management strategies for ageing of water infrastructures, especially dam facilities, through sharing and exchanging of knowledge and experiences of both developed and developing countries, eventually to provide all stakeholders of ageing dams how and what to do for securing our life and property against threats by nature such as climate change

2. WATER FOR DEVELOPMENT AND PROSPERITY

**2.1.
Water for Food**

To help encouraging private investments in technologies and management practices that enhance the sustainable production of crops, livestock, and fish by both smallholders and larger scale producers, and address the excessive use and degradation of water resources in key production regions that threaten the sustainability of livelihoods dependent on water and agriculture

**2.2.
Water and
Energy**

To deliver water and energy for all while minimizing environmental impact, through enhancing efficiency, improving sustainability and strengthening governance in resource management

**2.3.
Water and Cities**

To provide water security for cities by embracing an integrated city planning agenda for a "regenerative city" which enables to better plan for the healthy, livable, risk-resilient city

3. WATER FOR SUSTAINABILITY: HARMONIZING HUMANS AND NATURE

**3.1.
Green
Growth, Water
Stewardship
and Industry**

To ensure coherent policy to enable green growth; foster the long-term engagement of a variety of stakeholders in water management; and recognize economic value of water to avoid business risks and protect ecosystem services

**3.2.
Managing
and Restoring
Ecosystems for
Water Services
and Biodiversity**

To slow, stop and reverse the loss of ecosystems, especially wetlands, as a fundamental basis for resilient and successful societies

3.3.
Ensuring Water Quality from Ridge to Reef

To improve water quality management in situations where water quality degradation or inappropriate use of water qualities is responsible for reducing the quantity of water available for the various uses it is needed for

3.4.
SMART Implementation of IWRM

To ensure the IWRM approach is applied at all levels throughout the world as a means to achieve water security

4. CONSTRUCTING FEASIBLE IMPLEMENTATION MECHANISMS

4.1.
Economies and Financing for Innovative Investments

To ensure that adequate financial provision is made to achieve the global goal of water security

4.2.
Effective Governance: Enhanced Political Decisions, Stakeholder Participation and Technical Information

To guide decision-makers across levels of government to strengthen institutions' capacity in order to reap the economic, social and environmental benefits of good governance; to inform public debate and actions; and to contribute in facilitating change and reform where and when needed

4.3.
Cooperation for Reducing Conflict and Improving Transboundary Water Management

To provide guidance to decision-makers across all levels of government in different relevant fields (international law, policy, diplomacy, institutional and technical engineering) on how to develop and improve transboundary management in order to reduce conflicts and ensure an optimal use of water resources for socio-economic development

4.4.
Water Cultures, Justice and Equity

To create and maintain an implementation network of the design group members and session participants/convenors on water, cultural diversity, justice and equity and raise the awareness among water professionals and decision makers about the intricate but yet often ignored relevance of cultural diversity, justice & equity for water management and development and include these aspects into policies, programmes and practice

4.5.
Enhancing Education and Capacity Building

To provide guidance to decision-makers across all levels of government on how to develop and improve water education, professional training and capacity building

PROGRESS REPORT

In the final stretch before the 8th World Water Forum, the 16 Implementation Roadmaps have made good progress. Currently, the Action Monitoring System brings together 99 objectives, and more than 90% of them have progressed. They have advanced, on average, by 56% since the 7th World Water Forum in 2015. This represents a total of 333 actions of which 289 are either ongoing or completed.

Many objectives and actions target the 8th World Water Forum to deliver their results. Others are aligned with international frameworks, such as the 2030 agenda or the 2020 milestones of the Paris climate agreement. Therefore, the pace at which objectives are completed may vary.

As Implementation Roadmaps are living documents, they evolve over time. Therefore, the report also includes new objectives, a greater number of targeted actions or new involved stakeholders since April 2017.

1.1 Enough Safe Water for All

GOAL DESCRIPTION

Water security is essential for sustainable development. The main goal of Theme 1.1 "Enough Safe Water for All" is to contribute to water security and SDG6 on water by facilitating knowledge sharing and providing technical and policy guidance on appropriate technologies, scientific innovation, policy tools and best practices on access to safe water for all uses, improved water quality and wastewater management, and non-conventional water supplies, as well as on water monitoring for SDGs implementation.

THEME LEVEL

ACTION LEVEL

March 2016

October 2016

April 2017

October 2017

Not executed   Ongoing   Completed
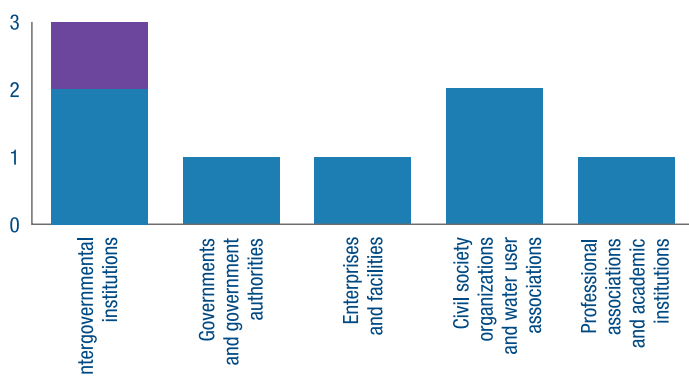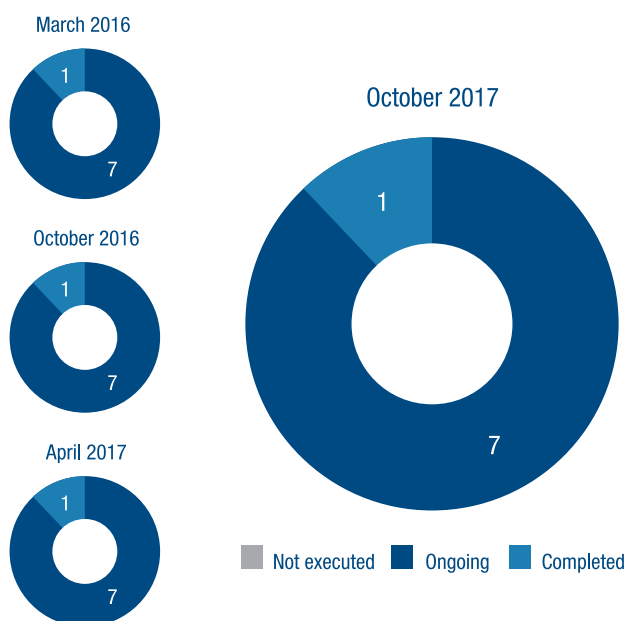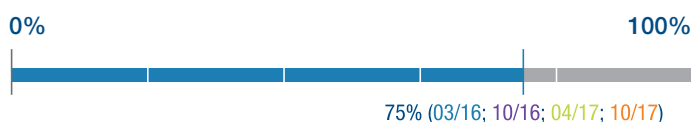
OBJECTIVE LEVEL

Key Focus Area: Technical and policy guidance on access to safe water, water quality, nonconventional water supplies

Objective 1.1.a: Facilitate knowledge sharing and promote appropriate technologies, policy tools, participatory institutional frameworks and best practices on access to safe water, improved water quality and wastewater management, and nonconventional water supply methods, including safe water reuse, to enhance water security globally.
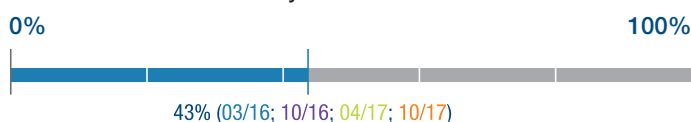
0%   100%

50% (03/16; 10/16; 04/17; 10/17)

Key Focus Area: Water monitoring to support SDGs implementation

Objective 1.1.b: Contribute towards improved water monitoring to support the implementation of SDG6 on water.

0%   100%

75% (03/16; 10/16; 04/17; 10/17)

Key Focus Area: Capacity building, experience sharing and international cooperation on water security

Objective 1.1.c: Promote capacity building, awareness raising, experience sharing and international cooperation to support the development of national policies for enhanced water security.

0%   100%

43% (03/16; 10/16; 04/17; 10/17)

CHAMPION

UNESCO International Hydrological Programme (IHP)

Contact: Sarantuyaa Zandaryaa
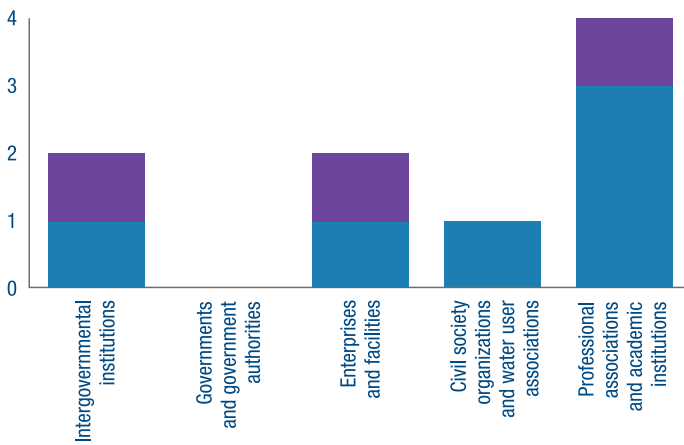
CORE GROUP MEMBERS

- **African Development Bank Group (AfDB)**
- **American Water Works Association (AWWA)**
- **Freshwater Action Network Mexico (FANMEX)**
- **Graduate School of Water Resources, Sungkyunkwan University (SKKU-GSWR)**
- **Swiss Agency for Development and Cooperation (SDC)**

1.2 Integrated Sanitation for All

GOAL DESCRIPTION

Access to basic sanitation, and its implementation as a basic human right, is crucial. But to ensure an impact on public health, environment and water resource quality, we must consider the whole sanitation and waste water management chain: access, evacuation and treatment (for both non-collective systems and for collective systems), reuse and resources recovery. The failure to manage water after use is one of today's world's most neglected and serious sustainability challenges that needs urgent attention.

THEME LEVEL

ACTION LEVEL

March 2016

October 2016

April 2017

October 2017

Not executed | Ongoing | Completed
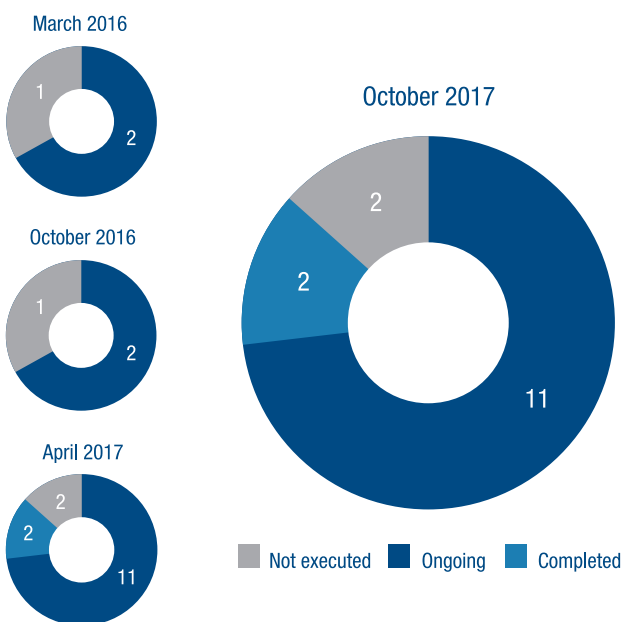
OBJECTIVE LEVEL

Key Focus Area: Universal access to sanitation (containment)

Objective 1.2.a: By 2016, present the overall status and challenges faced in achieving the sanitation MDG and positioning universal access to sanitation to be adopted as a priority issue in the proposed SDGs.

0% — 100%

75% (03/16; 10/16)

100% (04/17; 10/17)

Objective 1.2.b: By 2020, help countries to develop adequate strategies and action plans to ensure equitable sanitation and hygiene for all.

0% — 100%

25% (04/17; 10/17)

Key Focus Area: Fecal sludge management

Objective 1.2.c: By 2025, present and foster implementation of innovative technologies, management approaches and business models that are attractive to city managers, utilities and private sanitation service providers.

0% — 100%

20% (04/17; 10/17)

Key Focus Area: Wastewater management

Objective 1.2.d: By 2020, ensure an appropriate regulatory framework and standard, leading to the progressive development of wastewater transport and treatment and the absence of discharge of contaminated wastewater into water bodies that are sensitive to microbiology.

0% — 100%

20% (04/17; 10/17)

Key Focus Area: Wastewater resource recovery and reuse

Objective 1.2.e: By 2030, development of wastewater reuse (e.g. for irrigation) must be balanced with preservation of water flows needed by neighboring ecosystems.

0% — 100%

10% (04/17; 10/17)

Objective 1.2.f: By 2030, the level of treatment before reuse must be adapted to protect the health of downstream neighbors and users, and irrigated crops consumers, with confidence and acceptance from the public but without excessive technology and energy wasting.

0%   100%

10% (04/17; 10/17)

Objective 1.2.g: By 2030, recycling of organic matter (and/or biogas), nitrogen and phosphorus from sanitation by-products, using hygienic and energy-saving techniques must be generalized.

0%   100%

10% (04/17; 10/17)

Key Focus Area: Integration of sanitation planning and urban development

Objective 1.2.h: By 2020, help policy and decision makers in evaluating options for managing the whole sanitation service chain and choosing the best appropriate sanitation options in the various areas of a city.

0%   100%

30% (04/17; 10/17)

Objective 1.2.i: By 2020, cities and towns should recognize and have a clear vision of their needs, and be engaged in integrated sanitation planning taking into account the importance of universal access, faecal sludge management, wastewater management, and resource recovery and reuse.

0%   100%

20% (04/17; 10/17)

1.3 Adapting to Change: Managing Risk and Uncertainty for Resilience and Disaster Preparedness

GOAL DESCRIPTION

Following the Sendai Framework targets, Theme 1.3 is intended to respond to the dynamic, evolving nature of the water cycle and highlight sustainable approaches to water resource management, disaster management, climate change adaptation and economic development. Theme 1.3 promotes innovative methodologies and technological applications worldwide, especially in developing countries, and helps further reduce potential damage from natural hazards by sharing state-of-the-art technologies in addressing water-related risk.

THEME LEVEL

ACTION LEVEL

March 2016
20

October 2016
20

April 2017
3
15

October 2017
3
15

Not executed   Ongoing   Completed

OVERALL PROGRESS

ICHARM has been promoting the International Flood Initiative (IFI) mainly by enhancing the Implementation Roadmap of Theme 1.3 over the last six months. IFI assists national platforms in practicing evidence-based disaster risk reduction through mobilizing scientific and research networks at national, regional and international levels. IFI and national platforms with such networks form an important evolutionary link that helps national platforms through the transition between planning and executing the implementation of global development goals like the SDGs in collaboration with other countries and organizations.

