

# **A compilation of aspects on the means of implementation: water and sanitation**

A look at Goal 6 and Goal 17

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## 1. Introduction

In July 2014, the Open Working Group on the Sustainable Development Goals (SDGs) proposed an ambitious set of 17 goals and 169 targets to guide global development from 2015-2030, to be adopted at the Summit on the Post-2015 Development Agenda at the end of September 2015 in New York. They include two that this paper will address: Goal 6, “Ensure availability and sustainable management of water and sanitation for all”, and Goal 17, “Strengthen the means of implementation and revitalize the global partnership for sustainable development”, in the context of water and sanitation.

The post-2015 development roadmap must be developed in tandem with other major parallel intergovernmental processes currently underway, all of which are set to culminate in 2015, such as the Third World Conference on Disaster Risk Reduction, the discussions on Finance for Development and the international climate change negotiations (COP21). **Water and sanitation are running threads which connect all of these issues and processes.**

The sentiment conveyed in the outcome document of Rio+20, “The Future We Want”, that “water is at the core of sustainable development”<sup>1</sup> was embedded in the resulting SDG framework: SDG 6, as a universal goal on water and sanitation, represents a considerable increase in scope and ambition over the current MDGs. It includes moving to universal access in drinking water, sanitation and hygiene, addressing inequalities as well as also including global challenges on wastewater, water quality, efficiency, water resources management and ecosystem services. This expansion is significant, underpinning the connections to other areas such as health, food, energy, poverty, economic productivity, equity, and access to education.

**Technologies for water and sanitation exist, yet adequate resources, capacities and strategies will be absolutely essential if countries are to meet the ambition set out by Member States in the emerging SDGs.** While building on the mechanisms and lessons learned from the MDGs, the new set of global goals needs renewed global and national partnerships able and willing to mobilize policy coherence, finance, technology, science and innovations, capacity-building and robust frameworks for data collection and monitoring to report on progress towards reaching the goals. These “means of implementation” have already been addressed in different UN reports, intergovernmental meetings and by various expert and stakeholder groups such as the Sustainable Development Solutions Network (SDSN). A set of proposals about the actions, measures and policies that would need to be taken to mobilize required resources was also the main outcome of the ‘High-level Thematic Debate on Means of Implementation for a Transformative Post-2015 Development Agenda’, which took place from 9-10 February 2015 at the UN headquarters in New York. These sources also provide information relevant to the water and sanitation sector.

The aim of this paper is to provide an overview context of the current available sources, actions and conditions needed to meet SDG 6 and also relates to water-related disasters as included in target 11.5. It is not a **comprehensive** set of actions, as that would vary from country to country and from target to target and thus go beyond the scope of this paper. It touches upon some current processes and discussions and brings together the different threads highlighted in Goal 17 in the area of water and sanitation.

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<sup>1</sup> “The Future We Want”, UN GA Resolution A/RES/66/288 11 September 2012. Available at [http://www.un.org/ga/search/view\\_doc.asp?symbol=A/RES/66/288&Lang=E](http://www.un.org/ga/search/view_doc.asp?symbol=A/RES/66/288&Lang=E).

The paper also provides information on the costs and benefits of investments needed to achieve SDG 6: there is clearly a cost associated with action, but the cost of inaction on water and sanitation is even greater – in terms of loss of social, environmental and economic benefits and opportunities for future generations.

## 2. The Means of Implementation for Water and Sanitation

**Systematic effort will be required in order to generate the means (economic, social, human and environmental resources) needed to support the implementation of an ambitious water and sanitation goal (Goal 6).** Evidence shows, for example, that the sanitation and hygiene sub-sector suffers particularly from human, institutional and financial resources constraints and that it is predicted that around 1.4 billion people will be without access to sanitation in 2050, particularly in South Asia and Sub-Saharan Africa.<sup>2</sup> Recent inputs from the contributions of stakeholders echo these findings.<sup>3</sup>

**Cost-effective technological solutions for water supply, sanitation and hygiene are readily available and implementable.** The challenge is to ensure that sound practices and services are sustained within an enabling environment. Accompanied by adequate human, institutional and financial arrangements for long-term operation and maintenance, this requires adopting behavioral change approaches, scaling-up services that are appropriate within the local context and broadening the scope of funding for water projects. Projects must also look at the entire water cycle and consider sanitation, from which more people suffer from a lack of access: drinking water continues to attract the majority of water, sanitation and hygiene (WASH) funding, even in countries with relatively high drinking water supply coverage and relatively low sanitation coverage.

