PROGRESS REPORT ON IMPLEMENTATION ROADMAPS

MARCH 2016

MOLIT
Ministry of Land,
Infrastructure and Transport

KOREA WATER FORUM
KWF

WORLD
WATER
COUNCIL

1996 **20** 2016
20 YEARS OF ACHIEVEMENT

CONTENTS

IMPLEMENTATION ROADMAPS

Implementation Roadmap reports are published twice a year to document progress in addressing challenges identified during each triennial World Water Forum. This first report on the progress of Implementation Roadmaps displays information from the online Action Monitoring System and is a baseline for future reports.

The World Water Forum, a multi-stakeholder platform, gathers governments, scholars, research institutes, businesses, and civil society from around the world. The 6th World Water Forum in 2012 identified solutions to meet current and future challenges to water. Since implementing solutions is a priority for overcoming these challenges, the 7th World Water Forum in 2015 sought to catalyze effective implementation through the Daegu-Gyeongbuk Implementation Commitment.

The 19 Champion organizations that signed the Daegu-Gyeongbuk Implementation Commitment have agreed to lead and catalyze action on 16 Implementation Roadmaps. The Roadmaps set out specific actions in thematic areas that stakeholders have committed to undertake. In order to be as comprehensive as possible, the Roadmaps also link to regional and political processes, and integrate input from these processes. Implementation Roadmaps are blueprints that reflect extensive, behind-the-scenes efforts by the global water community to move forward on the water agenda.

A MECHANISM FOR TRACKING PROGRESS

The Government of the Republic of Korea, as the host of the 7th World Water Forum, and the World Water Council, the founder and co-organizer of the World Water Forum, support Implementation Roadmaps as a key mechanism for monitoring, accounting, and reporting progress on public commitments between each World Water Forum.

OBJECTIVES

Implementation Roadmaps have three objectives:

1 Ensure continuity between each triennial World Water Forum: Implementation Roadmaps monitor progress on the commitments to action on major water issues made at each World Water Forum;

2 Catalyze collective action: Implementation Roadmaps catalyze collective learning, guiding action to deliver meaningful progress on water issues; and

3 Contribute to global processes: Implementation Roadmaps identify ways for the international water community to contribute in a complementary manner to global processes such as the Sustainable Development Goals.

ACTION MONITORING SYSTEM

The Action Monitoring System (AMS) is an online, interactive platform for Champions to voluntarily present, update, and report on Implementation Roadmaps. The AMS, a space for systematically recording progress, lessons learned, and contributions from the wider community, provides a global overview of progress on Roadmaps in real time. Interested stakeholders may contribute to Roadmaps, or contact Champions and members of Core Groups through the AMS.

Keep track of the Implementation Roadmaps on the Action Monitoring System website:
**ams.worldwaterforum7.org**

MEASURING PROGRESS

Champions and members of Core Groups have contributed enthusiastically to activities to move forward on Roadmaps. Overall, progress on Roadmaps at this early stage is variable. For some Roadmaps, reports show that action to achieve some objectives is well under way; for other Roadmaps, reports show that action towards achieving objectives is just beginning.

Progress is made on specific objectives through targeted actions. This report measures progress at three levels: the theme level, the objective level, and the action level.

At the **theme level**, bar charts compare the number of stakeholder organizations in five groups – intergovernmental organizations, government authorities, enterprises and facilities, civil society organizations, and professional associations – engaged in the theme in March 2016.
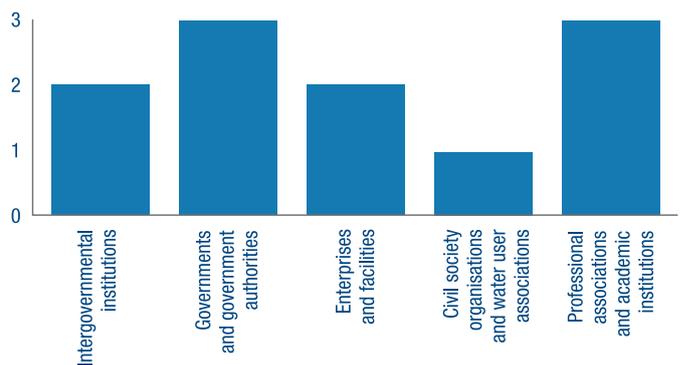
At the **objective level**, bars show the percentage of progress achieved as of March 2016 for each objective calculated from specific indicators of progress.

0%   100%

43% (03/16)
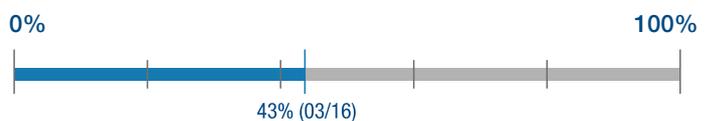
At the **action level**, pie charts indicate the proportion of actions at three stages of development as of March 2016.

Not executed   On Going   Completed
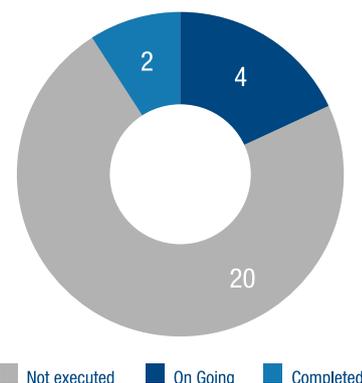
1.1 Enough Safe Water for All

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, non-conventional water supplies, as well as on water monitoring for SDGs implementation.

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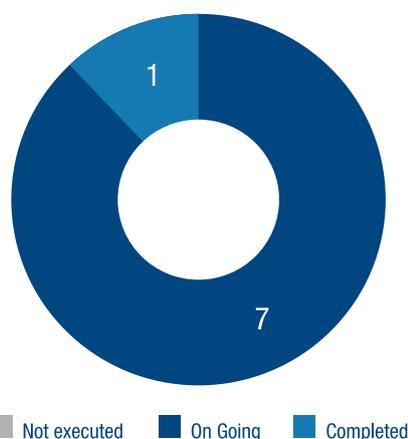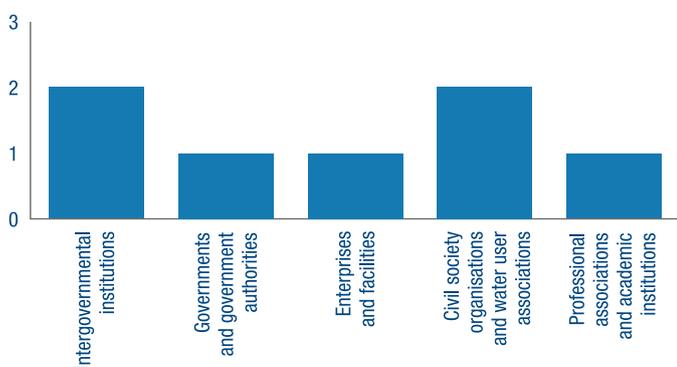
Objective 1.1.c: Promote capacity building, awareness raising, experience sharing and international cooperation to support the development of national policies for enhanced water security

0%　　　　　　　　　　　　　　　　100%

43% (03/16)

THEME LEVEL

Bar chart with categories:
- Intergovernmental institutions: 2
- Governments and government authorities: 1
- Enterprises and facilities: 1
- Civil society organisations and water user associations: 2
- Professional associations and academic institutions: 1

ACTION LEVEL

Donut chart showing: 1 (Completed), 7 (On Going)

Legend: Not executed | On Going | Completed

OBJECTIVE LEVEL

Key Focus Area: Technical and policy guidance on access to safe water, water quality and wastewater management, and non-conventional 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 non-conventionl water supply methods, including safe water reuse, to enhance water security globally

0%　　　　　　　　　　　　　　　　100%

50% (03/16)
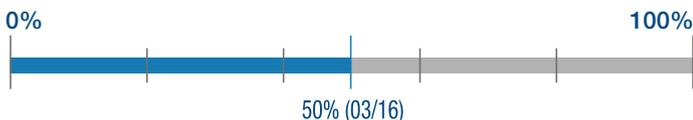
Key Focus Area: Water monitoring to support the implementation of SDG6 on water

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

0%　　　　　　　　　　　　　　　　100%

75% (03/16)

CHAMPION

UNESCO — United Nations Educational, Scientific and Cultural Organization · International Hydrological Programme

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 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

OBJECTIVE LEVEL

Key Focus Area: Universal Access to Sanitation (containment)

Objective 1.2.a: To 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)

Objective 1.2.b: To learn lessons and take note of global experience of countries who have reached universal access.