As an example of recent progress, in order to support flood management in Sri Lanka, ICHARM and EDITORIA have decided to provide real-time flood forecasts and other information experimentally and to offer training and capacity development programs for proper utilization of this information, which will lead to strengthening of IFI's national platform in Sri Lanka.
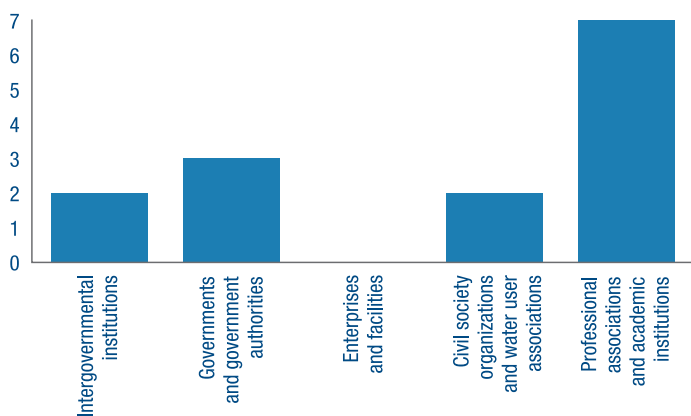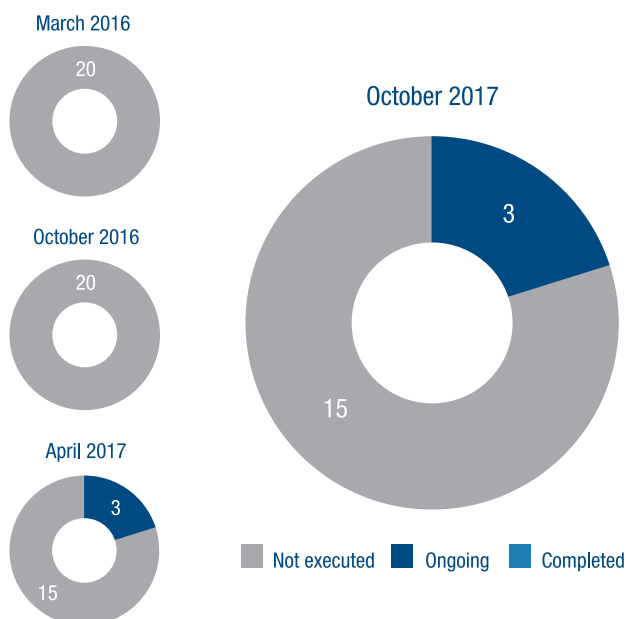
HIGHLIGHTS

- International Flood Initiative
- ICHARM Newsletter No. 44
- ICHARM 10th Anniversary
- Report of ADB project: Transformation of Urban Management – Part II Flood Management
- Emergency support for flood management in Sri Lanka

OBJECTIVE LEVEL

Key Focus Area: Understanding disaster risk

Objective 1.3.a: By the end of 2017, encourage governance bodies at all levels to share the applications of innovative methodologies and technologies in hazard management to quantify flood resilience and mitigate vulnerability.

0%   100%

40% (10/17)

0% (03/16; 10/16)   35% (04/17)
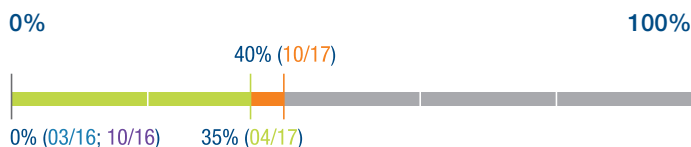
Objective 1.3.b: By the end of 2017, raise awareness of the importance of climate change adaptation and disaster risk reduction, and support governments in their implementation.

0%   100%

0% (03/16; 10/16; 04/17; 10/17)

Key Focus Area: Strengthening governance to manage disaster risk

Objective 1.3.c: By the end of 2016, incorporate a long-term climate change adaptation perspective into national/local disaster risk management policies.

0%   100%

25% (10/17)

0% (03/16; 10/16; 04/17)

Objective 1.3.d: By the end of 2016, support enhancing the capacity of policy makers to respond to extreme water-related hazards.

0%   100%

0% (03/16; 10/16; 04/17; 10/17)

Key Focus Area: Investing in disaster risk reduction and resilience

Objective 1.3.e: By the end of 2016, suggest several approaches to managing economies and ecosystems through infrastructure "re-operated" to track emerging changes, and to accommodate a range of potential shifts in the water cycle, with indicators to guide us through effective decision making.

0%   100%

0% (03/16; 10/16; 04/17; 10/17)

Objective 1.3.f: By the end of 2016, support targeted and cost-effective disaster risk management through the exchange of experience in risk-based approaches.

0%   100%

20% (04/17; 10/17)

0% (03/16; 10/16)

Key Focus Area: Enhancing disaster preparedness for effective response, and promoting "Build Back Better" in recovery, rehabilitation and reconstruction

Objective 1.3.g: By the end of 2018, strengthen international cooperation between developed and developing countries in applying new science and technologies and improvements to current systems, linking up with local practice and knowledge, focused on "Build Back Better".

0%   100%

30% (10/17)

0% (03/16; 10/16; 04/17)

CHAMPION

International Centre for Water Hazard and Risk Management (ICHARM)

Contact: Tetsuya Ikeda

CORE GROUP MEMBERS

- Action Contre la Faim (ACF)
- Alliance for Global Water Adaptation (AGWA)
- Alterra Wageningen University and Research Centre
- American Society of Civil Engineers, Environmental and Water Resources Institute, International Participation Committee (ASCE-EWRI-IPC)
- Deltares
- Korea Institute of Construction Technology (KICT) International Office for Water (IOWater)
- Ministry of Forestry and Water Affairs, Turkey
- Solidarités International
- UNESCO International Hydrological Programme (IHP)
- United Nations Economic Commission for Europe (UNECE)
- Water Resources Agency, Taiwan, China

1.4 Infrastructure for Sustainable Water Resource Management and Services

GOAL DESCRIPTION

Throughout the world, appropriate water infrastructure has been shown to reduce hunger and malnutrition, transform rural economies and create employment. Provided that the social and environmental dimensions of water infrastructure are taken into account, water infrastructure plays a vital role in strengthening water security and resilience in the face of climate change and population growth.

THEME LEVEL

ACTION LEVEL

March 2016

October 2016

April 2017

October 2017

Not executed   Ongoing   Completed

OVERALL PROGRESS

The COP22 in Marrakech, last November, has been a great occasion to advance the cause of water storage infrastructures as crucial tools both for the mitigation of and adaptation to climate change.

HIGHLIGHTS

- To help achieve Objective 1.4a, ICOLD and Aqua Media International organized a continental conference in Africa
- To help achieve Objective 1.4b, during COP22 in Marrakech, an important intervention was made by ICOLD 's Secretary-General to show how water storage infrastructures can help societies to adapt to, and to mitigate, climate change
- ICOLD organized with the Moroccan government a workshop devoted to "dams and climate change". This was a prelude to the Water Day organized during COP22
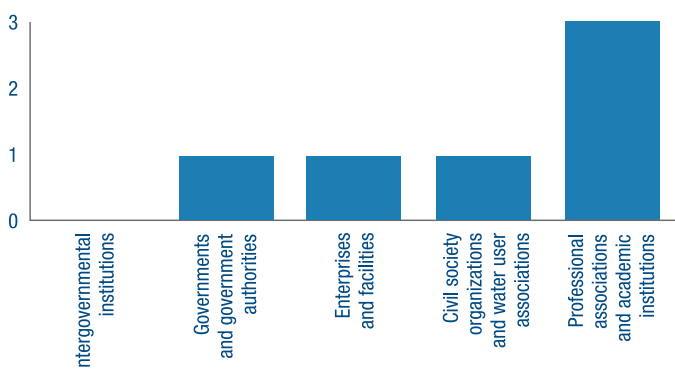
OBJECTIVE LEVEL

Objective 1.4.a: By 2018, establish targets in terms of per capita water storage, as an indicator of well-being and development. Translate those targets into a list of concrete projects, at regional and national levels.


0%   100%
90% (04/17; 10/17)
0% (03/16)   80% (10/16)

Objective 1.4.b: Convince the political leaders of world's nations of the need for water storage for sustainable human development.

0%   100%
0% (03/16)   55% (10/16) 75% (04/17; 10/17)
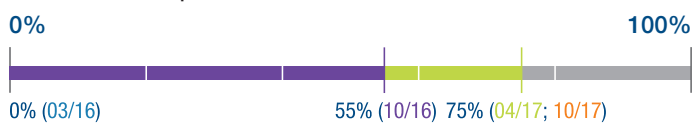
Objective 1.4.c: Establish a special international task force on the Future of Global Waterborne Transportation Infrastructure, Working Group (WG) 181, investigating the needs of waterborne infrastructure and the best practices to meet these.

0%   100%
0% (03/16)   100% (10/16; 04/17; 10/17)
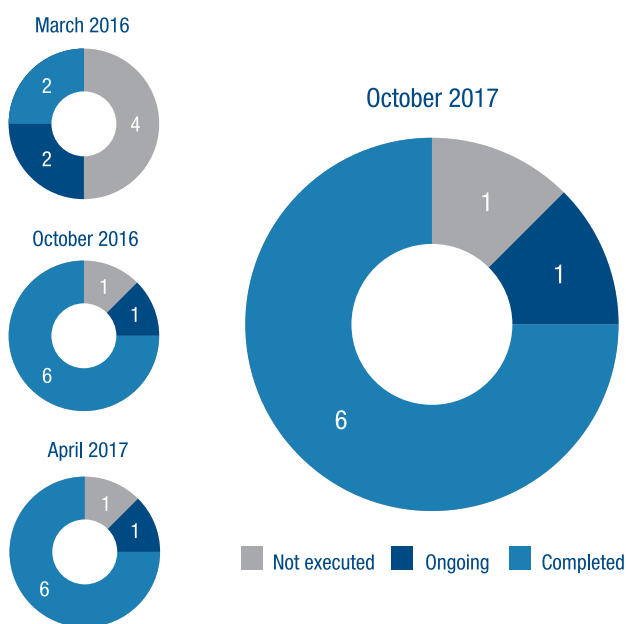
Objective 1.4.d: Develop an international program for the implementation of "adaptable" strategies for the management of ageing water infrastructures in which both developed and developing nations participate.

0%   100%

0% (03/16)   40% (10/16; 04/17; 10/17)

CHAMPION

International Commission on Large Dams (ICOLD)

Contacts: Emmanuel Grenier
Michel de Vivo

CORE GROUP MEMBERS

- American Society of Civil Engineers, Environmental and Water Resources Institute (ASCE-EWRI)

- Development Research Center, Ministry of Water Resources, China

- Federal Institute of Hydrology, Germany

- Korea Water Resources Corporation (K-water)

- Wetlands International

2.1 Water for Food

GOAL DESCRIPTION

Public policies and investments must help encourage private investments in technologies and management practices that enhance the sustainable production of crops, livestock and fish by both smallholders and larger scale producers. Public policy will need to effectively and urgently address the excessive use and degradation of water resources in key production regions that threaten the sustainability of livelihoods dependent on water and agriculture.

THEME LEVEL

ACTION LEVEL

March 2016 — 42

October 2016 — 5 / 40

April 2017 — 9 / 36

October 2017 — 22 / 23

Not executed · Ongoing · Completed

OVERALL PROGRESS

Many activities of theme 2.1 Water for Food are long-term projects to ensure that fundamental change is taking place, so that there will be enough water for food now and for future generations. Some of the key achievements during the past six months are listed here.

HIGHLIGHTS

- The Global Framework for Water Scarcity in Agriculture was officially launched at COP22 and has started operating in April 2017. It brings together key players across the globe and across sectors to tackle the collective challenge of using water better in agriculture to ensure food security for all. It is an initiative for partners from all fields and backgrounds to collaborate in supporting countries and stakeholders in their commitments and plans related to the 2030 Sustainable Development Agenda, the Paris Climate Agreement (including implementing nationally determined contributions) and other plans and programmes related to agriculture and water.
- The GEMI partners are making advances in setting up a coherent and unified monitoring framework for water and sanitation to monitor the SDGs and contribute to country progress through well-informed decision-making on water, based on harmonized, comprehensive, timely and accurate information.
- FAO launched a publicly-accessible near real-time database using satellite data that allows monitoring of agricultural water productivity. Capacity development activities are being carried out to enhance capacities in countries to use this database.
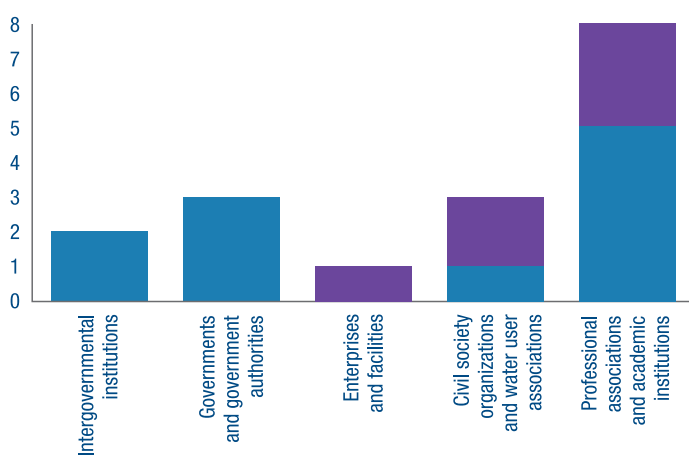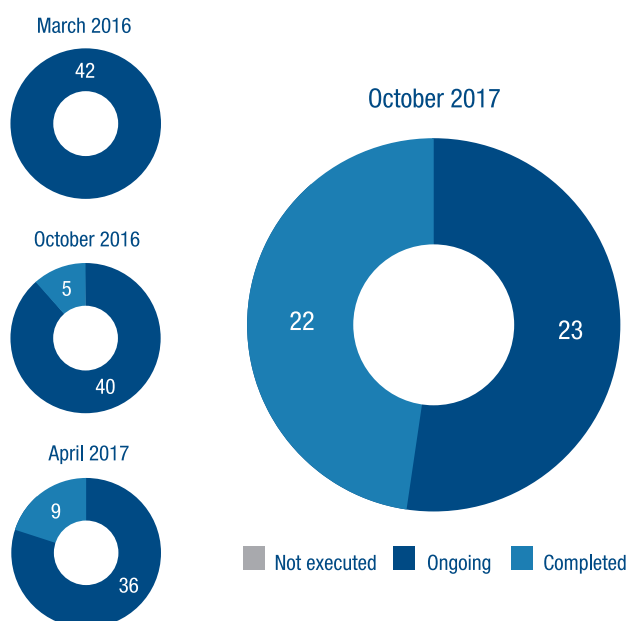
OBJECTIVE LEVEL
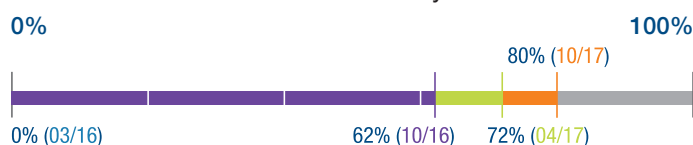
Key Focus Area: Best available technology to make efficient use of water in agriculture

Objective 2.1.a: By 2030, substantially increase water-use efficiency and ensure sustainable withdrawals of freshwater to address water scarcity.