**The enabling environment clearly needs to include not only the mobilization of adequate and targeted investments but address other crucial other enabling factors, such as policies, capacity-building and other requirements.** As a basis for this paper, in addition to targets 6a and 6b, Goal 17 proposed by the Open Working Group sets out 19 targets that address implementation, which is grouped into the building blocks below:

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1. Finance
  2. Technology
  3. Capacity-building
  4. Trade
  5. Policy and institutional coherence
  6. Multi-stakeholder partnerships
  7. Data, monitoring and accountability

Figure 1 - the seven building blocks for means of implementation laid out in Goal 17, as expressed in the Open Working Group (OWG) proposal from July 2014

<sup>2</sup> OECD (2012): Environmental Outlook to 2050, OECD, Paris.

<sup>3</sup> For example, the UN-Water annual international Zaragoza conference, Outcomes available at <http://www.u.org/waterforlifedecade/waterandsustainabledevelopment2015/>.

These seven categories are mutually reinforcing and interdependent. Experience shows, for example, that timely investment in technology and infrastructure is essential and needs to be prompted by institutional arrangements, and that many financing mechanisms are only possible when accompanied by effective governance, enhanced capacities and properly adapted technologies, as well as appropriate tariff systems and legal and regulatory frameworks.

The key aspects of each building block will be discussed below in the context of meeting SDG 6. Each country would have to determine which of these means is most critical within its own specific context. The objective of this paper is to provide some initial ideas that will require further in-depth consideration by national experts and international support mechanisms.

## 2.1 Finance

Financing SDG 6 will require concerted and combined efforts in order to ensure the mobilization of adequate funding for its implementation from all sources: public and private, domestic and international. As stated by the Financing Sustainable Development Report:

*“Without financing there can be no credible agreement on the SDGs or climate change. Without the SDGs, there can be no guidance on how to design a financing framework for sustainable development. Without a successful climate summit, the hope to end poverty will be lost.”<sup>4</sup>*

The forthcoming Financing for Development Conference in Addis Ababa will consider in detail the financing needs to achieve the SDGs, and it is essential that water is considered within this process. Below we give some examples of financing for water, which will hopefully be reinforced and expanded by the outcome of this conference.

### *Funding requirements and value for money*

As with the MDGs, achieving water and sanitation targets in the SDGs will require funding – the total amount of these funding requirements as a whole are difficult to estimate and may vary widely depending on the methodology used and assumptions made. Any financing studies need to consider costs of operation, maintenance and replacement of existing as well as new water and sanitation infrastructure and facilities in order to be as accurate as possible in a particular country’s context<sup>5</sup>. The costs of providing access to safe water and adequate sanitation, for example, will vary from high when high standards are applied and sophisticated technology is used, to substantially lower when simple technology, that demands low maintenance, is used.<sup>6</sup>

Achieving universal coverage in safe drinking water and sanitation has been estimated to require investing the equivalent of around 0.1% of Global Domestic Product (GDP) in 2010 terms<sup>7</sup>, or US \$53 billion over five years, though this estimate is expected to rise as future scenarios should consider hygiene and the use of private sanitation as opposed to shared facilities.

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<sup>4</sup> SDSN (2014) Financing Sustainable Development: Implementing the SDGs through Effective Investment Strategies and Partnerships. Preliminary, unedited draft. Authors: Schmidt-Traub, G. & Sachs, J.D.

<sup>5</sup> G. Hutton and J. Bertram (2008), “Global costs of attaining the Millennium Development Goal for water supply and sanitation”, available from <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2647341/>.

<sup>6</sup> World Health Organization (2004), “Costs and benefits of water and sanitation at the global level”. Available at [http://www.who.int/water\\_sanitation\\_health/wsh0404summary/en/](http://www.who.int/water_sanitation_health/wsh0404summary/en/).

<sup>7</sup> UNESCO World Water Assessment Programme (2015), UN World Water Development Report, “Water for a Sustainable World”. Available at <http://www.unesco.org/new/en/loginarea/natural-sciences/environment/water/wwap/wwdr/2015-water-for-a-sustainable-world/>.

ties. Recent estimates reviewed and confirmed by various publications suggest that an incremental US \$27 billion will be required to ensure universal access to drinking water and sanitation, with sanitation accounting for the majority of incremental resource needs<sup>8</sup>. WaterAid has suggested that African countries should spend 4.5 percent of GDP on water and sanitation, in line with the Africa Infrastructure Country Diagnostic (AICD) assessments<sup>9</sup>.