0% 100%
25% (03/16)

Objective 1.2.c: Identify key actions for countries to take to achieve universal access to sanitation.

0% 100%
25% (03/16)

Key Focus Area: Fecal sludge management

Objective 1.2.d: Highlight the importance of faecal sludge management as one crucial part of integrated sanitation.

0% 100%
25% (03/16)

Objective 1.2.e: Present and foster implementation of innovative technologies, management approach and business models that are attractive to city managers, utilities and private sanitation service providers.

0% 100%
0% (03/16)

Objective 1.2.f: Help policy and decision makers in evaluating options for managing the whole sanitation service chain with a focus on resource recovery.

0% 100%
25% (03/16)

Key Focus Area: Wastewater management

Objective 1.2.g: Ensure appropriated regulatory framework and standard, allowing progressive development of wastewater transport and treatment.

0% 100%
15% (03/16)

Objective 1.2.h: Towns and cities have a clear vision of their needs in terms of wastewater transport and treatment.

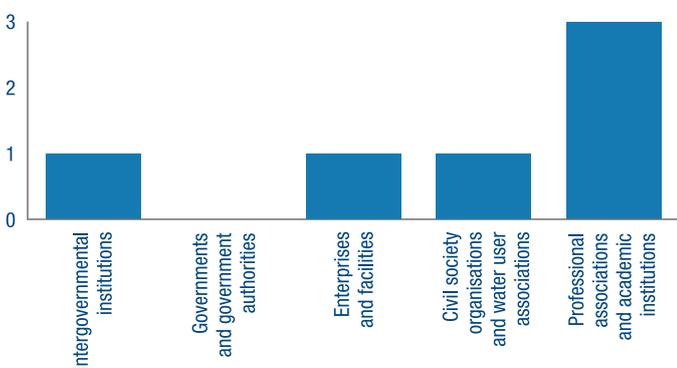0% 100%
15% (03/16)

Key Focus Area: Wastewater resource recovery and reuse

Objective 1.2.i: Ensure complementary and stable water resources for human uses in areas of periodic scarcity.

0% 100%
0% (03/16)

Objective 1.2.j: No discharge of wastewaters into water bodies specifically sensitive to microbiology, due to sanitary uses of water downstream.

0%   100%

25% (03/16)

Objective 1.2.k: Development of wastewater reuse (e.g. for irrigation) must be balanced with preservation of water flows needed by neighbouring ecosystems.

0%   100%

0% (03/16)

Objective 1.2.l: The level of treatment before reuse must be adapted to health protection of downstream neighbours and users, and irrigated crops consumers, with confidence and acceptance from public but without excessive technology and energy wasting.

0%   100%

0% (03/16)

Objective 1.2.m: Generalisation of recycling of organic matter (and/or biogas), N and P from sanitation by-products, using hygienic and energy-saving technical.

0%   100%

0% (03/16)

Key Focus Area: Integration of Sanitation planning and urban development

Objective 1.2.n: Integrated Sanitation Planning is necessary in towns and cities is a way of optimising behaviour throughout the water cycle to, i) reduce or limit pollution in the first place, ii) contain and manage polluted water so that pollution is removed as effectively as possible, and iii) that the water and other resources are able to be reused safely.

0%   100%

15% (03/16)

Objective 1.2.o: Integrated sanitation planning is necessary because of the close relationships that exist between much wastewater infrastructure and other kinds of urban infrastructure, such as power systems, transport infrastructure, public open spaces, water bodies and water regulation systems etc... Land-use controls, the planning and construction of infrastructure, systems operation and charging for services, all need to be thought about together to produce the best and most sustainable results.

0%   100%

15% (03/16)

Objective 1.2.p: Integrated Sanitation planning pushes to consider the whole sanitation chain and to determine the kind of sanitation (off-site or on-site) who is better appropriated in the various area of a city and their complementarity.

0%   100%

15% (03/16)

ACTION LEVEL

1

2

■ Not executed   ■ On Going   ■ Completed
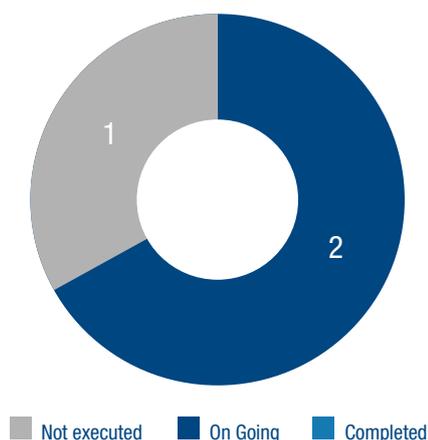
CHAMPIONS

pS-Eau

Programme Solidarité Eau (pS-Eau)

Contact: Christophe Le Jallé

AquaFed
THE INTERNATIONAL FEDERATION OF PRIVATE WATER OPERATORS
www.aquafed.org

The International Federation of Private Water Operators - AquaFed

Contact: Jack Moss

CORE GROUP MEMBERS

■ **American Society of Civil Engineering/ Environmental & Water Resource Institute (ASCE/EWRI)**

■ **Asian Development Bank (ADB)**

■ **Korean Society of Water and Waste Water (KSWW)**

■ **Sanitation and Water for All (SWA)**

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 by sharing state-of-the-art technologies in addressing water-related risk helps to further reduce potential damages from natural hazards.

THEME LEVEL

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 applications of innovative methodologies and technologies in hazard management to quantify flood resiliency and mitigate vulnerability.

0%   100%

0% (03/16)

Objective 1.3.b: By the end of 2017, raise awareness on the importance climate change adaptation and disaster risk reduction and support governments in implementation.

0%   100%

0% (03/16)

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%

0% (03/16)

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

0%   100%

0% (03/16)

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 water cycle with indicators to guide us through effective decision-making.

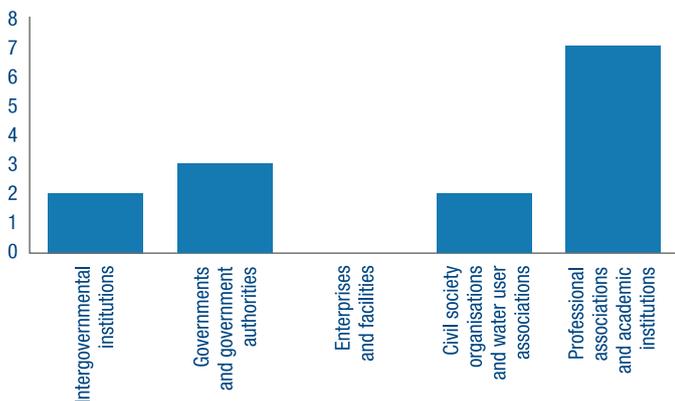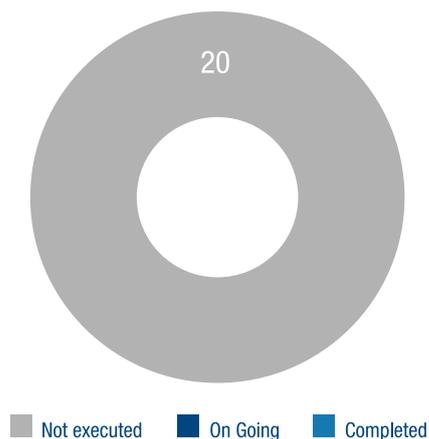0%   100%

0% (03/16)

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

0%   100%

0% (03/16)

Key Focus Area: Enhancing disaster preparedness for effective response, and to "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 application of new science and technologies and improvement of current systems, linking up with local practice and knowledge, focused on Building Back Better.