0%　　　　　　　　　　　　　　　　　100%

80% (10/17)

0% (03/16)　　　62% (10/16)　　72% (04/17)

Objective 2.1.b: By 2030, substantially increase agricultural water productivity and the incomes of small- and medium-scale food producers.

0%　　　　　　　　　　　　　　　　　100%

60% (10/17)

0% (03/16)　　37% (10/16)　　45% (04/17)
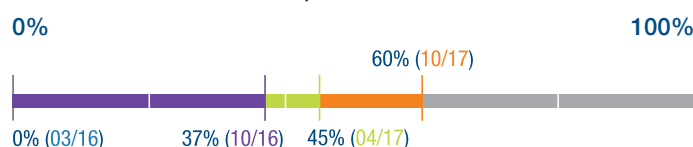
Key Focus Area: Water quality management for agriculture and environment

Objective 2.1.c: By 2030, improve water quality by reducing pollution and minimizing the release of hazardous agro-chemicals, halving the proportion of untreated wastewater and increasing recycling and safe reuse.

0%   100%

0% (03/16)   100% (10/16; 04/17; 10/17)

Objective 2.1.d: By 2030, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes.

0%   100%

0% (03/16)   20% (10/16; 04/17; 10/17)

Key Focus Area: Modernization of irrigation schemes

Objective 2.1.e: By 2030, implement modernization plans for large-scale irrigation schemes taking into consideration the multiple uses of water.

0%   100%

0% (03/16)   39% (10/16)   45% (04/17)   75% (10/17)
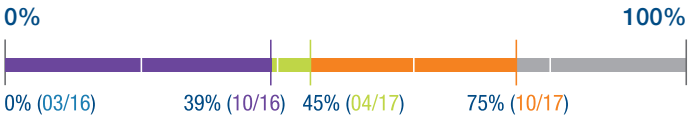
Key Focus Area: Adapt to changing environmental circumstances to increase sustainability

Objective 2.1.f: By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, help maintain ecosystems, and that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters.

0%   100%

0% (03/16) 26% (10/16) 33% (04/17)   71% (10/17)
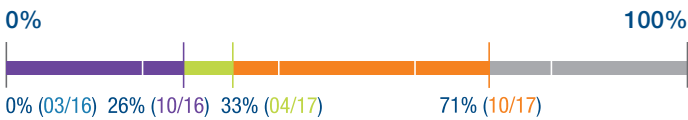
Key Focus Area: Increase farmers' capacities in water use for agriculture

Objective 2.1.g: By 2030, expand capacity-building support to developing countries in water-related activities and programs, including irrigation, water harvesting, desalination, water productivity, wastewater treatment, recycling and reuse technologies.

0%   100%

75% (10/17)

0% (03/16)   60% (10/16) 70% (04/17)
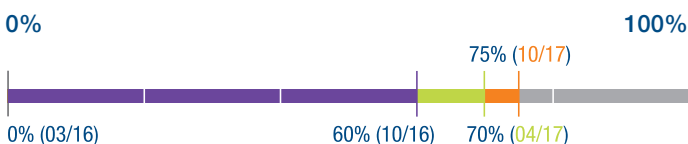
Key Focus Area: Governance and policies to manage transitions in water use for agriculture

Objective 2.1.h: By 2030, reduce hunger and ensure improved access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round, by increasing incomes originating from new opportunities in off-farm employment.

0%   100%

0% (03/16)   51% (10/16; 04/17) 60% (10/16; 10/17)
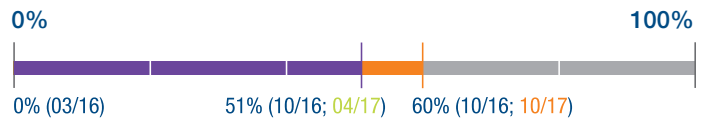
CHAMPION

Food and Agriculture Organization of the United Nations (FAO)

Contact: Olcay Ünver

CORE GROUP MEMBERS

- Global Water Initiative (GWI)

- International Commission on Irrigation and Drainage (ICID)
- International Food Policy Research Institute (IFPRI)
- Korean Rural Community Corporation (KRC)
- University of Nebraska Water for Food Institute (WFI)

OTHER STAKEHOLDERS

- International Water Management Institute (IWMI)
- Ministry of Development GAP Administration Turkey
- International Society of Paddy and Water Environment Engineering (PAWEES)
- State Hydraulic Works (DSI) of Turkey
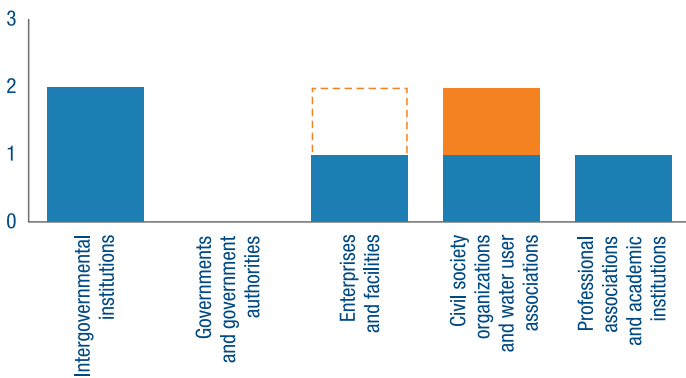
2.2. Water for Energy

GOAL DESCRIPTION

Ensuring water security while managing the world's rapidly growing demand for energy is a major challenge. Better integration of water and energy policies can help to balance these competing demands, in addition to increased efficiency, better supply and demand management, and harmonization between sectors.

THEME LEVEL

ACTION LEVEL

March 2016

October 2016

April 2017

October 2017

■ Not executed ■ Ongoing ■ Completed

OVERALL PROGRESS

Cross-sectoral cooperation, communication, data sharing and technical approaches are needed to maximize the synergies and avoid trade-offs across the water–energy nexus. There are a number of tools and guidance available from the focus areas that can be used to identify how to effectively assess, plan and improve water and energy efficiency across sectors. Putting these approaches into action to reach the objectives is an ongoing process.

HIGHLIGHTS

- The Water for Energy Framework is a framework on the evaluation and reporting of the energy impacts on water.
- The EDF–WWC publication *Sharing the water uses of multi-purpose hydropower reservoirs: the SHARE concept*.
- The Energy Performance and Carbon Emissions Assessment and Monitoring (ECAM) tool is a free web-based tool that is designed for assessing the carbon emissions that utilities can control within the urban water cycle and preparing these utilities for future reporting needs on climate mitigation.
- The Catalogue of Solutions looks at critical points of intervention across the full water cycle to reduce GHG emissions. It provides utilities with practical knowledge and information to identify locally-tailored solutions.
- The report *Nexus trade-offs and strategies for addressing the water, agriculture and energy security nexus in Africa* outlines a roadmap towards nexus solutions in a typical African transboundary river basin, including identifying possible regional solutions to local problems and understanding the institutional capacity and the gaps to reach implementation. This provides an overview of where investment can be focused.
- The Nexus Dialogue on Water Infrastructure Solutions is a completed dialogue process that has inspired other dialogue processes (UNECE, EU, CEPAL) to explore and shape investment pathways in water–energy (and food) nexus projects, while aligning with development priorities.
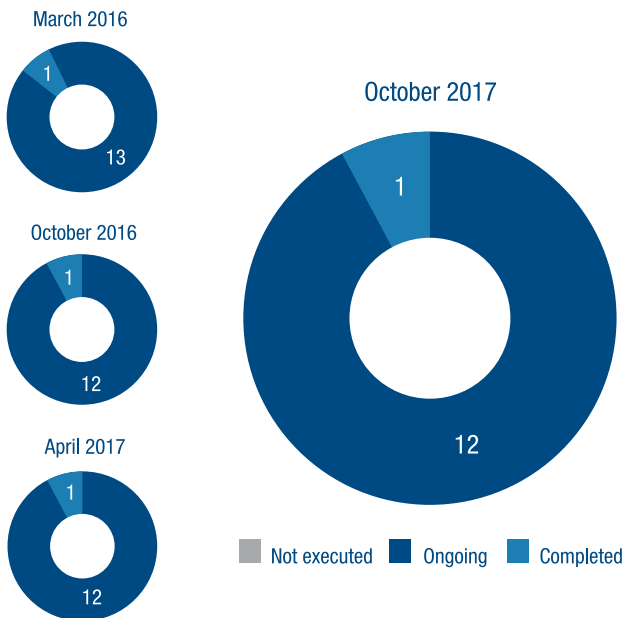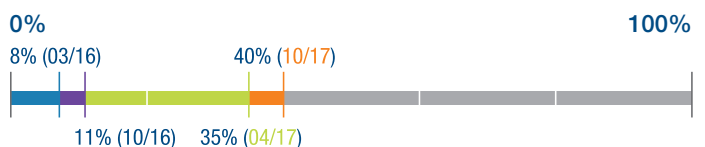
OBJECTIVE LEVEL

Key Focus Area: Energy efficiency in water systems

Objective 2.2.a: Improve efficiency across the whole water cycle, moving away from a sub-systems perspective to a holistic approach.

0%   100%

8% (03/16)   40% (10/17)

11% (10/16)   35% (04/17)

Key Focus Area: Impact of energy production on water

Objective 2.2.b: Improve water efficiency in the energy sector to enhance water allocation to other uses, such as the manufacturing industry and agriculture and domestic withdrawals, as well as the environment.

0%   100%

15% (10/17)

10% (03/16; 10/16; 04/17)

Key Focus Area: Policy and financial incentives for improved water and energy sustainability

Objective 2.2.c: Increase awareness and develop economic and policy incentives which maximize benefits and minimize trade-offs across the water–energy (and food) nexus.

0%   100%

40% (10/17)

35% (03/16; 10/16; 04/17)
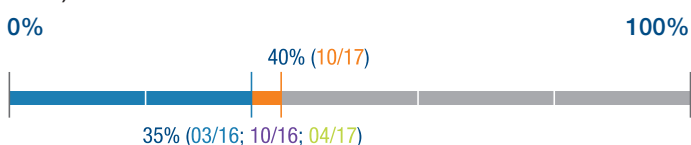
Key Focus Area: Multipurpose energy infrastructure

Objective 2.2.d: Improve the design and operation of multipurpose energy infrastructure to serve beyond electricity generation for one or more other purposes (water quantity and quality management, environmental issues, improved human services and regional development).

0%   100%

10% (03/16)   20% (10/17)

0% (10/16; 04/17)

Key Focus Area: Decentralized (off-grid) solutions

Objective 2.2.e: Improved access to water and sanitation as well as energy in remote and economically challenged areas.

0%   100%

0% (03/16)

10% (10/16; 04/17; 10/17)

CHAMPION

International Water Association (IWA)

Contact: Katharine Cross

CORE GROUP MEMBERS

- Eléctricité de France (EDF)
- Itaipu Binacional
- The World Bank

- United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP)
- World Wide Fund for Nature (WWF)

OTHER STAKEHOLDERS

- Arup
- Asian Development Bank
- China Institute of Water Resources and Hydropower Research
- Conagua
- CRC for Water Sensitive Cities
- Electriciens Sans Frontières (Electricians without borders)
- Freshwater Action Network
- German Development Cooperation
- Global Energy Initiative
- International Hydropower Association
- International Union for Conservation of Nature (IUCN)
- International Water Management Institute
- ISRBC Secretariat
- Itaipu
- K-water
- Ministry of Energy and Water Resources of Tajikistan
- Nepal Water Conservation Foundation
- SE4ALL
- Shell
- Suez Environnement
- UN Environment Programme (UNEP)
- United Nations Economic Commission for Europe (UNECE)
- Veolia
- Wetlands International
- World Energy Council
- World Youth Parliament for Water
- Water Footprint Network

# 2.3 Water and Cities

GOAL DESCRIPTION

In light of continued urban growth, the goal is to provide water security for cities by embracing an urban agenda that fosters inclusive, healthy, livable, risk-resilient and sustainable cities. This agenda looks beyond water as a service and recognizes how water shapes urban landscapes. It is regenerative, aiming to reduce, reuse, recover, recycle and replenish water, nutrients and energy within the city. Finally, it requires integration between different sectors and scales within the urban landscape and the basin.

THEME LEVEL

ACTION LEVEL

March 2016
19

October 2016
1
19

April 2017
2
10

October 2017
4
8

Not executed   Ongoing   Completed

OVERALL PROGRESS

Progress has been made in the past six months in disseminating tools and developing capacity for implementing water-wise approaches. The Embrace the Water Conference held in Gothenburg, Sweden, in June was an important dedicated event that built awareness and capacity among planners, regulators and operators for transitioning to more integrated approaches. IWA-Connect's Platform for Cities also expanded during this period as a forum for capacity development and tool sharing.

In addition to Gothenburg, events at the Stockholm World Water Week and the UN-Habitat Governing Council showcased and helped disseminate knowledge products in support of water-wise cities. Meanwhile, coordination continued among member organizations to establish stable foundations for the Urban Waters Hub, launched during Habitat III.
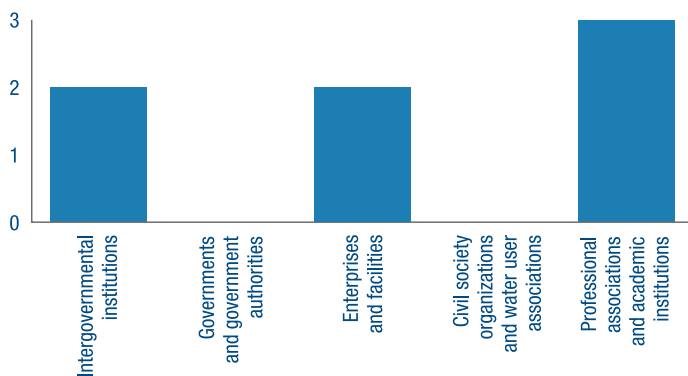
HIGHLIGHTS

- Embrace the Water Conference held in Gothenburg
- Stockholm World Water Week Urban Seminar

OBJECTIVE LEVEL

Key Focus Area: Vision and leadership

Objective 2.3.a: Foster a sustainable urban water vision and leadership.