**There is no doubt that significant investment is needed, yet the cost-to-benefit ratios are high**, with the benefits exceeding the cost of an intervention by between 3 to 6 times depending on the type, from achieving universal access to basic sanitation at home to eliminating open defecation<sup>10</sup>. Inadequate sanitation causes a loss of several percentage points of GDP in many countries around the world – in India it is estimated that 6.4 percent of its GDP, or US \$53.8 billion, is lost due to the adverse economic impacts and costs of inadequate sanitation, including death and disease, accessing and treating water, and losses in education, productivity, time and tourism.<sup>11</sup> The WHO places estimates for losses due to inadequate water and sanitation services in developing countries at a total of US \$260 billion a year, 1.5% of global GDP – or up to 10% of GDP for some very poor countries<sup>12</sup>. A recent report published by the University of Oxford indicates that water insecurity is a drag on economic development in the order of US \$500 billion annually - excluding environmental and other non-monetized impacts<sup>13</sup>.

**Clearly the impacts go beyond WASH.** Africa, for example, loses 5% of GDP due to poor coverage of water and sanitation, but also 2% to power outages, between 5 - 25% to droughts and floods in affected countries, and perhaps a further 5% to the probable future impacts of climate change<sup>14</sup>. Additionally, these partial values can only capture a proportion of the total costs of inaction. For example, water pollution costs in China may also represent between 0.3% and 1.9% of rural GDP (depending on the “value of a statistical life” that is applied), without including projected costs on other complimentary sectors like ecosystem services and effects on biodiversity.<sup>15</sup> Drinking water supply and sanitation investments generate high economic returns to society and a large range of economic and social benefits<sup>16</sup>.

**Against this backdrop, financing the means of implementation makes sound economic sense.** Accelerated progress is particularly needed for disadvantaged groups and to ensure non-discrimination under human rights legal requirements, and targeting the poorest 40% of the population would yield the biggest gains<sup>17</sup>. Yet according to the 2014 UN-Water Global Analy-

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<sup>8</sup> WaterAid 2013, WHO and UN-Water 2012, World Bank 2011

<sup>9</sup> Greenhill, R, and Ali, A. 2013. Paying for Progress: How will emerging post-2015 goals be financed in the new aid landscape? ODI Working Paper 366. Available at <http://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/8319.pdf>.

<sup>10</sup> Ibid.

<sup>11</sup> World Bank Water and Sanitation Program (2015), “The Economic Impacts of Inadequate Sanitation in India”, available at <https://www.wsp.org/featuresevents/features/inadequate-sanitation-costs-india-equivalent-64-cent-gdp>

<sup>12</sup> World Health Organization (2004), “Costs and benefits of water and sanitation at the global level”. Available at [http://www.who.int/water\\_sanitation\\_health/wsh0404summary/en/](http://www.who.int/water_sanitation_health/wsh0404summary/en/).

<sup>13</sup> Global Water Partnership and the Organisation for Economic Co-operation and Development, “Securing Water, Sustaining Growth”, 13 April 2015. Available at: <http://www.ox.ac.uk/news/2015-04-13-water-insecurity-drag-global-economy-0>.

<sup>14</sup> Africa Regional Position Paper, 5<sup>th</sup> World Water Forum, Istanbul

<sup>15</sup> OECD (2008). Costs of Inaction on Environmental Policy Challenges: Summary Report <http://www.oecd.org/environment/ministerial/40501169.pdf>

<sup>16</sup> G. Hutton (2015), “Benefits and Costs of Meeting the Water, Sanitation and Hygiene Targets in the Post-2015 Development Agenda”. Available from [http://www.copenhagenconsensus.com/sites/default/files/water\\_sanitation\\_assessment\\_-\\_hutton.pdf](http://www.copenhagenconsensus.com/sites/default/files/water_sanitation_assessment_-_hutton.pdf).

<sup>17</sup> Ibid

sis and Assessment of Sanitation and Drinking-Water (GLAAS) Report, in 77% of countries public finance is still insufficient to meet targets 6.1 and 6.2.<sup>18</sup> Finally, new evidence<sup>19</sup> demonstrates that water resources can play a defining role in economic development.