Not executed   On Going   Completed

CHAMPION

International Centre for Water Hazard and Risk Management (ICHARM)

Contact: Mr. Yoshio Tokunaga

CORE GROUP MEMBERS

- **Action Contre la Faim (ACF)**

- **Alliance for Global Water Adaptation (AGWA)**

- **Alterra Wageningen University and Research Centre**

- **American Society of Civil Engineering/ Environmental & Water Resource Institute (ASCE-EWRI-IPC)**

- **Deltares**

- **Han River Flood Control Office (HRFCO)**

- **International Office for Water (IOWater)**

- **Ministry of Forestry and Water Affairs, Turkey**

- **Solidarités International**

- **UN Economic Commission for Europe (UNECE)**

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

- **Water Resources Agency, Ministry of Economic Affairs, Taiwan**

1.4 Infrastructure for Sustainable Water Resource Management and Services
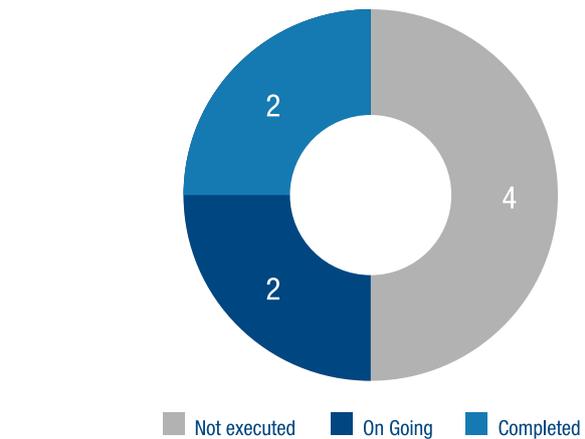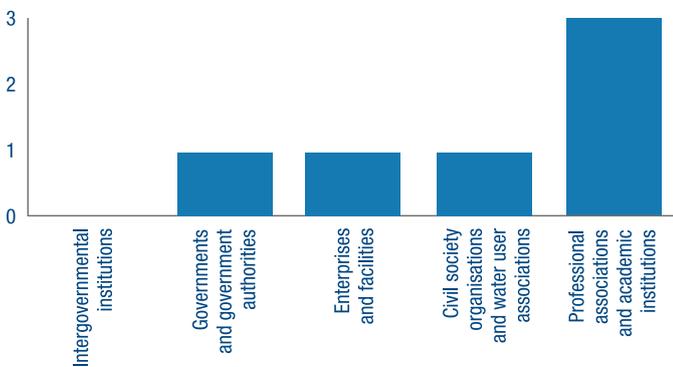
GOAL DESCRIPTION

Throughout the world, appropriate water infrastructure has been shown to reduce hunger and malnutrition, transform rural economies and create employment. Provided that 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

OBJECTIVE LEVEL

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

0%   100%

0% (03/16)

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

0%   100%

0% (03/16)

Objective 1.4.c: Establish a special international task force on the Future of Global Waterborne Transportation Infrastructure, WG 181, investigating the needs of waterborne infrastructure and the best practices to achieve those.

0%   100%

0% (03/16)

Objective 1.4.d: Development of an international program for implementation of 'adaptable' strategies for management of ageing water infrastructures in which both developed and developing nations are participating.

0%   100%

0% (03/16)

ACTION LEVEL

Not executed   On Going   Completed

CHAMPION

International Commission on Large Dams (ICOLD)

Contacts: Michel de Vivo
Emmanuel Grenier

CORE GROUP MEMBERS

- **American Society of Civil Engineering / Environmental & Water Resources Institute (ASCE/EWRI)**

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

- **Federal Institute of Hydrology, Germany**

- **K-water**

- **Wetlands International**

2.1 Water for Food

GOAL DESCRIPTION

Public policies and investments must 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. 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

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%

0% (03/16)

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

0%   100%

0% (03/16)

Key Focus Area: Water quality management for agriculture and environment

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

0%   100%

0% (03/16)

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

Key Focus Area: Modernization of irrigation schemes

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

0%   100%

0% (03/16)

Key Focus Area: Adaptation 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, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters.

0%   100%
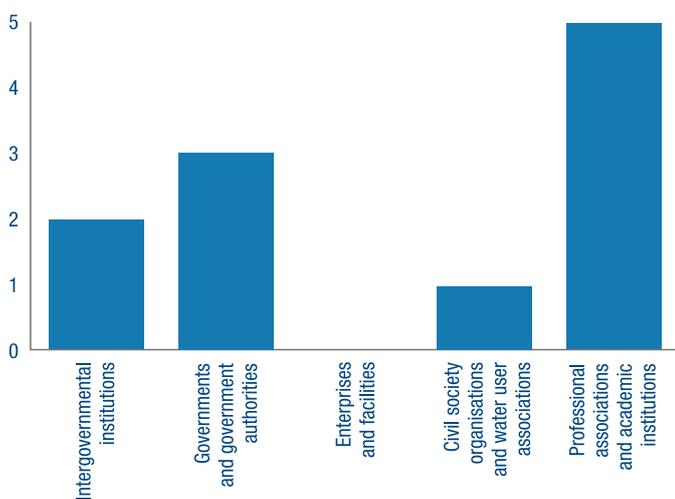
0% (03/16)

Key Focus Area: Increasing 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 programmes, including irrigation, water harvesting, desalination, water proiductivity, wastewater treatment, recycling and reuse technologies.

0%   100%

0% (03/16)

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)

ACTION LEVEL

42

■ Not executed   ■ On Going   ■ Completed
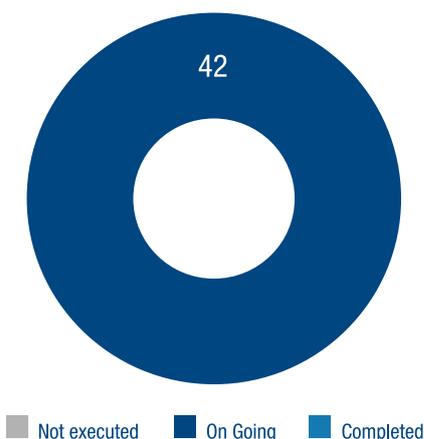
CHAMPION

Food and Agriculture Organization of the United Nations

Food and Agriculture Organization of the United Nations (FAO)

Contact: Olcay Ünver

CORE GROUP MEMBERS

■ Global Water Initiative (GWI)

■ International Commission on Irrigation & Drainage (ICID)

■ International Food Policy Research Institute (IFPRI)

■ Korean Rural Community Corporation (KRC)

■ University of Nebraska Water for Food Institute

2.2 Water for Energy

GOAL DESCRIPTION

Ensuring water security while managing the world's rapidly growing demand for energy is a major challenge. The aim is to minimize the impacts of water uses and energy production on the environment, through enhancing efficiency, improving sustainability and strengthening governance in resource management.