0%   100%

25% (10/16)   75% (04/17; 10/17)

Key Focus Area: Governance for integration of services and scales

Objective 2.3.b: Foster a sound governance to support the implementation of sustainable urban water.
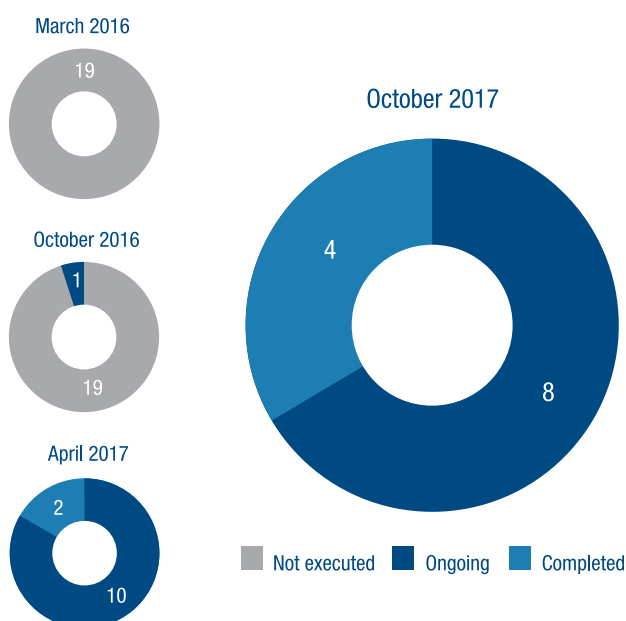
0%   100%

25% (10/16; 04/17; 10/17)

Key Focus Area: Capacity building

Objective 2.3.c: Build the capacity of urban professionals to implement sustainable water solutions.

0%   100%

25% (10/16; 04/17)   50% (10/17)
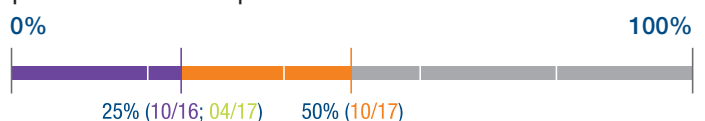
Key Focus Area: Tools for planning and decision making

Objective 2.3.d: Promote the uptake of knowledge resources that enable cities to plan and make decisions and implement programs that best embrace the Principles for Water-Wise Cities for a healthy, livable and risk-resilient city, maximizing the benefits of cross-sector synergies.

0%   100%

0% (03/16; 10/16)   25% (04/17)   50% (10/17)
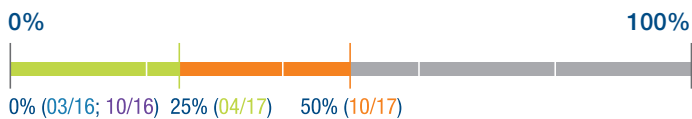
CHAMPIONS

UN Habitat

Contact: Andre Dzikus

International Water Association (IWA)

Contact: Kala Vairavamoorthy

CORE GROUP MEMBERS

- Asian Development Bank (ADB)

- Cooperative Research Centres, Australia

- Korea Land and Housing Institute

- Nairobi City Water and Sewerage Company

- United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP)

- United Cities and Local Governments (UCLG)

- Veolia Environnement

OTHER STAKEHOLDERS

- Urban Waters Hub

3.1 Green Growth, Water Stewardship and Industry

GOAL DESCRIPTION

"Growing first, and cleaning up later" is no longer a viable option for sustainable development. Growing concerns on population projections, rapid urbanization and unpredictable climate change will put water at a greater risk. In such regard, green growth has emerged as a new development strategy to respond to an unsustainable business-as-usual approach. And, it becomes more necessary for major water users to understand their water use and impacts. Theme 3.1 aims to manage water for green growth with different tools and actions, and raise awareness of water users on the importance of socially and economically beneficial water use. It explores effective policies, fosters the long-term engagement of a variety of stakeholders in water management and recognizes the economic value of water.
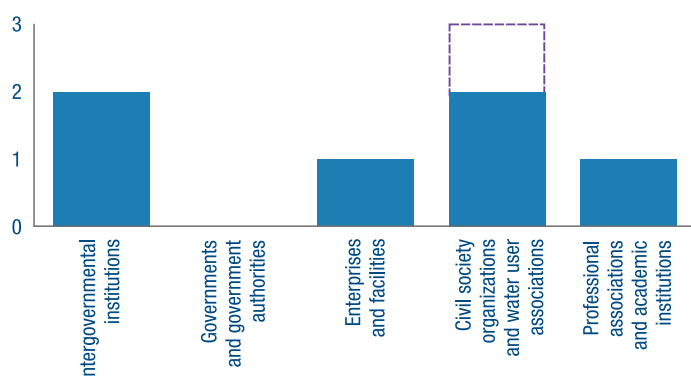
OVERALL PROGRESS

Theme 3.1 has focused on providing policy guidelines for "Water and Green Growth (WGG)" to put emphasis on water as an economic value to secure freshwater for ecosystem services and foster the long-term engagement of stakeholders. Also, it encourages the incentivization of the water industry sector to implement green and sustainable best practices more widely.

To provide more concrete policy guidelines, after the 7th World Water Forum, a follow-up research project on WGG has been carried out since 2016. To demonstrate the effectiveness of Green Growth, five case studies have been completed as of January 2017 and two more case studies have been conducted since February 2017. For policy changes towards sustainable development, another joint research project which explains how Smart Water Management, as a technologically innovative tool, has been conducted with the cooperation of the World Water Council and the International Water Resources Association (IWRA).
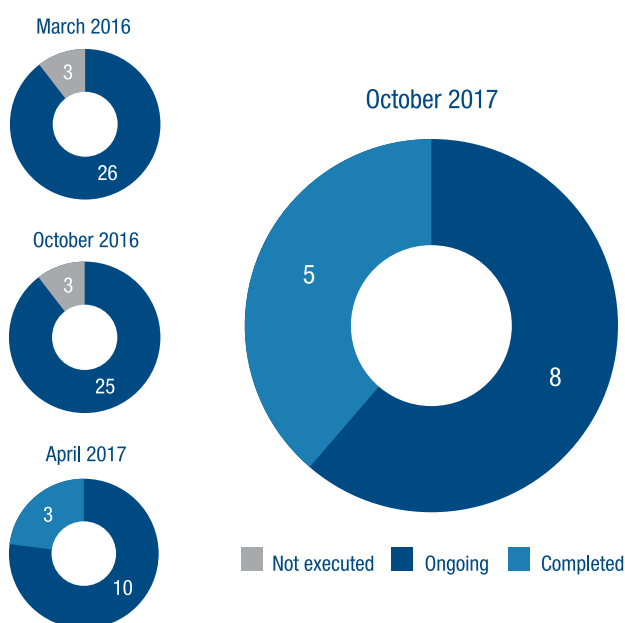
In terms of the involvement of stakeholders, several examples of good governance were found during the WGG research. Efforts to promote WGG as a good strategy for SDGs were presented at various international water events: Asian and Korea International Water Week, World Water Congress and Stockholm World Water Week. As well, the broad range of stakeholders' engagement increases the necessity for the private sector's collaboration with governments, other businesses, NGOs, communities, and others in order to protect shared freshwater resources and foster green and sustainable development.

Lastly, for sustainable business development, best practices and knowledge have been shared between countries. For example, the Water Academy, established by K-water and the Korea International Cooperation Agency (KOICA), and the Green Growth Knowledge Platform have been used for widespread collaboration. Also, ways to improve awareness on the role of water through public campaigns were documented.

THEME LEVEL

ACTION LEVEL

March 2016: 3, 26

October 2016: 3, 25

April 2017: 3, 10

October 2017: 5, 8

Not executed — Ongoing — Completed

OBJECTIVE LEVEL

Key Focus Area: Policy coherence

Objective 3.1.a: By 2018, elaborate the policy guideline, published at the 7th World Water Forum, and provide a policy guideline and roadmap enabling green growth with a time frame.

0% — 100%

5% (03/16) 15% (10/16) 70% (04/17) 90% (10/17)

Objective 3.1.b: By 2018, encourage all levels of government to make policy changes for restoring ecosystem services and a circular economy.

0%   100%

7% (03/16)

12% (10/16)   70% (04/17) 82% (10/17)

Key Focus Area: Involvement of stakeholders

Objective 3.1.c: By 2018, institute an appropriate legal and institutional framework for the participation of all levels of stakeholders in water management.
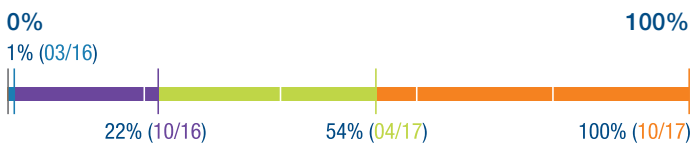
0%   100%

2% (03/16)

11% (10/16)   66% (04/17) 83% (10/17)
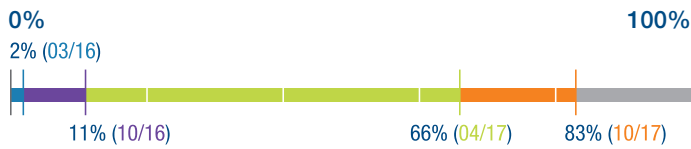
Key Focus Area: Sustainable business models

Objective 3.1.d: By 2018, find sustainable business cases and best practices for a sustainable economy to overcome a silo approach to water management.

0%   100%

7% (03/16)   20% (10/16)   83% (04/17; 10/17)

Objective 3.1.e: By 2018, increase awareness on the role of water in sustainable business models.

0%   100%

1% (03/16)

22% (10/16)   54% (04/17)   100% (10/17)

CHAMPION

Korea Water Resources Corporation (K-water)

**Contacts: Namsoo Lee
Juhee Jeung
Ahleum Lee**

CORE GROUP MEMBERS

- **Alliance for Water Stewardship (AWS)**

- **United Nations Economic and Social Commission for Asia Pacific (UNESCAP)**

- **United Nations Environment Programme (UNEP)**

- **World Business Council for Sustainable Development (WBCSD)**

- **World Wide Fund for Nature (WWF)**

3.2 Managing and Restoring Ecosystems for Water Services and Biodiversity

GOAL DESCRIPTION

Nature forms a vital component of the water cycle, including critical benefits from water storage, filtration and risk reduction. Degrading ecosystems damage the delivery of water services to people. Hence, there are vital opportunities to improve both the sustainability of water services and the conservation of biodiversity by restoring watersheds, wetlands or rivers, as well as by using nature in engineering designs.

THEME LEVEL

ACTION LEVEL

March 2016: 7, 6

October 2016: 2, 2, 13

April 2017: 2, 2, 13

October 2017: 2, 2, 13

Not executed | Ongoing | Completed

OBJECTIVE LEVEL

Key Focus Area: Address the "drivers of change" affecting wetlands and the availability and abundance of wetlands

Objective 3.2.a: Promote and support integrated water resource planning and management at a river basin level, incorporating an ecosystem services approach.

0% — 100%

0% (03/16) — 90% (10/16; 04/17; 10/17)

Objective 3.2.b: As a priority, raise awareness amongst Contracting Parties about the Convention's mechanisms to address threats to Ramsar sites that are at risk of losing their fundamental ecological character.

0% — 100%

0% (03/16) — 41% (10/16; 04/17; 10/17)

Objective 3.2.c: As a priority, increase water-use efficiency in agriculture.

0% — 100%

0% (03/16) — 31% (10/16; 04/17; 10/17)

Key Focus Area: Based on experience and clear science, identify important locations around the world in which to take action and opportunities for doing so

Objective 3.2.d: Use earth observation and citizen science to monitor wetlands and identify locations in which to create benefits for society through management and/or restoration interventions.

0% — 100%

0% (03/16) — 70% (10/16; 04/17; 10/17)
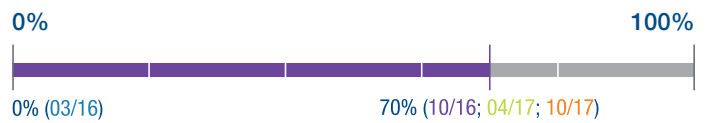
Objective 3.2.e: Increase knowledge of the solutions and technologies emerging from the discipline of "eco-hydrology".

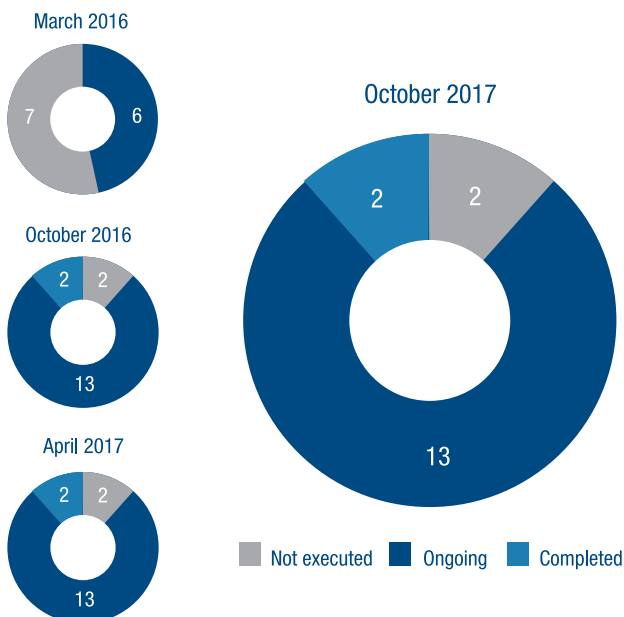0% — 100%

0% (03/16) — 30% (10/16; 04/17; 10/17)
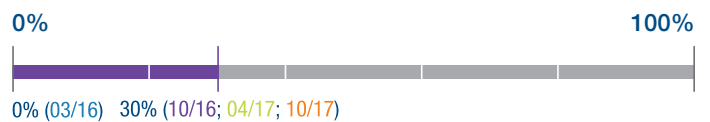
Objective 3.2.f: Develop case studies to increase appreciation of the central role that wetland ecosystems play in supporting civilizations, including by supporting livelihoods, reducing risks from natural disasters and supporting people's enjoyment of recreation and leisure.

0% — 100%

0% (03/16) — 60% (10/16; 04/17; 10/17)
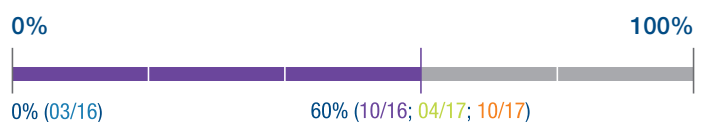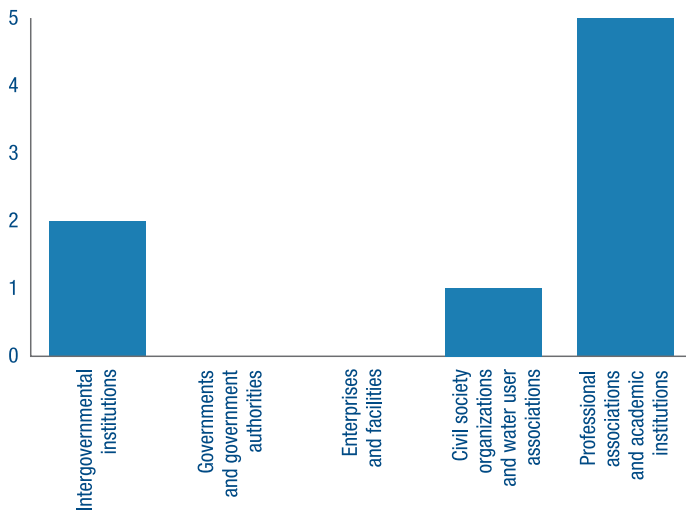
Key Focus Area: Develop action plans to better manage and restore wetland ecosystems

Objective 3.2.g: Establish national integrated water resources management (IWRM) plans and wetlands policies that adhere to the Ramsar Convention's "wise use" guidance.