Examples of the positive impact of water on economic growth include irrigation in India (rapid decline in rural poverty) and China<sup>20</sup>, hydropower in China (doubling of local GDP)<sup>21</sup> and flood management in USA (benefits of 3.5 times costs)<sup>22</sup>. Conversely, floods in Mozambique in 2000 reduced annual GDP by 6%.<sup>23</sup> The value of wetlands for human security has been estimated at USD 15 trillion.<sup>24</sup> At a more general level, improved management of water resources could help the many countries that are highly vulnerable to rainfall variability.

### *Utilizing existing financing and improving targeting*

To meet SDG 6, besides gathering new financial resources, which will no doubt be needed, it is equally important to use existing finance more effectively. Efficiency requires better governance and accountability to ensure financial resources are used for the purposes intended and not wasted. The 2014 GLAAS, for example, highlights the case that current funding may not be going to those with the greatest needs.<sup>25</sup> Making sure that the resources that have already been mobilized go to those most in need would make the best use of funds that already exist for water and sanitation, for both international and domestic sources.

In particular, as with the MDGs, national commitments and local efforts will be a key part of achieving the SDGs, not only in terms of the mobilization of domestic resources but also for strengthening domestic investment, broadening tax bases and creating transparent and accountable institutions, while also limiting tax evasion and curbing corruption and illicit flows.

The effective use of domestic resources is a central piece of any sustainable development strategy. Domestic public funds are critical in order to provide public goods, increase access to the poor, streamline the economic cycle and support macroeconomic stability. These policy choices effectively reduce long-term risks for water investments while enhancing the fiscal base for the future. As important as it is to progress towards efficient and transparent procurement, it ultimately is the removal of environmentally harmful subsidies and the progress towards pricing systems in line with the sustainable use of water, land and energy that will ensure long-term solutions.

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<sup>18</sup> UN-Water GLAAS Report (2014), "Investing in Water and Sanitation: Increasing Access, Reducing Inequalities". Available at [http://www.who.int/water\\_sanitation\\_health/glaas/2014/en](http://www.who.int/water_sanitation_health/glaas/2014/en)

<sup>19</sup> Sadoff C. et al (2015), "Securing Water Sustaining Growth: Report of the GWP/OECD Task Force on Water Security and Sustainable Growth". Available at: <http://www.gwp.org/en/gwp-in-action/News-and-Activities/New-Report-Water-Insecurity-a-Drag-on-Global-Growth/>

<sup>20</sup> World Water Development Report (2015): A six-year study of winter wheat production on the North China Plain showed water savings of 25% or more through the application of deficit irrigation at various growth stages. In normal years, two irrigations (instead of the usual four) of 60 mm were enough to achieve acceptably high yields and maximize net profits.

<sup>21</sup> Stockholm International Water Institute (2005): *Making Water a Part of Economic Development: The Economic Benefits of Improved Water Management and Services*, SIWI/WHO, Stockholm.

<sup>22</sup> Grey and Sadoff (2007): *Sink or Swim? Water security for growth and development*, Water Policy 9: 545–571.

<sup>23</sup> U.S. Agency for International Development (2002), *Mozambique 1999-2000 Floods Impact Evaluation*, USAID, Washington, D.C.

<sup>24</sup> Millennium Ecosystem Assessment (2005): *Ecosystems and Human-Being: A Framework for Assessment*, Island Press, Washington D.C.

<sup>25</sup> UN-Water GLAAS Report (2014), "Investing in Water and Sanitation: Increasing Access, Reducing Inequalities". Available at [http://www.who.int/water\\_sanitation\\_health/glaas/2014/en](http://www.who.int/water_sanitation_health/glaas/2014/en)

Financial planning is necessary for making political investment decisions for water infrastructures that have long-term benefits. This has to be supported with viable and financeable sustainable management models able to attract financing and cover operation, maintenance and capital costs. Defining the objective and designing more sophisticated financing packages that select the most appropriate and suitable instruments for each particular problem, e.g. blending grants, loans and public funds, are essential to attract financing institutions and secure best value for money.