THEME LEVEL

OBJECTIVE LEVEL

Key Focus Area: Energy efficiency in water systems

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

0% ——————————————————— 100%

8% (03/16)

Key Focus Area: Impact on water from energy production

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

0% ——————————————————— 100%

10% (03/16)

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

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

0% ——————————————————— 100%

35% (03/16)
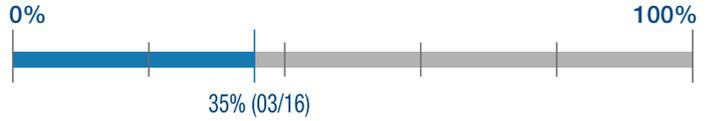
Key Focus Area: Multipurpose energy infrastructure

Objective 2.2.d: Improving design and operation of multipurpose energy infrastructure to serve beyond electricity generation one or more other purposes (water quantity & quality management, environment issues, improved human services, regional development).
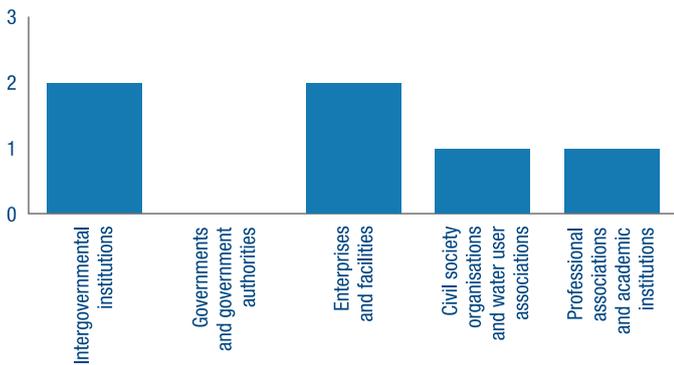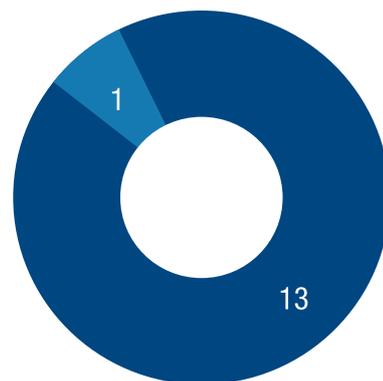
0% ——————————————————— 100%

10% (03/16)

Key Focus Area: Decentralised (off-grid) solutions

Objective 2.2.e: More than 1,5 Billion of people have no access to good quality water ,often due to lack of affordable energy . The objective for 2030 is to reduce by 50 % this number. By 2018, for the 8th forum, the number of people who don't have access to water due to the lack of affordable energy will be estimated and the number of people living in isolated communities who will have benefit from a new access to water and energy will be counted. The solutions allowing access to good quality water and to sanitation with an affordable, sustainable and without climate change effect energy source will be published (web).

0% ——————————————————— 100%

0% (03/16)

ACTION LEVEL

Not executed   On Going   Completed

International Water Association
(IWA)

Contact: Ger Bergkamp

CORE GROUP MEMBERS

- Eléctricité de France (EDF)

- ITAIPU Binacional

- The World Bank

- UN Economic and Social Commission for Asia and the Pacific (ESCAP)

- World Wide Fund (WWF)

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 healthy, livable, risk-resilient and sustainable cities. This agenda looks beyond water as services and recognizes how water shapes urban landscapes. It is regenerative, aiming to reduce, reuse, recover, recycle and replenish water, nutrient and energy within the city. Finally, it requires integration between different sectors and scales within the urban landscape and the basin.

THEME LEVEL
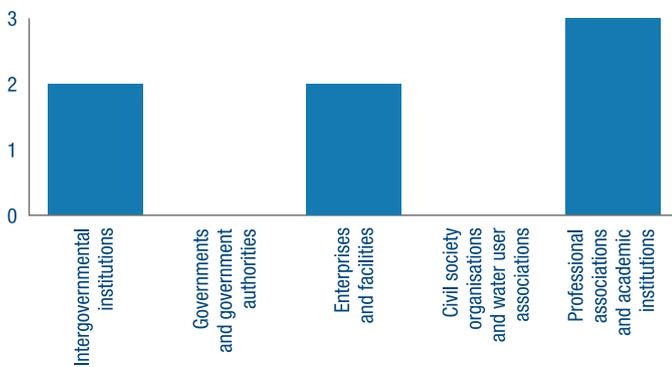
OBJECTIVE LEVEL

Key Focus Area: Vision and Leadership

Objective 2.3.a: Enable Cities to develop a top-down and bottom-up common inclusive and issue-based vision that survives political cycles.

0%   100%

25% (03/16)

Objective 2.3.b: Inspire leadership of Local and Regional Authorities by communicating the principles for sustainable urban water, illustrated by inspiring case studies.

0%   100%

25% (03/16)

Objective 2.3.c: Foster convergence between national and local water policies by inspiring national institutions with the same principles for sustainable urban water.

0%   100%

25% (03/16)

Key Focus Area: Governance for integration of services and scales

Objective 2.3.d: Enable Cities to develop an effective decision-making process inclusive of all urban disciplines and scales and with a systematic structure from decision to implementation.

0%   100%

0% (03/16)

Objective 2.3.e: Introduce innovation to the legal framework to enable the application of the "urban water charter" principles.

0%   100%

0% (03/16)

Objective 2.3.f: Regulation of water services based on equity, transparency, accountability, sound financing, citizens' engagement.

0%   100%

0% (03/16)

Key Focus Area: Capacity Building

Objective 2.3.g: Enable water operators as key drivers of the Urban Water Charter's implementation and key actors of collaborative platforms with other utilities and urban planning disciplines.

0%   100%

25% (03/16)

Objective 2.3.h: Enable planning professionals as implementers and disseminators of the Urban Water Charter's principles through education programmes and a portfolio of case studies illustrating what measures have been applied in which local context.

0%   100%

0% (03/16)

Objective 2.3.i: Enable Regulators to develop innovative frameworks allowing & incentivizing the implementation of the "Principles for Water Wise-Cities" (integration of services and scales).

0%   100%

0% (03/16)

Objective 2.3.j: Enable City Planning departments to develop the appropriate structure to implement the integration of services and scales.

0%   100%

0% (03/16)

Objective 2.3.k: Enable Water Operators and Cities to engage with Citizens on participatory processes regarding urban services to ensure a long-term vision that goes beyond political cycles.

0%   100%

0% (03/16)

Key Focus Area: Tools for planning and decision making

Objective 2.3.l: Enable cities to plan and make science-based decisions that best embrace the "Principles for Water Wise-Cities" for a healthy, liveable and risk-resilient city, maximizing the benefits of cross sector synergies.

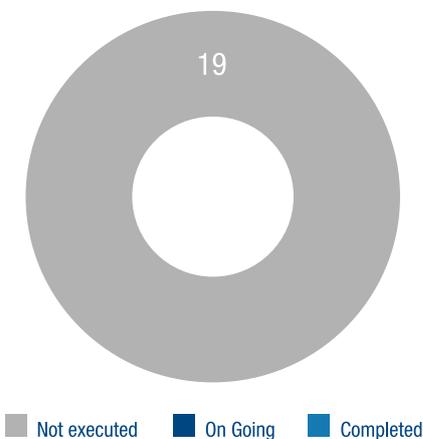0%   100%

0% (03/16)

Key Focus Area: Adapted implementation tools

Objective 2.3.m: Enable cities to implement solutions that best embrace the "Principles for Water Wise-Cities" for a healthy, liveable and risk-resilient city, maximizing the benefits of cross sector synergies.