0%   100%

0% (03/16)   40% (10/16; 04/17; 10/17)

Objective 3.2.h: Support and contribute to efforts at all levels to protect, manage and restore wetlands, with priority given to those that provide significant and/or multiple benefits.

0%   100%

0% (03/16)   25% (10/16; 04/17; 10/17)

CHAMPION

Ramsar Convention Secretariat

Contact: Ramsar Convention Secretariat

CORE GROUP MEMBERS

- **Association Scientifique et Technique pour l'Eau et l'Environnement (ASTEE)**

- **Development Research Center, Ministry of Water Resources, China**

- **European Regional Centre for Ecohydrology, Poland**

- **International Union for Conservation of Nature (IUCN)**

- **National Institute of Environmental Research (NIER)**

- **UNESCO International Hydrological Programme (IHP)**

- **World Wide Fund for Nature (WWF)**

3.3 Ensuring Water Quality from Ridge to Reef

GOAL DESCRIPTION

Water quality is a crucial consideration for efficient water resources management. With increasing pressures on available resources, water quality management is increasingly seen as essential for a more balanced and multidimensional approach to the research, policy making, governance, operations and management of water resources. In order to improve water security, water quality management must improve. This is particularly evident in situations where water quality degradation or the inappropriate use of water is responsible for reducing the quantity of water available for the various uses it is needed for.

OVERALL PROGRESS

IWRA and the S2S Platform are collaborating to host a Special Session at the XVI World Water Congress on Water Quality, bringing together a number of international actors working on the governance and management of water quality. This congress, planned for 29 May to 3 June 2017, is a key milestone on the road to the 8th World Water Forum in Brasilia and IWRA is working to continue its champion role at the 8th World Water Forum.

IWRA and KEI attended the 2016 Korea International Water Week and participated in the Roadmap Stakeholder meeting to discuss the evolution of the Implementation Roadmaps as the Thematic Process of the 8th World Water Forum continues.

THEME LEVEL
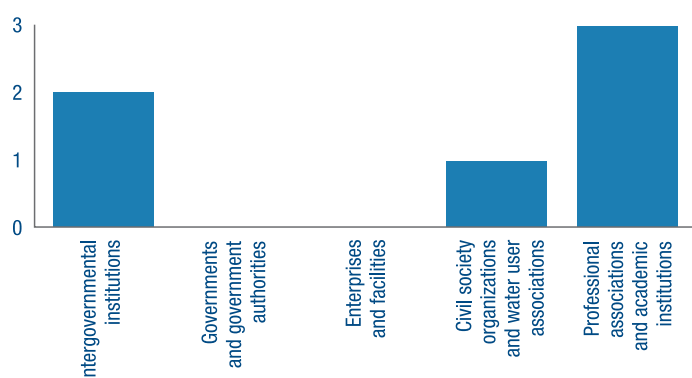
HIGHLIGHTS

- The Compendium on Water Quality has been modified, supplemented and extended by the IWRA team; after editorial committee review, it will be ready for publication
- For the purpose of informing the XVI World Water Congress, the IWRA and the S2S Platform, two core members of the Theme 3.3 are preparing a session on water quality in Cancun, alongside other organizations like the Organisation for Economic Co-operation and Development, the International Maritime Organization, the United Nations Educational, Scientific and Cultural Organization and the International Union for the Conservation of Nature

ACTION LEVEL

March 2016

October 2017

October 2016

April 2017

Not executed   Ongoing   Completed
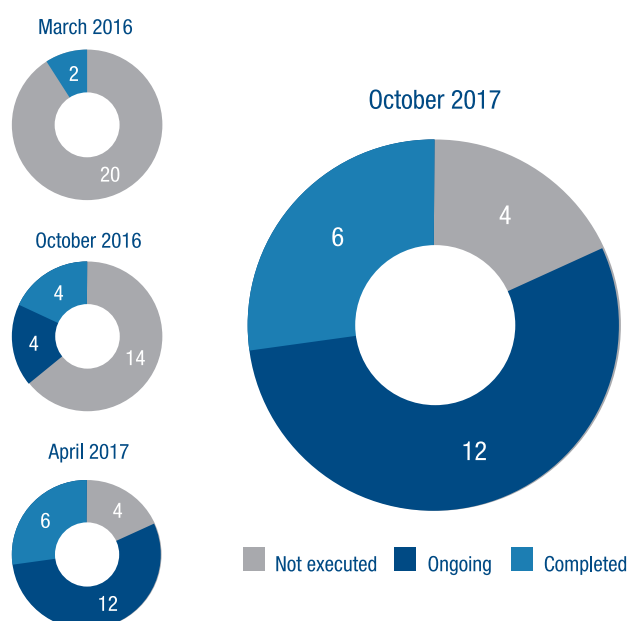
OBJECTIVE LEVEL

Key Focus Area: Using water smarter to contribute to water security

Objective 2.3.a: Within a context of global changes and limited water resources, contribute to ensuring the availability of water resources in accordance with the different water uses and their associated water quality needs.

0%   100%

16% (03/16; 10/16; 04/17; 10/17)
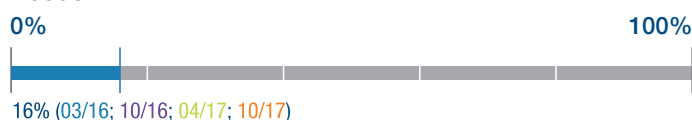
Key Focus Area: Monitoring and reporting of water quality

Objective 3.3.b: Provide enormous opportunities to bring about a data revolution in sustainable development (goals), and support national governments and non-governmental and civil society organizations in improving water quality monitoring and reporting. It is crucial to gather and distribute good quality, credible water-quality data.

0%   100%

0% (03/16; 10/16; 04/17; 10/17)

Key Focus Area: Strengthening frameworks for governing and managing water quality

Objective 3.3.c: Improve data collection and information exchange on water quality in the different regions of the world and among countries. Use the tools of international organizations to gather policy information on water quality and expand perspectives on water quality. Use existing partnerships and develop new ones to share knowledge and web-based databases to enhance regional cooperation.

0%   100%

0% (03/16; 10/16)   51% (04/17; 10/17)
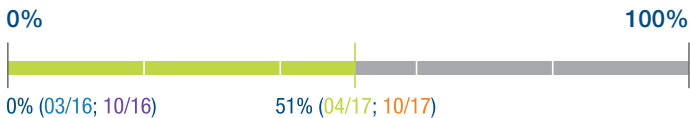
Key Focus Area: Sustainable wastewater management and reuse

Objective 3.3.d: Promote wastewater as a resource of water and nutrients. Showcase that it is possible to manage wastewater in an environmentally and economically feasible way by identifying and promoting best practices, policies and financial mechanisms. Furthermore, help to put the Sustainable Development Goals (SDG 6.3) into practice.

0%   100%
0% (03/16)

11% (10/16)   28% (04/17; 10/17)
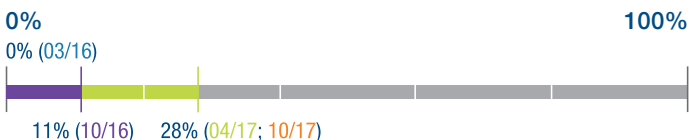
Key Focus Area: Managing sources for coastal and marine water quality improvements

Objective 3.3.e: Contribute to the enhanced sustainability of investments in the land–river–coast–sea continuum, including water quality management initiatives. Increase collaboration, knowledge sharing, innovation and action to address the links between land, water and coastal areas.

0%   100%

0% (03/16; 10/16)   38% (04/17; 10/17)

CHAMPION

International Water Resources Association (IWRA)

Contact: Callum Clench

CORE GROUP MEMBERS

■ Action Platform for Source to Sea Management (S2S Platform)

■ Korean Environment Institute (KEI)

■ Netherlands Water Partnership (NWP)

■ Texas A&M University, School of Law (TAMU)

■ Turkish Water Institute (SUEN)

■ United Nations Environment Programme (UNEP)

3.4 SMART Implementation of IWRM

GOAL DESCRIPTION

When we consider the multiple uses of water, be it for food and energy, industry and environment, or inland navigation and recreation, an integrated management approach is necessary to balance supply and demand. But how is achieving that balance implemented in practice, while safeguarding the sustainability of surface and groundwater sources?

THEME LEVEL

ACTION LEVEL

March 2016
1

October 2016
1

April 2017
2 4
4

October 2017
2
4 4

■ Not executed   ■ Ongoing   ■ Completed

OVERALL PROGRESS

During the last six months, a number of activities related to the Implementation Roadmap for the SMART Implementation of IWRM have been implemented. The Champion organizations as well as Core Group members of the Implementation Roadmap for Theme 3.4 have initiated efforts in both an *ad hoc* and programmatic manner.

Since February 2017, the group has almost completed the three objectives set, leaving less than 10% remaining. In particular, in addition to the publication component and the organization of various fora, tools such as the IHP-WINS have been developed to facilitate the implementation of IWRM at national level. The exchange of case studies is ongoing through the GWP IWRM Tool Box. The linking and sharing of responsibility of other sectors in IWRM has been promoted via presentations and publications.

In addition to the support provided by the Core Group as part of the WWC IWRM Task Force, efforts were made to support the successful implementation of SDG 6, especially on issues of transboundary cooperation (target 6.5.2).

The Implementation Roadmap 3.4 Champions and Core Group members will continue to work promoting IWRM to facilitate its implementation and help achieve sustainable water resources management.
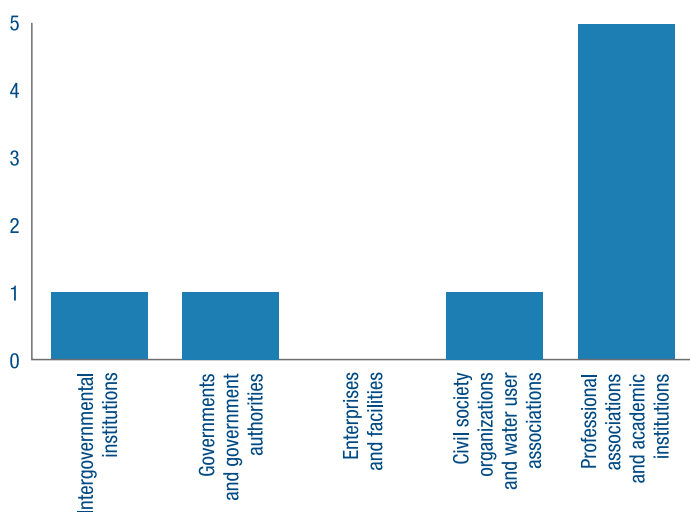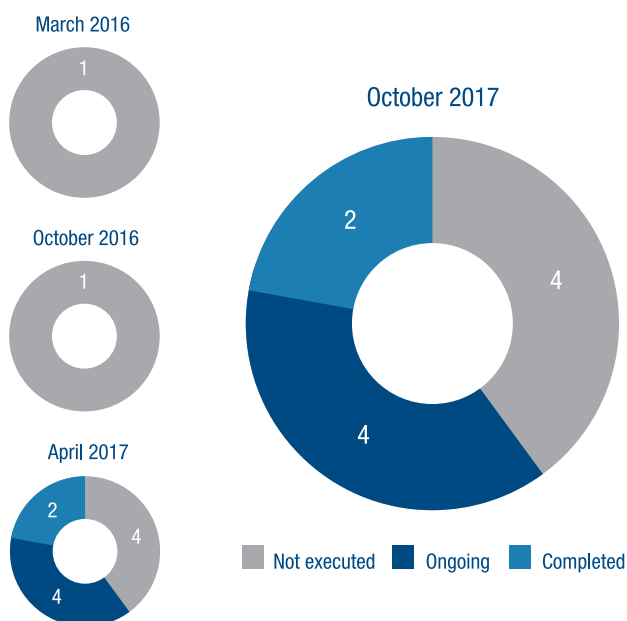
## HIGHLIGHTS

- GWP publication "Selecting Measures and Designing Strategies for Integrated Flood Management"
- UNESCO series on IWRM
- New and updated tailored key political messages that will trigger the rethinking of IWRM to galvanize the required political support for action on SDG6, particularly SDG 6.5, as well as other water-related targets
- Support for UN-wide efforts in implementing SDG 6.5.2
- Developed tools for support for countries to implement IWRM
- GWP works with UNEP-DHI on aiding countries in the completion of questionnaires to report on SDG 6.5.1 (IWRM) for the High Level Political Forum (HLPF)

Key Focus Area: IWRM for sustainable water resources management

Objective 3.4.a: By 2018, promote/support initiatives designed to incorporate relevant policies and scientific issues through cross-cutting approaches on water management for the implementation of IWRM.

0%   100%

40% (04/17)   80% (10/17)
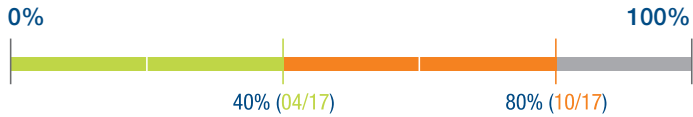
Objective 3.4.b: By 2018, support knowledge generation on IWRM aspects at all levels.

0%   100%

40% (04/17)   80% (10/17)
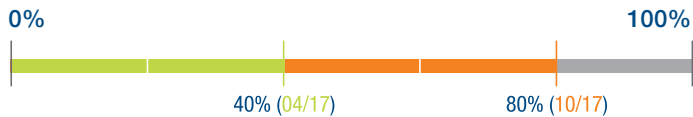
Objective 3.4.c: By 2018, promote/support knowledge transfer via the training of human resources.

0%   100%

40% (04/17; 10/17)

CHAMPIONS

United Nations Educational, Scientific and Cultural Organization

UNESCO International Hydrological Programme (IHP)

Contact: Alexandros Makarigakis

Global Water Partnership (GWP)

Contact: Rudolph Cleveringa

CORE GROUP MEMBERS

■ **American Water Resources Association (AWRA)**

■ **Department of Water Affairs and Forestry (DWAF), South Africa**

■ **Korea Water Resources Association (KWRA)**

■ **Network of Asian River Basin Organizations (NARBO)**

4.1 Economics and Financing for Innovative Investments

GOAL DESCRIPTION

Investment needs for improvements in water, for both hard and soft measures, are increasingly daunting, while official development assistance (ODA) remains stagnant. But the heart of the issue is not simply about figures and amounts, but about improving flows and ensuring financial feasibility and viability for improvements. From this perspective, how will the Sustainable Development Goals be financed? What role can the private sector play?