In order to attract more finance – both public and private – basic building blocks<sup>26</sup> need to be put in place so that the finance available are used to achieve the greatest impact and to ensure that the poorest and most vulnerable are protected. These building blocks include:

- **Regulatory frameworks that enable the setting of affordable** tariffs and that make sure the poorest and the most vulnerable are not excluded.
- **Policies** that create an enabling environment for investment, so that investors – public or private – are confident that their investments will achieve results.
- **Adequate human resource capacity** at all levels – both nationally and especially at a local level.
- Robust systems to **monitor progress** and the impact of policies and resources.

For SDG 6, the majority of public investments will need to come through taxes and tariffs, supported by targeted transfers. Especially as regards the water resource management targets in SDG 6, financing will essentially be for public goods through government<sup>27</sup>. Here, financing for ecosystems are a good example. Protecting and restoring ecosystems has a proven track record of providing cost-savings and improving sustainability in water management (for example, watershed restoration to reduce water-treatment costs or improve dam performance). There is increasing experience in relevant financing tools such as through payments for ecosystem services schemes and similar approaches. Ecosystems should be considered as natural or green water infrastructure and natural capital, and be integrated into overall financing and investment approaches along with other infrastructure, with the benefits of investment assessed on a case-by-case basis. It is also important to factor in co-benefits (beyond water) of ecosystem-related investments, since these can be substantial (for example, fisheries or tourism and recreation benefits from more natural areas).

The levels of finance may be high for measures such as flood/drought risks and ecosystem protection, but modest for institutional reforms or regulatory systems. Domestic resources, with support from bilateral donors, will therefore be critical to achieve the non-service oriented targets.

Increasingly, professionalization may pave the way for new private sector investments and access to other financial instruments in water and sanitation services and in productive water uses via commercial loans, results based finance and credit guarantees<sup>28</sup>.

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<sup>26</sup> These suggestions draw from the contributions of stakeholders at the 2015 UN-Water annual international Zaragoza conference, available at <http://www.u.org/waterforlifedecade/waterandsustainabledevelopment2015/>.

<sup>27</sup> Ibid.

<sup>28</sup> World Water Council and OECD, (2015), "Water, Fit for Finance? Catalysing national growth through investment in water security". Full article forthcoming, information available at <http://www.oecdobserver.org/news/fullstory.php/aid/4825/Water: Unclogging the finance.html>.



### ***Pricing practices to match willingness to charge with capacity to pay***

Peoples' willingness and ability to pay for water and sanitation services should not be underestimated - prior experience also shows that water and sanitation targets can be reached even when financial opportunities are small and people's willingness to pay is hampered by poverty and deprivation. When financial, environmental and social objectives in water pricing are balanced, putting the right price on water should encourage people to waste less, pollute less, and invest more in water infrastructure<sup>29</sup>.

Water prices must be adaptable and must progress in line with local incomes and economic development. Nevertheless, the political nature of water tariffs makes them resistant to increases. As a result, existing tariffs often lag behind people's willingness to pay. Actually there is potential to increase resources from tariffs by setting realistic prices at up to 3% of disposable income while using pro-poor tariffs to maintain access for the disadvantaged<sup>30</sup>. Experiences show that people are more willing to pay for a reliable service and the convenience of having a service closer to home.

Making water-users contribute to finance water services is an integral part of a sustainable water development strategy. Besides making services affordable to people and business, the ability to charge for water depends also on many circumstances such as the social perception that providing water services depends on peoples' contributions and that revenue from water tariffs is not being used to other government purposes or even worse, captured by any social group, such as firms or trade-unions, or deviated to corruption. People must perceive that they are paying a fair price and that, by paying for water, they are getting better services and contributing to a collective endeavor. All these conditions will ease the financial challenge of water development.

### ***Future financial resources***

In addition to strengthened domestic fiscal systems and better water pricing, new and expanding opportunities to tap into financial resources may come from areas such as climate change, energy and food. Climate change is expected to be felt most clearly in the area of water, and more effort is needed in the United Nations Framework Conventions on Climate Change (UNFCCC) Committee of the Parties (COP) 21 negotiations to put water at the center of climate change adaptation and mitigation strategies. The new Green Climate Fund<sup>31</sup> to support country actions coping with the adaptation and mitigation of climate change in this regard may represent as much as US \$100 billion per year.<sup>32</sup>

In order for SDG 6 to avoid competing with the funding requirements related to the new Climate Change and Disaster Risk Reduction implementation frameworks as well as for all other SDGs, synergies will have to be found and a coherent framework for the distribution of funds developed, which will help optimize investments and ensure all of the three processes can come to a positive end.