0%   100%

0% (03/16)

ACTION LEVEL

19

■ Not executed   ■ On Going   ■ Completed

CHAMPIONS

UN Habitat

Contact: Andre Dzikus

International Water Association
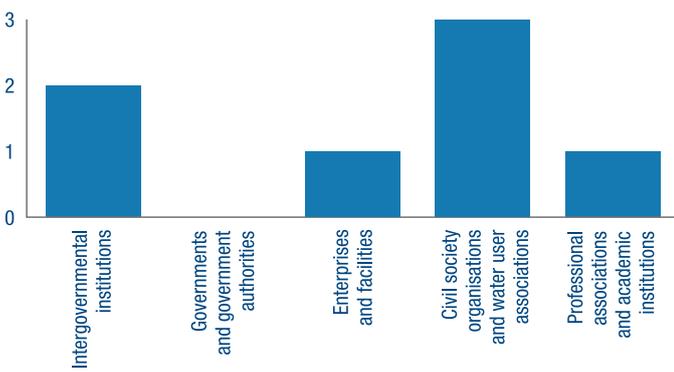
Contact: Ger Bergkamp

CORE GROUP MEMBERS

■ Korea Land & Housing Institute

■ Nairobi City Water and Sewerage Company

■ UN Economic and Social Commission for Asia and the Pacific (ESCAP)

■ United Cities and Local Governments (UCLG)

■ Veolia Environnement

3.1 Green Growth, Water Stewardship and Industry

GOAL DESCRIPTION

'Growth 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 unsustainable business-as-usual approach. Theme 3.1 aims to manage water for green growth with different tools and actions. It explores effective policies to enable green growth; fosters the long-term engagement of a variety of stakeholders in water management; and recognizes economic value of water to avoid business risks and protect ecosystem services.

THEME LEVEL

Bar chart values by category:
- Intergovernmental institutions: 2
- Governments and government authorities: 0
- Enterprises and facilities: 1
- Civil society organisations and water user associations: 3
- Professional associations and academic institutions: 1

OBJECTIVE LEVEL

Key Focus Area: Policy Coherence

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

0% — 100%
5% (03/16)

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

0% — 100%
7% (03/16)

Objective 3.1.c: By 2018, encourage industry sector to incentivize investments for green paradigm to overcome the silos of water, energy and resource management and implement best practices more widely.

0% — 100%
4% (03/16)

Key Focus Area: Involvement of Stakeholders

Objective 3.1.d: By 2018, identify role of water stewardship to promote sustainable consumption and production patterns and resource efficient and cleaner production.

0% — 100%
1% (03/16)

Objective 3.1.e: By 2018, design and implement sound water governance models to increase collaborative between all different levels.

0% — 100%
1% (03/16)

Objective 3.1.f: By 2018, institute appropriate legal and institutional framework for the participation of private sector in water management.

0% — 100%
2% (03/16)

Key Focus Area: Sustainable Business Models

Objective 3.1.g: By 2018, increase awareness of water as an economic value to avoid business risk.
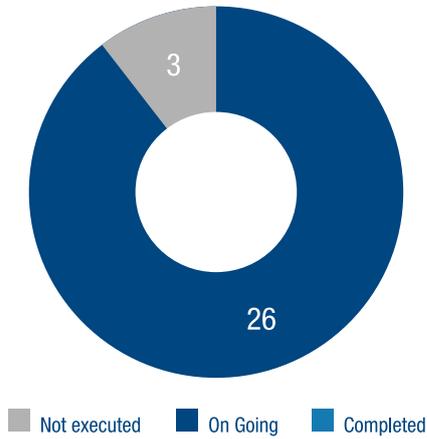
0% — 100%
1% (03/16)

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

0% — 100%
7% (03/16)

Objective 3.1.i: By 2018, identify and remove barriers in implementing economic instruments (e.g. PES) to value ecosystem services.

0%   100%

5% (03/16)

ACTION LEVEL

- Not executed
- On Going
- Completed

CHAMPION

K-water

Contact: Namsoo Lee

CORE GROUP MEMBERS

- Alliance for Water Stewardship (AWS)

- Both ENDS

- UN Economic and Social Commission for Asia Pacific (ESCAP)

- UN Environment Programme (UNEP)

- World Business Council for Sustainable Development (WBCSD)

- World Wide Fund (WWF)

3.2 Managing and Restoring Ecosystems for Water Services and Biodiversity

GOAL DESCRIPTION

Nature forms a vital component of the water cycle, including providing critical services and functions, such as water storage, filtration and disaster risk reduction, as well as supporting species habitat and biodiversity. Degrading ecosystems can diminish the delivery of services such as providing water services to people. There are hence vital opportunities to improve both the sustainability of water-related services and the conservation of biodiversity by restoring watersheds, wetlands or rivers, as well as by using nature in engineering designs.

THEME LEVEL

OBJECTIVE LEVEL

Key Focus Area: Addressing the 'drivers of change' affecting wetlands and the availability and abundance of wetland related ecosystem services

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)

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)

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

0%   100%

0% (03/16)

Key Focus Area: Based on experience and clear science, identifying 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 identify the most suitable specific locations in which to create benefits for society through management and/or restoration interventions.

0%   100%

0% (03/16)

Objective 3.2.e: Increase knowledge of solutions and technologies emerging from the discipline of 'eco-hydrology'.

0%   100%

0% (03/16)

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)

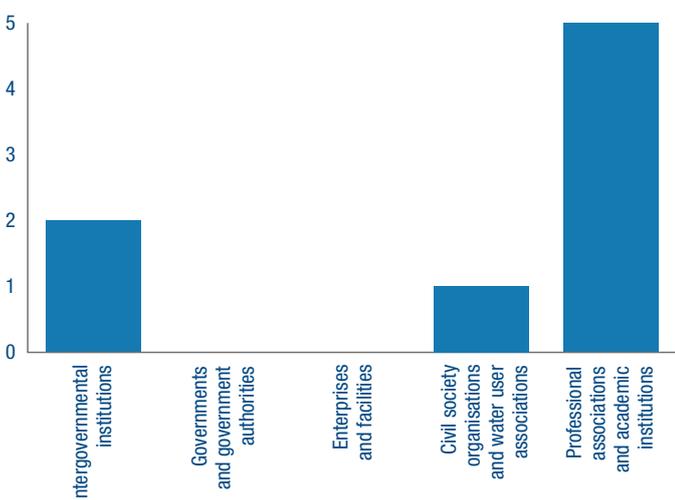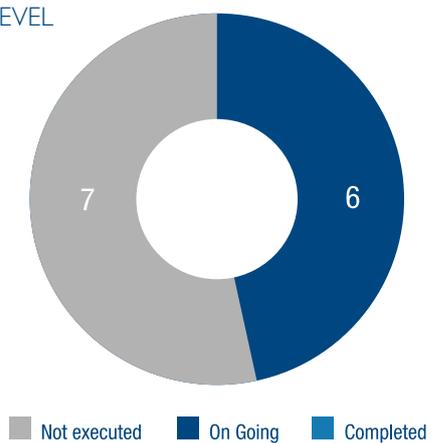**Key Focus Area:** Developing action plans to better manage and restore wetland ecosystems

Objective 3.2.g: Establish national hydrological and wetlands plans that adhere to Ramsar Convention's 'wise use' guidance.