THEME LEVEL

ACTION LEVEL

March 2016 — 14
October 2016 — 14
April 2017 — 14
October 2017 — 14

Not executed Ongoing Completed

OBJECTIVE LEVEL

Key Focus Area: To ensure that adequate financial provision is made to achieve the global goal of water security

Objective 4.1.a: Capture the benefits of ecosystems for water resources and services in economic and financial terms in order to generate finance for their preservation and enhancement. Specifically, to increase the numbers and range of payments for environmental services (PES) and green infrastructure (GI) projects in all regions, to develop an agreed methodology and criteria for PES and GI projects and to involve private and other non-governmental partners in these schemes.

0%   100%

0% (03/16; 10/16; 04/17; 10/17)

Objective 4.1.b: Using performance-based contracts (PBCs) and other forms of results-based contracting to create incentives for contractors to achieve cost efficiencies, timely deliveries or enhanced benefits of other kinds. Specifically, to increase the numbers and range of PBCs in operation and to build a casebook of the implementation of value to potential public clients, contractors and regulators.

0%   100%

0% (03/16; 10/16; 04/17; 10/17)

Objective 4.1.c: Promote new financing and implementation mechanisms to extend access to water and sanitation services both in rural areas and in poorer districts of cities. Specifically, to examine the financial provision for small-scale water and sanitation service providers, the potential of microfinance and the use of other pro-poor techniques, such as prizes and solidarity systems.

0%   100%

0% (03/16; 10/16; 04/17; 10/17)

Objective 4.1.d: Present recent work on tracking financial flows into the water and sanitation sector and showcase innovative financial approaches. Specifically, finance models based on the enhanced value of land due for development and that facilitate access to local lending sources and the greater use of bankable business models adapted for the private sector.

0%   100%

0% (03/16; 10/16; 04/17; 10/17)
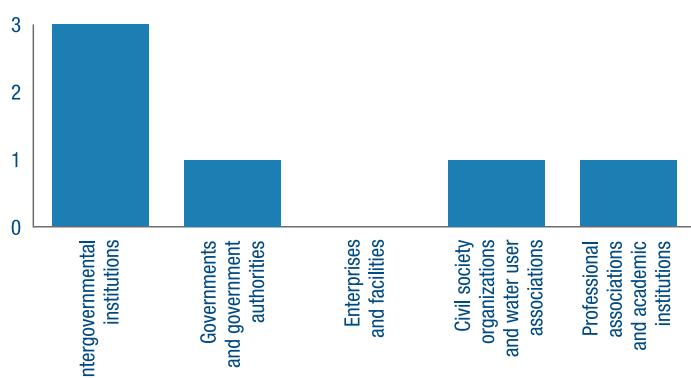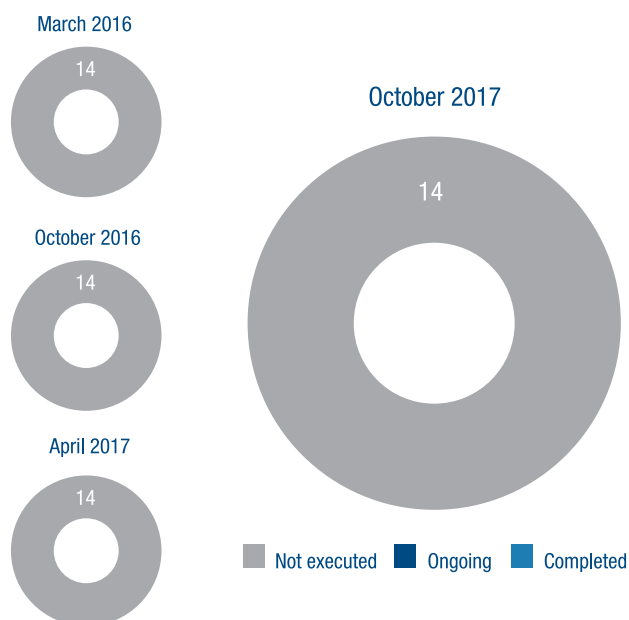
Objective 4.1.e: Present a crucial assessment of traditional means of financing agricultural water use. Present and assess experiences of the use of public–private partnerships (PPPs) in irrigation management, and consider other options for agricultural water finance. Specifically, use this evidence to assess the scope for PPPs in the finance of irrigation and, related to this, the scope for using water pricing as a management tool in this sector.

0%   100%

0% (03/16; 10/16; 04/17; 10/17)

Objective 4.1.f: Present different methods and sources of finance for water resources management, with case studies from specific countries, and consider the scope for making such practices more widespread.

0%   100%

0% (03/16; 10/16; 04/17; 10/17)

CHAMPION

Asian Development Bank (ADB)

Contact: Yasmin Siddiqi

CORE GROUP MEMBERS

- **Agence Française de Développement (AFD)**

- **Islamic Development Bank (IsDB)**

- **Korea Research Institute for Human Settlements (KRIHS)**

- **Secrétariat International de l'Eau - International Secretariat for Water (SIE-ISW)**

- **The World Bank**

4.2 Effective Governance: Enhanced Political Decisions, Stakeholder Participation and Technical Information

The international community now recognizes that the world's "water crisis" is largely a "governance crisis". Many solutions to water problems are well-known and exist. What is often at stake is their implementation. This is why Theme 4.2 aims to guide decision makers across levels of government to strengthen institutions' capacities in order to reap the economic, social and environmental benefits of good governance, to inform public debate and actions, and to contribute to facilitating change and reform where and when needed.

OVERALL PROGRESS

Since the close of the 7th World Water Forum, the OECD Water Governance Initiative (WGI) has been championing the Implementation Roadmap 4.2 on Effective Governance, in which 12 objectives echo the OECD Principles on Water Governance adopted in June 2015. Over 2015–2016, activities of the WGI have put a high premium on the implementation of the 12 objectives of Implementation Roadmap 4.2 across countries, basins and cities by:

■ Raising the profile of water governance in the global agenda (contribution to COP21 and 22, Habitat III, SDGs monitoring process, etc.)
■ Providing a platform to share experiences on water governance topics (organization of 50+ events, workshops and sessions on water governance over 2015–2017)
■ Producing new knowledge (publication of 30+ reports, publications and articles on various water governance topics)
■ Collecting and showcasing solutions (compilation of 200+ case studies, success stories, practices).

On the road to the 8th World Water Forum in Brasilia, the WGI is fully dedicated to deliver a framework of water governance indicators and a database of water governance practices that should further help in realizing the goal of Implementation Roadmap 4.2: guiding decision makers across levels of government to design and implement better policies that reap the economic, social and environmental benefits of good water governance.

THEME LEVEL

ACTION LEVEL

March 2016

October 2016

April 2017

October 2017

■ Not executed   ■ Ongoing   ■ Completed

HIGHLIGHTS

■ 180+ governments and major stakeholders have endorsed the OECD Principles on Water Governance and joined the Global Coalition for Good Water Governance
■ The 12 objectives of Implementation Roadmap 4.2 have been translated into 16 languages and widely disseminated around the world, at country, basin and city level
■ The 12 objectives of Implementation Roadmap 4.2 have received strong political support worldwide, with explicit mentions in the OECD Council Recommendation on Water and the Action Plan of the High-level Panel on Water, among others
■ The 12 objectives of Implementation Roadmap 4.2 have been referenced on a regular basis in water literature, projects and advocacy activities. These include: The 12 OECD Principles on Water Governance – when Science meets Policy; Stakeholder Engagement for Inclusive Water Governance: "Practicing What We Preach" with the OECD Water Governance Initiative; and Special Session at the IWRA XVI World Water Congress (29 May 2017, Cancun)
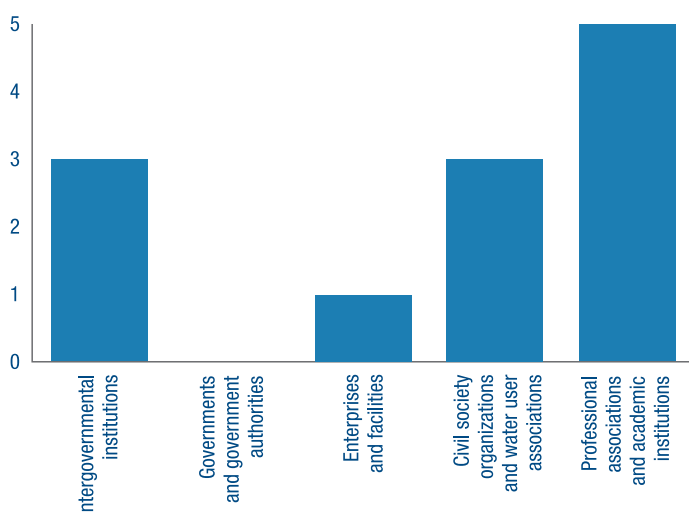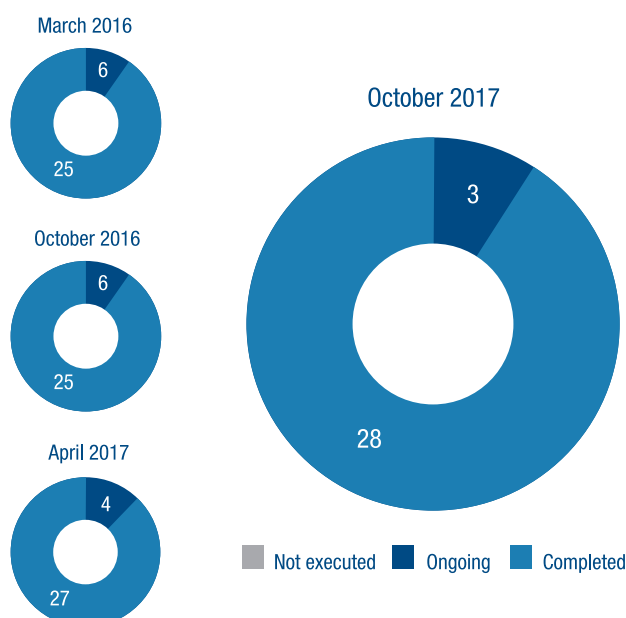
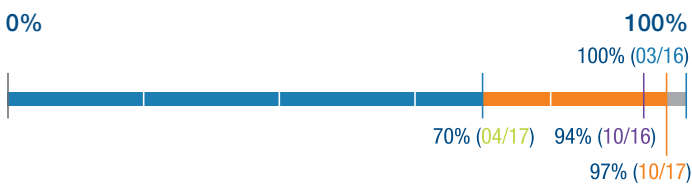## Key Focus Area: Effectiveness of water governance

Objective 4.2.a: By 2030, clearly allocate and distinguish roles and responsibilities for water policy making, policy implementation, operational management and regulation, and foster coordination across these responsible authorities.[1]

0%   100%

100% (03/16; 10/16)

75% (04/17)   93% (10/17)

Objective 4.2.b: By 2030, manage water at the appropriate scale(s) within integrated basin governance systems to reflect local conditions and foster coordination between the different scales.[1]

0%   100%

100% (03/16; 10/16; 10/17)

90% (04/17)

Objective 4.2.c: By 2030, encourage policy coherence through effective cross-sectoral coordination, especially between policies for water and the environment, health, energy, agriculture, industry, spatial planning and land use.[1]

0%   100%

100% (03/16)

70% (04/17)   94% (10/16)

97% (10/17)

Objective 4.2.d: By 2030, adapt the level of capacity of responsible authorities to the complexity of the water challenges to be met and to the set of competencies required to carry out their duties.

0%   100%

95% (10/17)

86% (03/16; 10/16; 04/17)

Key Focus Area: Efficiency of water governance

Objective 4.2.e: By 2030, produce, update and share timely, consistent, comparable and policy-relevant water and water-related data and information, and use it to guide, assess and improve water policy.[1]

0%   100%

93% (03/16)   98% (10/17)

83% (04/17)   86% (10/16)

Objective 4.2.f: By 2030, ensure that governance arrangements help mobilize water finance and allocate financial resources in an efficient, transparent and timely manner.

0%   100%

100% (03/16; 10/16; 04/17; 10/17)

Objective 4.2.g: By 2030, ensure that sound water management regulatory frameworks are effectively implemented and enforced in pursuit of the public interest.

0%   100%

100% (03/16; 10/16; 04/17; 10/17)
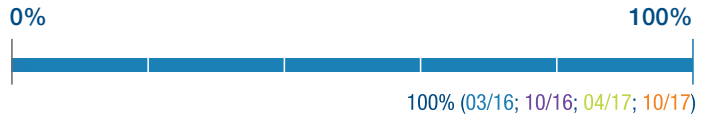
Objective 4.2.h: By 2030, promote the adoption and implementation of innovative water governance practices across responsible authorities, levels of government and relevant stakeholders.

0%   100%

100% (03/16; 10/16; 04/17; 10/17)
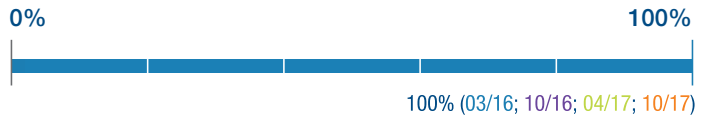
Key Focus Area: Trust and engagement in water governance

Objective 4.2.i: By 2030, mainstream integrity and transparency practices across water policies, water institutions and water governance frameworks for greater accountability and trust in decision making.[1]

0%   100%

92% (03/16; 10/16)

91% (04/17) 95% (10/17)

Objective 4.2.j: By 2030, promote stakeholder engagement for informed and outcome-oriented contributions to water policy design and implementation.[1]

0%   100%

83% (03/16)

60% (04/17) 75% (10/16) 98% (10/17)
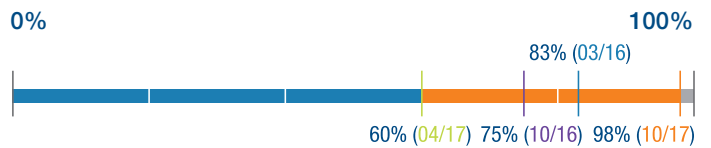
Objective 4.2.k: By 2030, encourage water governance frameworks that help manage trade-offs across water users, rural and urban areas, and generations.

0%   100%

91% (03/16; 10/16)

92% (04/17; 10/17)

Objective 4.2.l: By 2030, promote regular monitoring and evaluation of water policy and governance where appropriate, share the results with the public and make adjustments when needed.[1]

0%   100%

100% (03/16; 10/17)

83% (04/17) 92% (10/16)

[1] The percentages for objectives 4.2.a, 4.2.b, 4.2.c, 4.2.e, 4.2.i, 4.2.j and 4.2.l decreased between March 2016 and April 2017. This is explained by the fact that new indicators of progress were added to assess the progress of these objectives since October 2016.