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<sup>29</sup> OECD (2015), "Water – the right price can encourage efficiency and investment", available at <http://www.oecd.org/env/resources/water-therightpricecanencourageefficiencyandinvestment.htm>

<sup>30</sup> Ibid.

<sup>31</sup> Available at: [http://unfccc.int/cooperation\\_and\\_support/financial\\_mechanism/green\\_climate\\_fund/items/5869.php](http://unfccc.int/cooperation_and_support/financial_mechanism/green_climate_fund/items/5869.php)

<sup>32</sup> Sadoff C et al, (2015), "Securing Water Sustaining Growth: Report of the CWP/OECD Task Force on Water Security and Sustainable Growth". Available at: <http://www.gwp.org/en/gwp-in-action/News-and-Activities/New-Report-Water-Insecurity-a-Drag-on-Global-Growth/>

Any consideration of the quality and quantity of available water supplies in the region must examine groundwater, which is critical to several economic sectors. Experts estimate that groundwater irrigation contributes US\$10 to US\$12 billion per year to the Asian economy. When also including earnings from groundwater sales for irrigation, that estimate increases to US\$25 to US\$30 billion (Shah et al., 2003). Bangladesh, China, India, Nepal and Pakistan together account for nearly half the world's total groundwater use<sup>33</sup>.

Another area where water is also critical is in the promotion of sustainable agricultural development. Water projects may be eligible, for example, to be financed by the Fund for Smart Agriculture in Latin America and the Caribbean (LAC), and other funds such as the Canadian Climate Fund for the private sector. Acknowledging the role that water plays in enhancing and protecting the environment, water has also been funded by the Global Environmental Facility. The creation of blue water bonds, similar to climate bonds, may be another future option to attract funds to water management and environmental protection. Finally, the incorporation of new donors from emerging economies like China, India, the Middle East and Brazil into the market can provide new financial streams.

**Private sector philanthropic investment** is playing an increasingly important role for water and sanitation. Foundations such as the Bill and Melinda Gates Foundation have committed more than US \$265 million to the WASH sector over a five-year period to 2011<sup>34</sup>. Many others, such as the Rotary Foundation, invest and mobilize millions of dollars for the provision of drinking water and sanitation access around the world. Yet enabling domestic environments and sound policies for accountability between partners will remain important conditions for private sector funding in order to balance business needs with affordable pricing policies.

**Public-private partnerships** (PPPs) can for example help smallholder farmers invest in irrigated agriculture projects, and also improve access to safe water and sanitation services by building new infrastructure, improving technology or using clean technology to better meet the needs of the community.

**Official Development Assistance** (ODA) does and will continue to play an important role for water and sanitation in the world's poorest countries. ODA is an essential component of the financing "toolbox" – donor countries are obligated by their previous commitments to act; governments need to use ODA much more effectively, including the means to leverage funds from other sources. ODA has to be targeted at poor and vulnerable countries and people, including water insecure countries, which still lack the governance systems and capacity to mobilize financial resources domestically or raise adequate funds from payment for water services. Assessing the contribution of ODA through indicators such as the "Total Official Support to Sustainable Development" may become a powerful means to ally international support with national priorities.<sup>35</sup> This is particularly important to scale up emerging South-South and triangular cooperation and to guarantee that all new sources are additional, predictable and applied to the priorities of developing countries.

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<sup>33</sup> UNESCO World Water Assessment Programme (2015), UN World Water Development Report, "Water for a Sustainable World". Available at <http://www.unesco.org/new/en/loginarea/natural-sciences/environment/water/wwap/wwdr/2015-water-for-a-sustainable-world/>.

<sup>34</sup> Gates Foundation Water, Sanitation and Hygiene Portfolio. Available at <http://www.gatesfoundation.org/What-We-Do/Global-Development/Water-Sanitation-and-Hygiene>

<sup>35</sup> OECD (2014), "Background paper: Towards more inclusive measurement and monitoring of development finance – Total Official support for Sustainable Development". Available at: <http://bit.ly/1Q5MBk3>

In times of economic difficulties, ODA, like investments from the private sector, can suffer. Yet one promising example is the Monterrey Agreement, which has served both to maintain and increase ODA in spite of the economic downturn of many donors, as well as to help countries progress towards integrated sustainable development strategies better focused on those more in need.<sup>36</sup> Other new mechanisms such as “**blended finance**” (a combination of concessional and non-concessional public finance paired with private investments) can become important means to structure investments in water development that do not replace or impose heavy debt burdens on public responsibilities.