0%   100%

0% (03/16)

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

0%   100%

0% (03/16)

ACTION LEVEL

- **Not executed**
- **On Going**
- **Completed**

7   6

CHAMPION

Ramsar Convention Secretariat

Contact: Ania Grobicki

CORE GROUP MEMBERS

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

- Development Research Center, Ministry of Water Resource, 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 (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 inappropriate use of water qualities is responsible for reducing the quantity of water available for the various uses it is needed for.

THEME LEVEL

OBJECTIVE LEVEL

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

Objective 3.3.a: Within a context of global changes and limited water resources, contribute to ensuring water resources availabilities in accordance with the different water uses and their associated water quality needs.

0% ——————————— 100%

16% (03/16)

Key Focus Area: Monitoring and Reporting of Water Quality

Objective 3.3.b: Provide enormous opportunities to bring a data revolution in sustainable development (goals), and support national Governments, NGO's 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)

Key Focus Area: Strengthening Frameworks for Governing and Managing Water Quality

Objective 3.3.c: Improved data collection and information exchange on water quality in the different regions of the world and among countries, use of international organizations' tools to gather policy information on water quality expansion of perspectives on water quality, utilization of existing partnerships and development of new partnerships sharing knowledge, web-based databases enhancing regional cooperation.

0% ——————————— 100%

0% (03/16)

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 transfer Sustainable Development Goals (SDG 6.3) into practice.
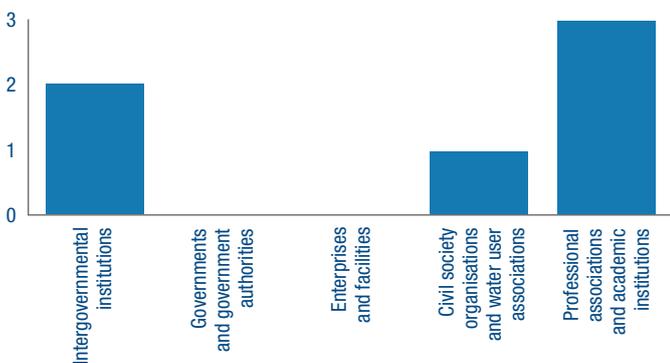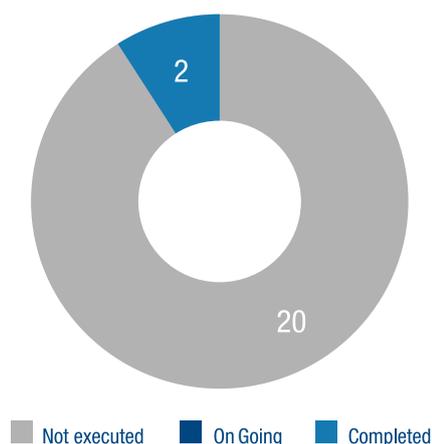
0% ——————————— 100%

0% (03/16)

Key Focus Area: Managing sources for coastal and marine water quality improvements

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

0% ——————————— 100%

0% (03/16)

ACTION LEVEL

Not executed ■ On Going ■ Completed

International Water Resources
Association (IWRA)

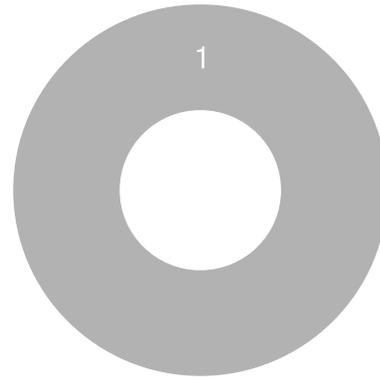Contact: Callum Clench

CORE GROUP MEMBERS

- Action Platform for Source to Sea Management

- Korea Environment Institute (KEI)

- Netherlands Water Partnership (NWP)

- Texas A&M University School of Law (TAMU)

- Turkish Water Institute (SUEN)

- UN Environment Programme (UNEP)

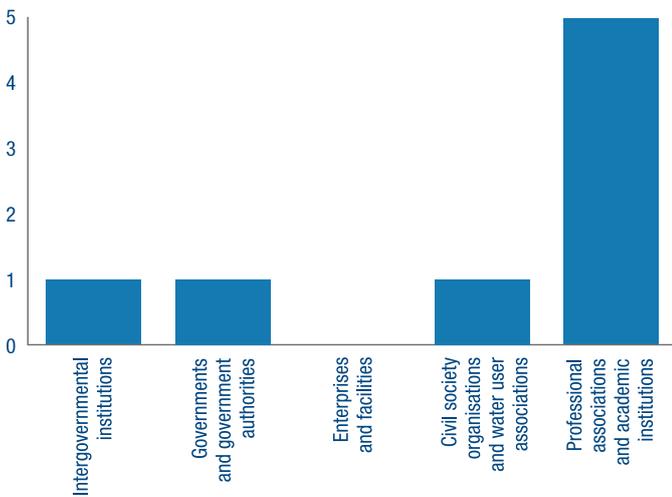# 3.4 SMART Implementation of IWRM

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?

ACTION LEVEL

Legend: Not executed | On Going | Completed

THEME LEVEL

Categories:
- Intergovernmental institutions: 1
- Governments and government authorities: 1
- Enterprises and facilities: 0
- Civil society organisations and water user associations: 1
- Professional associations and academic institutions: 5

CHAMPIONS

UNESCO Regional Science Bureau for Asia and the Pacific

Contact: Shahbaz Khan

Global Water Partnership (GWP)

Contact: Rudolph Cleveringa

OBJECTIVE LEVEL

Key Focus Area: IWRM for sustainable water resources management

Objective 3.4.a: To ensure the IWRM approach is applied at all levels as a means to achieve water security.

0%   100%

40% (03/16)

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 measures and soft measures, are increasingly daunting, while 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. In this perspective, how will the Sustainable Development Goals be financed? What role can the private sector play?

THEME LEVEL
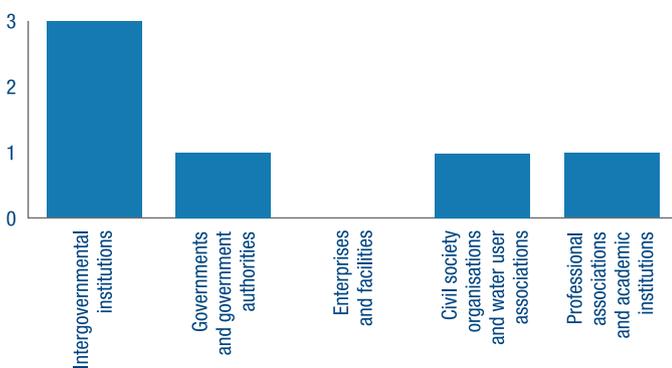
OBJECTIVE LEVEL

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 Service (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)

Objective 4.1.b: Using PBC and other forms of Results-Based Contracting to create incentives to 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 up a casebook of implementation of value to potential public clients, contractors and regulators.

0%   100%

0% (03/16)

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 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)

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

0%   100%

0% (03/16)

Objective 4.1.e: Present a crucial assessment of traditional means of financing agricultural water use, present and assess experience of the use of Public-Private Partnerships in irrigation management, and consider other options for agricultural water finance. Specifically, using 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)

Objective 4.1.f: Present different methods and sources of finance for Water Resources Management, with cases studies from specific countries, and consider the scope for making such practices more widespread.