Organisation for Economic Co-operation and Development, Water Governance Initiative (WGI)

Contact: Aziza Akhmouch

CORE GROUP MEMBERS

- Association Scientifique et Technique pour l'Eau et l'Environnement (ASTEE)

- Food and Agriculture Organization of the United Nations (FAO)

- International Office for Water/International Network of Basin Organizations (IOWater/INBO)

- Korea Water Resources Corporation (K-water)

- Stockholm International Water Institute (SIWI)

- Suez Environnement

- The Asian Institute for Policy Studies

- Transparency International (TI)

- UNESCO International Hydrological Programme (IHP) Water Integrity Network (WIN)

- Water Youth Network

4.3 Cooperation for Reducing Conflict and Improving Transboundary Water Management

GOAL DESCRIPTION

Just under half of the world's population lives in transboundary river basin areas. Indeed, water is a potential catalyst for cooperation and peace from local to international levels. The conditions for sound and sustainable cooperation must be worked towards actively through legal arrangements, joint management practices and institutions and capacity building. Inter-governmental agreements at the global level, such as the UN Watercourses Convention and the UNECE Water Convention, may have an increasing role to play in facilitating more effective water cooperation in the future.

THEME LEVEL

ACTION LEVEL

March 2016
October 2016
April 2017
October 2017

Not executed   Ongoing   Completed

OVERALL PROGRESS

Significant progress was made in moving transboundary cooperation forward. In 2017, INBO promoted experience sharing both globally (IWRA World Congress in Cancun, Mexico, June 2017) and regionally (MENBO General Assembly, Malta, March 2017; upcoming: Europe-INBO, Dublin, September 2017). The global network of transboundary basins working on climate change, jointly managed by UNECE and INBO, placed transboundary cooperation in a changing climate, higher in the international agenda, with a particular focus on climate finance.

UNECE, INBO and their partners organized a training event on financing of adaptation project in transboundary basins (June 2017). In view of COP23 and as Secretariat of the Global Alliances for Water and Climate, INBO managed an "Incubation Platform" that developed six project proposals up to the standards of the climate finance donors, including two in transboundary basins (Sava River Basin adaptation strategy; climate change monitoring system for the Diama Dam in the Senegal River Basin).

Since the 1992 Water Convention became global (March 2016), UNECE, as Secretariat of the instrument, focused on promoting the benefits of transboundary cooperation derived from its implementation (training on hydrodiplomacy, Ethiopia, February 2017 and workshops: Drina River Basin, Bosnia and Herzegovina, April 2017; Cubango-Okavango River Basin, Namibia, May 2017, Switzerland, July 2017).
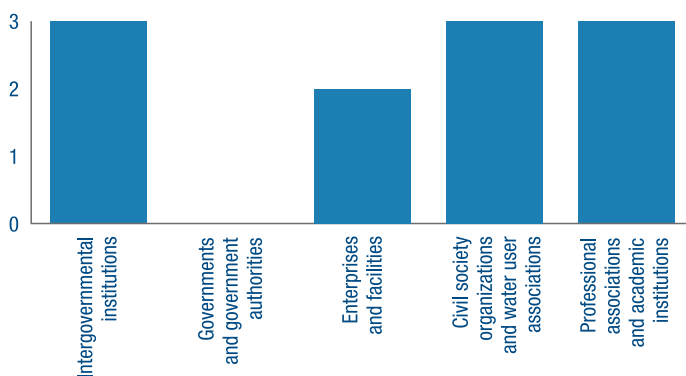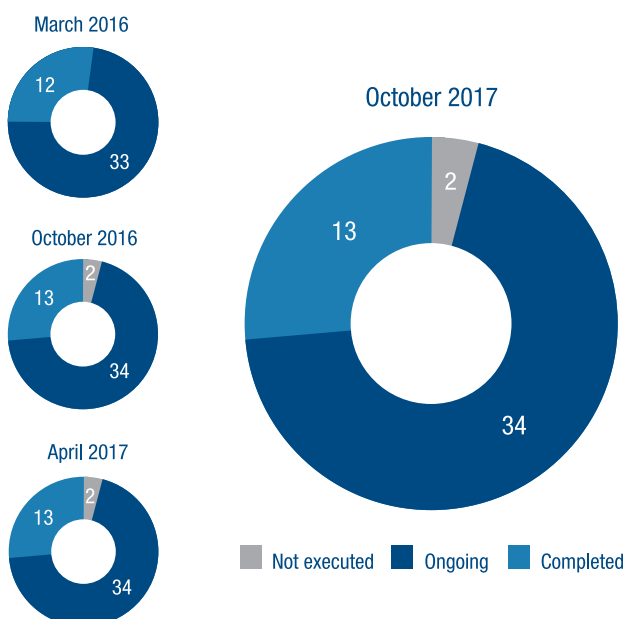
HIGHLIGHTS

- UNECE/INBO publication now available in English, French and Russian: "Water and Climate Change Adaptation in Transboundary Basins: Lessons Learned and Good Practices"
- Data collection for the UNESCO-IHP Water Information Network System – WINS (January 2017)
- IWRA World Congress in Cancun, Mexico, June 2017
- MENBO General Assembly, Malta, March 2017
- 4th Targeted Regional Workshop for GEF IW:LEARN Project in Africa (Entebbe, Uganda, 2 May 2017)
- FAO publications on groundwater governance: "Shared Global Vision for Groundwater Governance 2030 and a Call for Action", "Global Framework for Action (to achieve the Vision on Groundwater Governance)" and "Global Diagnostic on Groundwater Governance"

Key Focus Area: Developing transboundary basin organizations

Objective 4.3.a: By 2030, establish and support programs of "peer-to-peer" twinning between basin organizations and related institutions (water centers and national and local administrations), to foster direct exchanges of knowledge, experts, techniques and methodologies.

0% — 100%
82% (03/16) 93% (10/17)
83% (10/16) 87% (04/17)

Objective 4.3.b: By 2030, establish and support capacity-building programs for transboundary basin organizations focused on institution strengthening, funding mechanisms, policies for stakeholder involvement, water monitoring networks and databases.

0% — 100%
83% (03/16) 95% (10/17)
84% (10/16) 86% (04/17)

Objective 4.3.c: By 2030, develop existing networks of exchanges of knowledge and expertise between basin organizations.

0% — 100%
74% (03/16) 80% (10/16)
100% (04/17; 10/17)

Objective 4.3.d: By 2030, among basin organizations, disseminate and refine the existing indicators assessing the performance of the different services involved in transboundary water management (joint monitoring, early warning systems, planning and programming, etc.).

0% — 100%
96% (03/16; 10/16; 04/17; 10/17)

Objective 4.3.e: By 2030, support in transboundary basins and groundwater the development of water documentation and information systems and the interoperability of data and databases.

0% — 100%
71% (03/16) 87% (10/17)
73% (10/16) 75% (04/17)
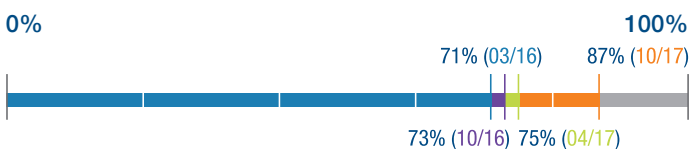
Key Focus Area: Strengthen international law and diplomacy related to transboundary water management

Objective 4.3.f: By 2030, foster the accession of additional states to the UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes (UNECE Water Convention) and the UN Convention on the Law of the Non-navigational Uses of International Watercourses (UN Watercourses Convention), as well as promote their implementation on the ground and their further development in a coherent manner.

0% — 100%
86% (10/17)
76% (03/16; 10/16) 80% (04/17)
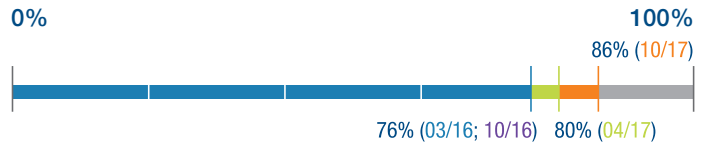
Objective 4.3.g: By 2030, foster the establishment of new basin agreements in transboundary basins and for groundwater, the implementation of existing agreements and, where necessary, their revision to address emerging challenges.

0% — 100%
90% (03/16; 10/16)
92% (04/17; 10/17)

Objective 4.3.h: By 2030, support intersectoral cooperation and the sharing of the benefits of transboundary water cooperation across sectors and borders.

0% — 100%
70% (03/16) 82% (10/17)
72% (10/16; 04/17)
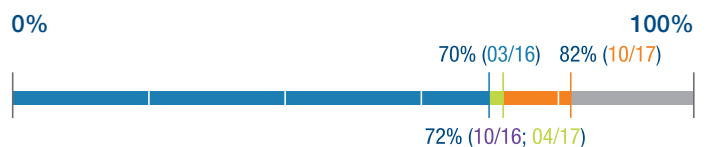
CHAMPION

International Network of Basin Organizations (INBO)

Contact: Jean François Donzier

CORE GROUP MEMBERS

- **Dundee University**

- **Global Environment Facility (GEF)**

- **Green Cross International (GCI)**

- **International Union for Conservation of Nature (IUCN)**

- **Organisation for the Development of the Senegal River (OMVS)**

- **Stockholm International Water Institute (SIWI)**

- **UNESCO International Hydrological Programme/ Internationally Shared Aquifer Resources Management (IHP/ISARM)**

- **United Nations Economic Commission for Europe (UNECE)**

OTHER STAKEHOLDERS

Basin Organizations (including but not limited to: CICOS, OMVS, NBA, OMVG, LCBC, NBI, VBA, MRC, OSS, Mono Basin Authority)

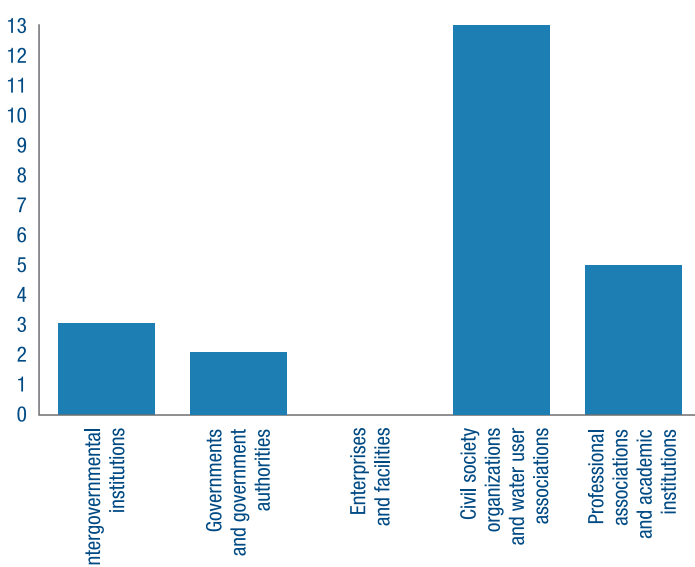# 4.4 Water Cultures, Justice and Equity

GOAL DESCRIPTION

Create and maintain an implementation network of the design group members and session participants/conveners on water-related cultural diversity, justice and equity. Raise awareness among water professionals and decision makers about the intricate, yet often ignored, relevance of cultural diversity, justice and equity for water management and development and include these aspects into legislation, policies, programs and practice.

THEME LEVEL

ACTION LEVEL

March 2016

October 2016

April 2017

October 2017

■ Not executed ■ Ongoing ■ Completed

OVERALL PROGRESS

Implementation Roadmap 4.4 progressed through integrating related parallel actions. 4.4.a benefitted from the launch of the World Water System Heritage Programme; 4.4.b, indigenous peoples' issues, benefitted from consulting on the UNESCO Policy on Engaging with Indigenous Peoples (forthcoming), and from preparing the joint presentation to the upcoming XVI World Water Congress (by members of the Implementation Roadmap platform on water rights from an international and indigenous perspective); and 4.4.c benefitted from the theme platform's commitment to and advocacy for gender equality (Women for Water Partnership's and UNESCO's priority) and related transformative action by the partners, including the systematic use and dissemination of sex-disaggregated data, whenever possible.

All objectives have been advanced through the launch of the integrated information tool IHP-WINS (Water Information Network Systems), facilitating access to relevant information, and through work on the forthcoming report of COMEST, which covers water issues in their entirety while focussing on the ethical imperatives of justice and equity and aiming to influence policy and decision making. Finally, Theme 4.4 becomes a topic of the 8th World Water Forum's theme, "sharing", of which IHP is lead coordinator.

HIGHLIGHTS

■ IHP-Water Information Network System of UNESCO
■ World Water System Heritage Programme (WSH)
■ UNESCO policy on engaging with indigenous peoples
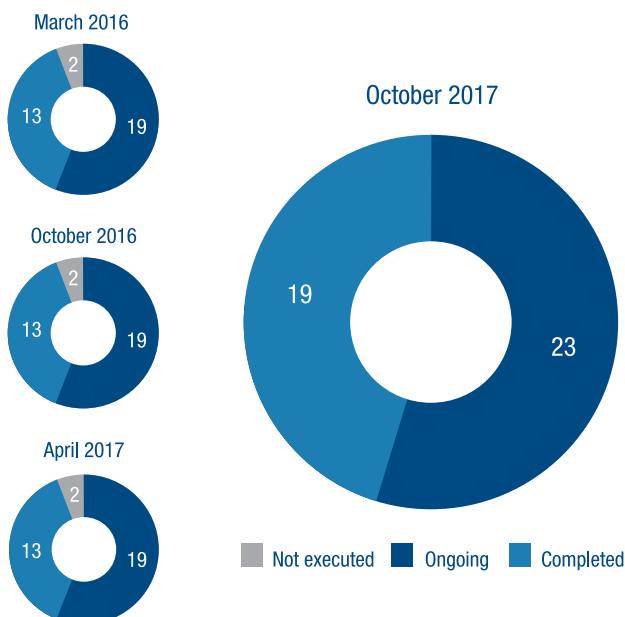
OBJECTIVE LEVEL

**Key Focus Area:** Water cultural diversity, justice and equity

Objective 4.4.a: Foster actions inspiring water policy makers to raise attention to water and heritage in dialogues about the SDGs and assessment instruments, including Environmental Impact Assessments; quantifiable goals are the roll-out of publications, tools and relevant meetings foreseen in the period until 2018.