0%   100%

0% (03/16)

14

■ Not executed ■ On Going ■ Completed
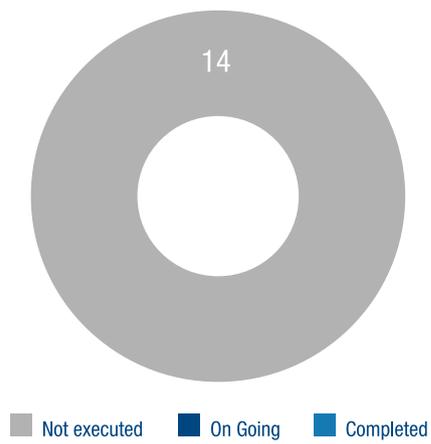
CHAMPION

Asian Development Bank (ADB)

Contact: Thomas Panella

CORE GROUP MEMBERS

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

- **International Secretariat for Water (SIE-SIW-SIA)**

- **Islamic Development Bank (IsDB)**

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

- **The World Bank**

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

GOAL DESCRIPTION

The international community now recognizes that the world's 'water crisis' is largely a 'governance crisis'. Many solutions to the 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' 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.

THEME LEVEL
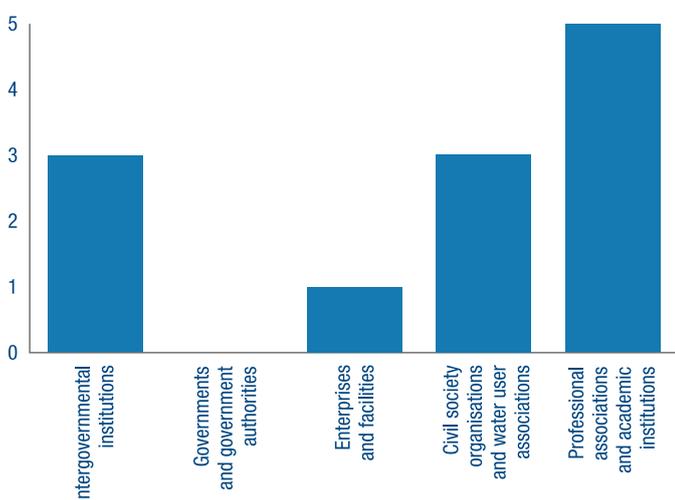
OBJECTIVE LEVEL

Key Focus Area: Effectiveness of water governance

Objective 4.2.a: By 2030, clearly allocate and distinguish roles and responsibilities for water policymaking, policy implementation, operational management and regulation, and foster co-ordination across these responsible authorities.

0%   100%

100% (03/16)

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

0%   100%

100% (03/16)

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

0%   100%

100% (03/16)

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

0%   100%

86% (03/16)
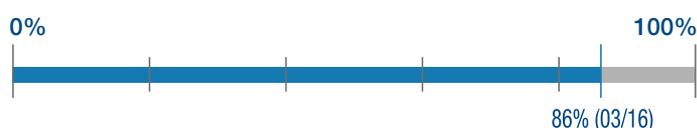
Key Focus Area: Efficiency of water governance

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.

0%   100%

93% (03/16)

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

0%   100%

100% (03/16)

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)

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)

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.

0%   100%

92% (03/16)
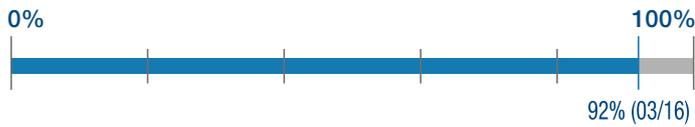
Objective 4.2.j: By 2030, promote stakeholder engagement for informed and outcome-oriented contributions to water policy design and implementation.

0%   100%

83% (03/16)
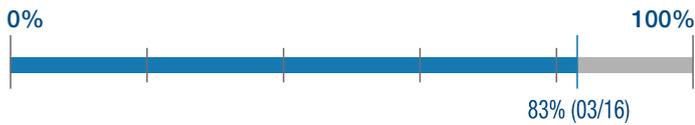
Objective 4.2.k: By 2030, encourage water governance frameworks that help manage trade-offs across water users, rural and urban areas, and generations.

0%   100%

91% (03/16)

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.

0%   100%

100% (03/16)

ACTION LEVEL

6

25

Not executed   On Going   Completed

CHAMPION

OECD 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 (FAO)**
- **International Office for Water/International Network of Basin Organizations (IOWater/INBO)**
- **K-Water**
- **Stockholm International Water Institute (SIWI)**
- **Suez Environnement**
- **The Asian Institute for Policies Studies**
- **Transparency International (TI)**
- **UNESCO International Hydrological Programme (IHP)**
- **Water Integrity Network (WIN)**
- **Water Youth Network**
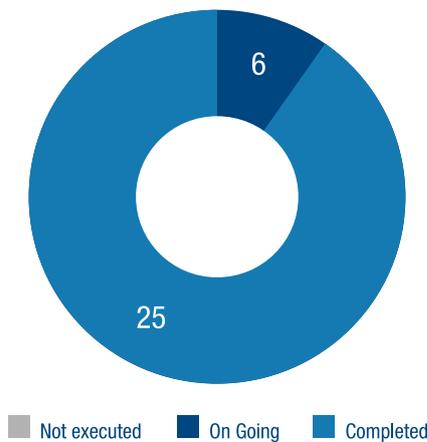
4.3 Cooperation for Reducing Conflict and Improving Transboundary Water Management

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 global level, such as the UN Watercourses Convention and the UNECE Water Convention, may have an increasing role in facilitating more effective water cooperation in future.

THEME LEVEL

OBJECTIVE LEVEL

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 centres and national and local administrations), to foster direct exchanges of knowledge, experts, techniques and methodologies.

0%   100%

82% (03/16)

Objective 4.3.b: By 2030, establish and support programs of capacity building for transboundary basin organizations targeting the strengthening of their institutions, funding mechanisms, policies for stakeholders involvement, water monitoring networks and data base.

0%   100%

83% (03/16)
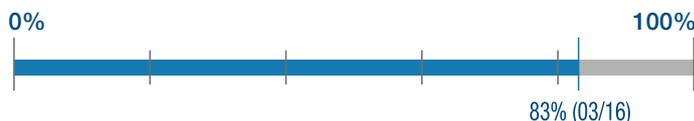
Objective 4.3.c: By 2030, develop existing networks of exchanges of knowledge and know-how between basin organizations.

0%   100%

74% (03/16)

Objective 4.3.d: By 2030, among basin organizations, disseminate and refine 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)

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.

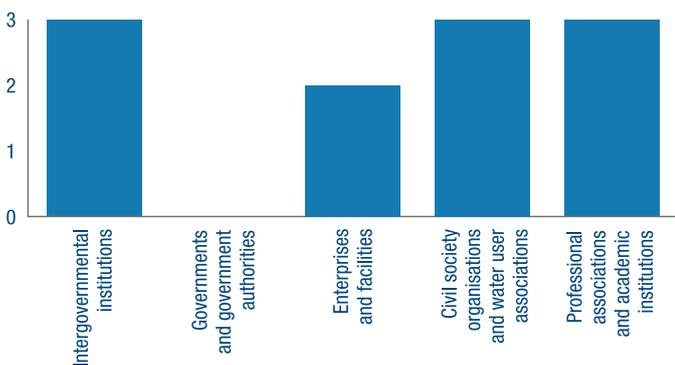0%   100%

71% (03/16)

Key Focus Area: Strengthening international law and diplomacy related to transboundary water management

Objective 4.3.f: By 2030, foster accession of additional States to the UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes (UNECE Water Convention), 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%

76% (03/16)

Objective 4.3.g: By 2030, foster the establishment of new basin agreements in transboundary basins and groundwater, the implementation of existing agreements, as well as, where necessary, their revision to address emerging challenges.

0%   100%

90% (03/16)

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

0%   100%

70% (03/16)

ACTION LEVEL

12

33

■ Not executed   ■ On Going   ■ Completed
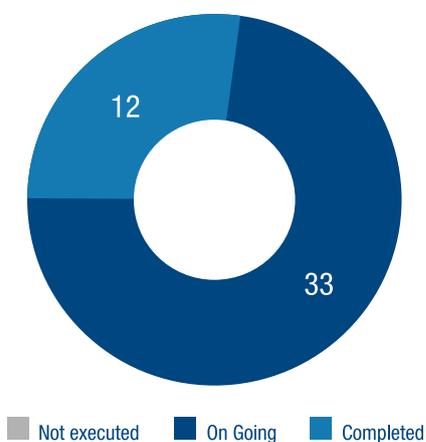
CHAMPION

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)**
- **Internationally Shared Aquifer Resources Management (UNESCO-IHP/ISARM)**
- **Organisation for the Development of the Senegal River (OMVS)**
- **Stockholm International Water Institute (SIWI)**
- **UN Economic Commission for Europe (UNECE)**

4.4 Water Cultures, Justice and Equity

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

THEME LEVEL

OBJECTIVE LEVEL

Key Focus Area: Water cultural diversity, justice and equity

Objective 4.4.a: Water Heritage: Inspire water policy makers to raise the attention for water and heritage in the dialogues about the SDGs and assessment instruments including the Environmental Impact Assessments.

0%   100%

45% (03/16)

Objective 4.4.b: Indigenous and local knowledge and solutions: Confirm commitments, incl. at highest level, for involving indigenous peoples perspective for better water governance.

0%   100%

20% (03/16)

Objective 4.4.c: Women for Water: Foster leadership and involvement of women at all levels in management and implementation of water policies and programs.

0%   100%

0% (03/16)

Key Focus Area: Governance for integration of services and scales

Objective 4.4.d: Legal Frameworks: Foster the recognition and understanding of diverse perspectives on water, water rights, legal frameworks and how they can be better understood and embedded in cooperative mechanisms, from public participation to international conventions.
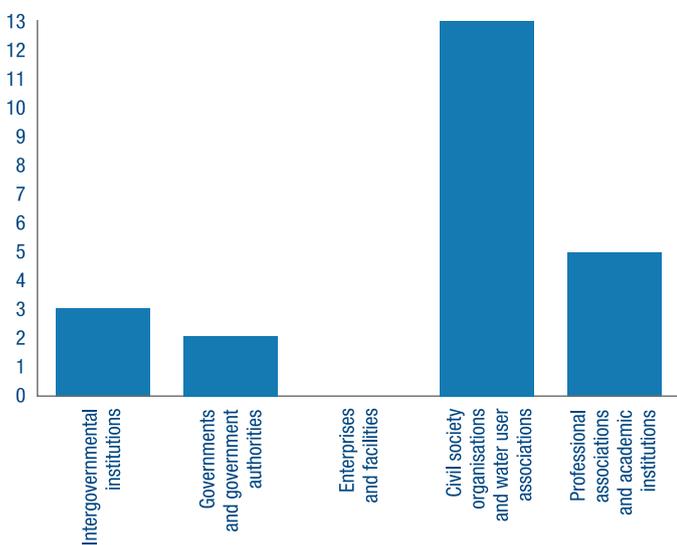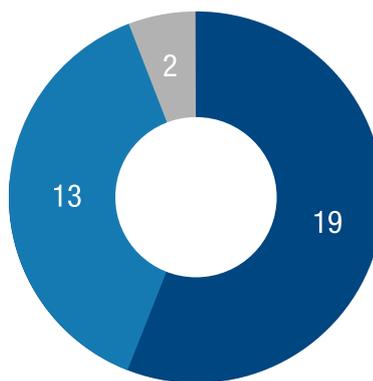
0%   100%

0% (03/16)

Objective 4.4.e: Water Ethics: 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.

0%   100%

0% (03/16)

Objective 4.4.f: Water and Spirituality: Consider complex cultural, religious, economic and environmental functions of water to demonstrate how this can contribute to improve water management, to water security and sustainable development.

0%   100%

0% (03/16)

ACTION LEVEL

Not executed   On Going   Completed

United Nations Educational, Scientific and Cultural Organization (UNESCO)

Contact: Alexander Otte

Women for Water Partnership (WfWP)

Contact: Diana Iskreva

CORE GROUP MEMBERS

- **Research Institute for Humanity and Nature (RIHN)**

- **Water-Culture Institute**

# 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 those 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

OBJECTIVE LEVEL

Key Focus Area: Developing education and raising awareness on water issues

Objective 4.5.a: By 2018, assessing global water education needs that will have to be satisfied in order to achieve SDGs.

100% (03/16)

Objective 4.5.b: By 2020, developing toolkit of innovative techniques for communication on water issues.

100% (03/16)

Key Focus Area: Training of water professionals

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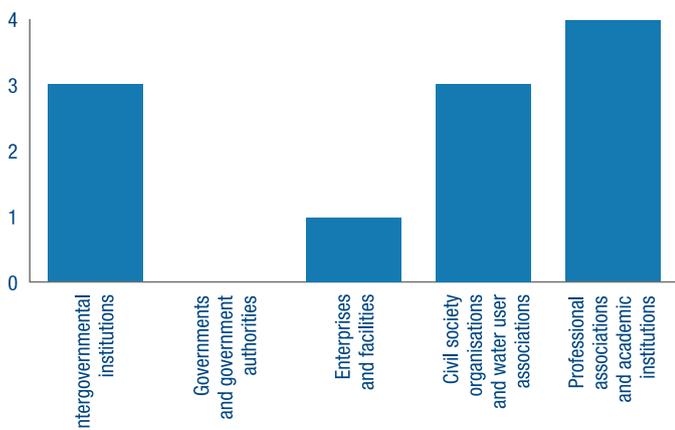

100% (03/16)

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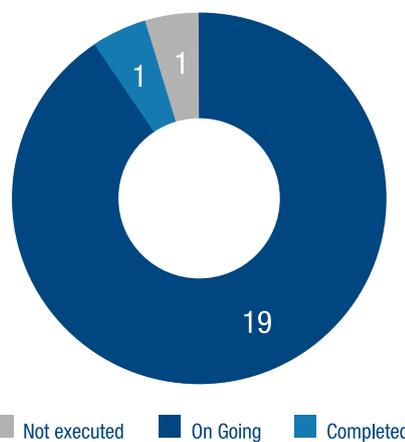

62% (03/16)
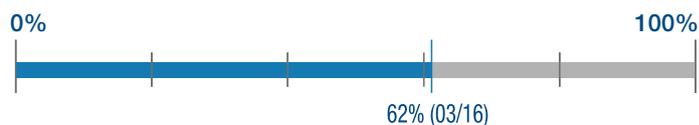
Objective 4.5.e: By 2030, develop programs of training of the staff of basin organizations and stakeholders involved in water resources management.

60% (03/16)

ACTION LEVEL

Not executed · On Going · Completed

International Network of Water Training Centers (INWTC)

Contact: Josiane Mongellaz

CORE GROUP MEMBERS

- Capacity Development in Sustainable Water Management (CapNet)

- International Institute for Water and Environment Engineering (2ie)

- Korea Water Forum (KWF)

- UNESCO Institute for Water Education (IHE)

- World Youth Parliament for Water (WYPW)

All information within this report pertaining to the content of the Implementation Roadmaps has been drawn directly from the Action Monitoring System (available at http://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 of the IRs content and are therefore dependent on the data made available through this public platform.

The information presented in this first edition of the Progress Report on Implementation Roadmaps was extracted on 29 February 2016. 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

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Infrastructure and Transport

KOREA
WATER FORUM

KOREA WATER FORUM
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