0%   100%

45% (03/16) 55% (10/16; 04/17; 10/17)
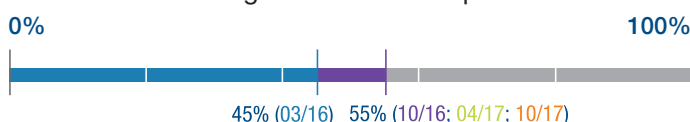
Objective 4.4.b: Confirm commitments, including at the highest political level, to involve indigenous peoples' perspectives for better water governance; quantifiable action relates to the implementation of envisaged actions to strengthen networks, foster publications and integrate related issues into policies at the level of participating organizations (e.g. contribution to establishing the UNESCO Policy on Engaging with Indigenous Peoples).

0%   100%

20% (03/16) 30% (10/16; 04/17; 10/17)

Objective 4.4.c: Foster leadership and the involvement of women at all levels of management and implementation of water policies and programs.

0%   100%

0% (03/16; 10/16; 04/17)   94% (10/17)
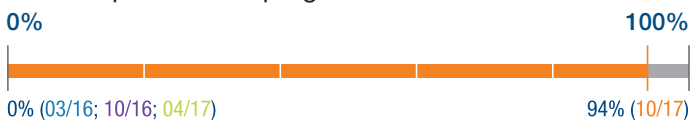
Objective 4.4.d: Foster a recognition and understanding of the diverse perspectives on water, water rights and legal frameworks and how they can be better understood and embedded in cooperative mechanisms, from public participation to international conventions.

0%   100%

0% (03/16; 10/16; 04/17)   50% (10/17)
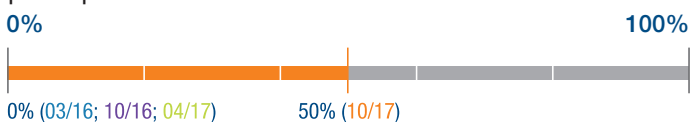
Objective 4.4.e: Present the concept of water ethics as a practical tool for setting higher standards for the water sector, and to collect ideas and suggestions from participants about the content and strategy of the Water Ethics Charter; quantitative data refers to the progress of the World Commission on the Ethics of Scientific Knowledge and Technology (COMEST), advisory body to UNESCO, in establishing a new global report and recommendations on water ethics with the contribution of IHP.

0%   100%

0% (03/16; 10/16; 04/17)   60% (10/17)
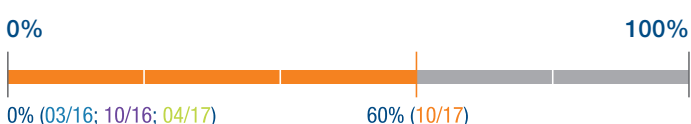
Objective 4.4.f: Consider the complex cultural, religious, economic and environmental functions of water to demonstrate how these can contribute to improving water management, water security and sustainable development.

0%   100%

0% (03/16; 10/16; 04/17)   95% (10/17)

4.5 Enhancing Education and Capacity Building

GOAL DESCRIPTION

Technical solutions provide only part of the answer to implementation. If the capacity to run or maintain these solutions is absent, then the solution is condemned to fail. This is why water education and training is vital to the success of any project. In particular, cross-learning across basins and watersheds can offer valuable learning exchanges.

THEME LEVEL

ACTION LEVEL

March 2016

October 2016

April 2017

October 2017

■ Not executed ■ Ongoing ■ Completed

OVERALL PROGRESS

We start with a celebration: the 15th year anniversary of Cap-Net as the UNDP delivery mechanism within the Water and Ocean Governance Programme (WOGP) and a global network for capacity development in sustainable water management. It influenced improvements in water and sanitation, in policies and on the ground, contributed to shaping the SDG agenda with a dedicated water goal and increased readiness to adapt to climate change.

The International Network of Water Training Centers, its Secretariat (IOWater) and partners of the design group also implemented capacity-building activities to the benefit of water professionals worldwide. Water training centers were created and strengthened. Québec'eau organized training sessions in Canada for water supply and sanitation services' managers, engineers, technicians and manual workers. In Sao Paulo and Brasilia, Hydrus-Brazil trained managers of IWRM at basin level and regulators of water and sanitation services (WSS) as well as technicians of WSS.

Training programs (including "training of trainers", e.g. Stung Sen, Cambodia) were carried out on IWRM (in Brazil; Cuba; the basins of Hai, China; and in Pawn-Pilu, Myanmar), WSS (ONEA, Burkina Faso; Rand Water, South Africa; Palestinian Water Authority) and trending priority topics, including Water Information Systems (Nam Ngum Basin, Lao PDR), innovative energy production techniques in water production/wastewater treatment plants (IOWater for Suez and Agbar) and financial mechanisms for climate change adaptation (EcoCuencas).
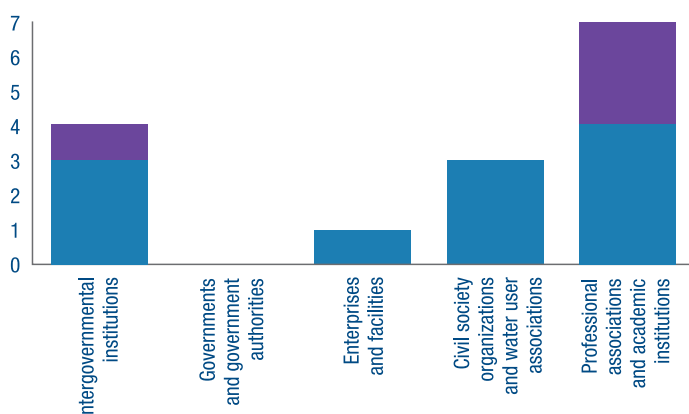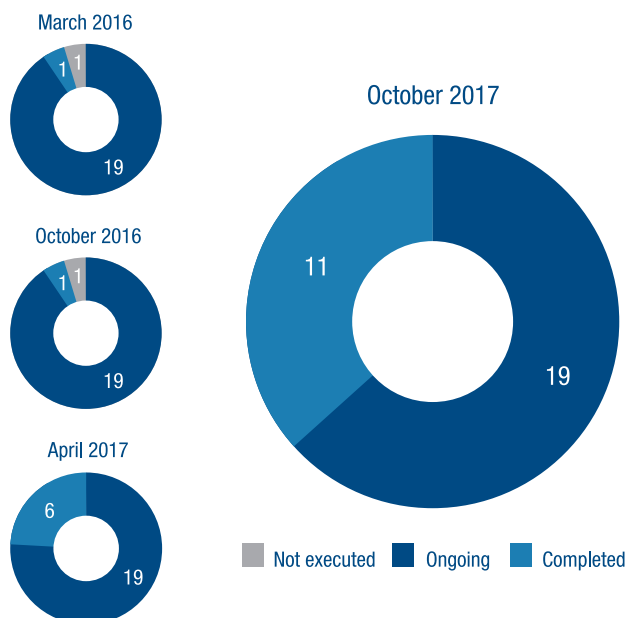
## HIGHLIGHTS

■ SDG webinar monitoring and reporting on SDG Targets 6.5.1, 6.3.2 and 6.6.1
■ Virtual Campus courses
■ Organization of training sessions on financial mechanisms for adaptation to climate change (EcoCuencas in Brazil, Colombia, Ecuador, Peru)
■ Organization of an innovative training program in France, by IOWater for Suez and AGBAR, on water treatment and climate change mitigation (techniques for energy production in water production plants and wastewater treatment plants)
■ Training program on maintenance and energy production of water production plants and wastewater treatment plants, Rand Water, South Africa
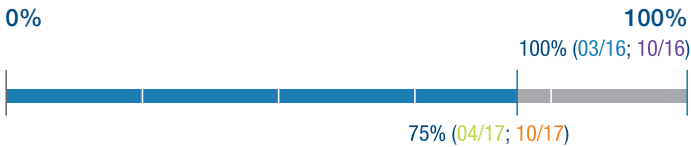
OBJECTIVE LEVEL

Key Focus Area: Develop education for and raise awareness of water issues

Objective 4.5.a: By 2018, assess global water education needs that will have to be satisfied in order to achieve the SDGs.[2]

0%   100%

100% (03/16; 10/16)

76% (04/17; 10/17)
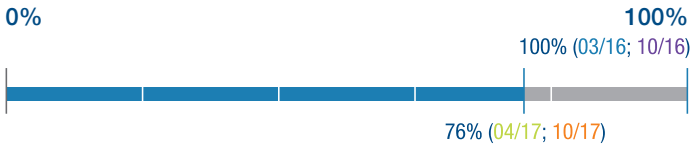
Objective 4.5.b: By 2020, develop a toolkit of innovative techniques for communication on water issues.[2]

0%   100%

100% (03/16; 10/16)

75% (04/17; 10/17)

Key Focus Area: Train water professionals

Objective 4.5.c: By 2030, promote adequate financing for the training of water supply and sanitation professionals.[2]

0%   100%

100% (03/16; 10/16)

80% (04/17; 10/17)

Objective 4.5.d: By 2030, develop training programs for water supply and sanitation services' managers, engineers, technicians and manual workers.[2]

0%   100%

62% (03/16; 04/17)   80% (10/17)

63% (10/16)
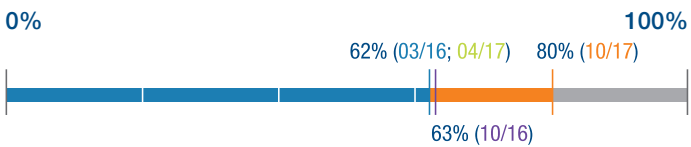
Objective 4.5.e: By 2030, develop training programs for the staff of basin organizations and stakeholders involved in water resources management.

0%   100%

60% (03/16)   85% (10/17)

61% (10/16)   74% (04/17)
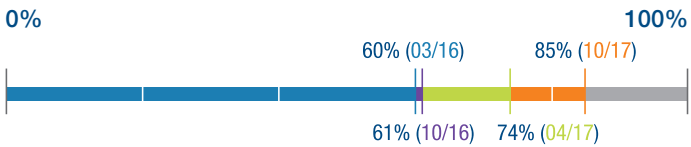
CHAMPION

International Network of Water Training Centers (INWTC)

Contact: Josiane Mongellaz

[2] The percentages for objectives 4.5.a, 4.5.b, 4.5.c and 4.5.d decreased between March 2016 and April 2017. This is explained by the fact that additional actions have been launched and new indicators have been added to assess their progress since October 2016.

How progress is reported

Progress is made on specific objectives through targeted actions. This report assesses progress with data extracted from the Action Monitoring System (AMS) together with qualitative information provided by the DGIC Champions themselves. Progress is measured at three levels: the **theme level**, the **action level** and the **objective level**.

THEME LEVEL

At the theme level, bar charts compare the number of stakeholder organizations in five groups engaged in the theme. Blue indicates the number of organizations involved in March 2016. Increases in the number of organizations between each edition of the Progress Report are chronologically indicated in purple (October 2016), green (April 2017) and orange (October 2017). Any decrease in the number of organizations is shown with a dotted line.
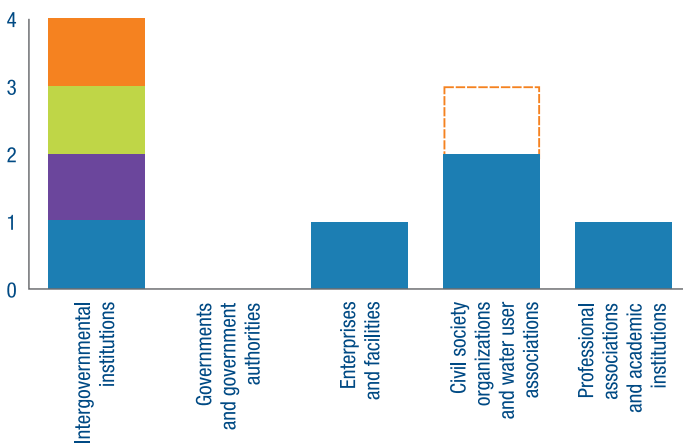

ACTION LEVEL

At the action level, pie charts indicate the proportion of actions at four stages of development as of March 2016, October 2016, April 2017 and October 2017.
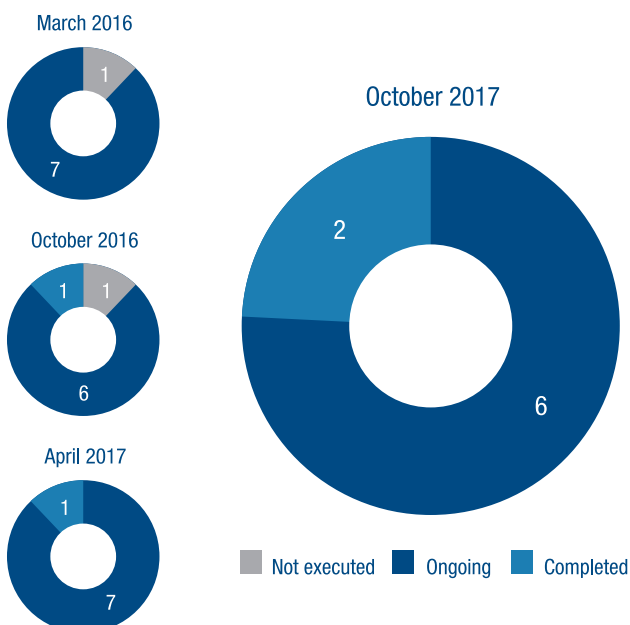
OBJECTIVE LEVEL

At the objective level, bars show the percentage of progress achieved for each objective as of March 2016, October 2016, April 2017 and October 2017. Progress is calculated from specific indicators displayed on the AMS. Progress since April 2017 is highlighted in orange.
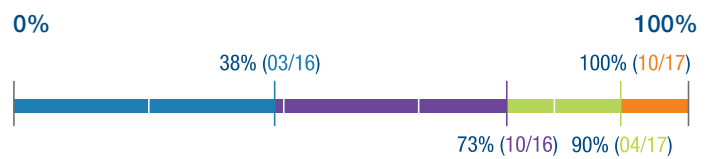
OVERALL PROGRESS

An Overall Progress assessment reflects on the ongoing work of each Implementation Roadmap. Champions highlight information they consider reflects advancements made in the past six months.

HIGHLIGHTS

The Highlights section lists examples of concrete achievements that can be attributed to each Implementation Roadmap, such as reports, events, publications, case studies and news.

All information within this report pertaining to the content of the Implementation Roadmaps has been drawn directly from the Action Monitoring System (AMS), available at ams.worldwaterforum7.org

As Champions are responsible for the management of the information on the AMS, the World Water Council, Ministry of Land, Infrastructure and Transport of the Republic of Korea, and Korea Water Forum have elected not to interpret or modify any content of the Implementation Roadmaps and are therefore dependent on the data made available through this public platform.

The information presented in this fourth edition of the Progress Report on Implementation Roadmaps was extracted on 7 September 2017. It is therefore important to recognize a potential gap between what appears in this report and the current state of progress.

Keep track of all Implementation Roadmaps in real time at:
ams.worldwaterforum7.org

WORLD WATER COUNCIL

Ministry of Land,
Infrastructure and Transport

**KOREA
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