In this way, funding mechanisms can gradually be eased or transitioned from foreign aid and public funding to shared funding (by the public and private sector) and cost recovery strategies, which can ensure long-term sustainability to affordable and self-sustainable water services and water resource management. These must be underpinned by changes in behavior and education, including on the importance of charging and paying for services.

**Vertical funds** present another promising example. Good experiences from the MDG era include vertical funds such as the Global Alliance for Vaccines and Immunization (GAVI). A similar global pooled fund linked to the implementation of SDG 6 for the poorest and most vulnerable people would provide an opportunity to reach the targets. Recent input suggestions that such a fund would need to fulfill some important agreed criteria based on experiences from other funds to add value and be efficient in its implementation in countries<sup>37</sup>:

- The fund should focus on **the poorest and most vulnerable** and seek to reduce the significant disparities that exist in countries as an essential part of achieving the water Goal;
- The fund should be implemented in a way that **supports and reinforces government systems** rather than creating parallel coordination and monitoring mechanisms;
- The **governance structure** of the fund should be **led by Member States**, as they are ultimately accountable for the achievement of the SDG targets;
- A fund should work alongside structured support in-country to governments to access funding by developing credible policies and plans and systems to monitor and account for the use of the funds and the results achieved.

### *Pro-poor and inclusive financing strategies*

As is relevant for all SDG targets, above all, and for all of the options listed in this section, financing strategies need to follow “pro-poor principles” which involve water users in decision-making. Making people part of their own water development solutions is critical to meeting the SDGs. As experience shows that governments alone cannot implement all water projects, ensuring that capacity and financial support to local communities are in place may increase community ownership and the ability to respond to eventual difficulties.

Within this context, trust funds, micro-finance, philanthropy and sovereign wealth funds and choosing low-cost grassroots solutions can be powerful options. Community engagement from

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<sup>36</sup> The Monterrey Consensus of Financing for Development 2002. Available at: <http://www.un.org/esa/ffd/monterrey/MonterreyConsensus.pdf>

<sup>37</sup> These suggestions draw from the outcomes of discussions among various stakeholders at the 2015 UN-Water annual international Zaragoza conference, available at <http://www.u.org/waterforlifedecade/waterandsustainabledevelopment2015/>.

the very planning process is fundamental to enable choosing cost-effective solutions, ownership, empowerment and sustainability in operation and maintenance.

The World Bank identifies three main instruments for viable financing for lower income communities:<sup>38</sup>

- **Lower water tariffs linked with low-cost technologies.** In poor communities where households cannot contribute significantly, the selection of affordable but efficient technologies may contribute to provide essential services.
- **Better targeted public support.** It is important to shift public finance to those more in need of support, such as the urban and rural poor and those living in distant rural areas. This may include targeted transfers from international donors.<sup>39</sup>
- **Improving use of donor and public financing through results-based contracts and output-based aid.** Performance-based contracts can increase effectiveness and reduce future financial burdens.

Existing aid can also be used to provide collateral and warranties designed to attract private capital to locally risky projects – including local community projects and for supporting the establishment of local credit systems that can create revolving financing sources.

## 2.2. Technology (including science and innovation)

Targets 17.6 to 17.8 address technology, science and innovation aspects, putting special focus on three particular points. First, there needs to be an enhancement of North-South, South-South and triangular regional and international cooperation on and access to science, technology and innovation. Second, the promotion of the development, transfer, dissemination and diffusion of environmentally sound technologies to developing countries on favorable terms, including on concessional and preferential terms. Third and arguably most difficult is the full and rapid operationalization of the technology, banking, science, and innovation capacity-building mechanisms for the least developed countries (LDCs) while enhancing the use of enabling technology, in particular information and communications. This is a vast and technical topic and a few examples are given below to illustrate the huge potential this offers for achieving the SDG.

### *Technologies: low cost and locally adapted*

Advances in water and sanitation are contributing to an increasingly wide array of new technologies and approaches that are adaptable to scale, capacities and local conditions. There is an increasing range of innovative and low cost technologies and behavior change approaches for sanitation and water supply and management as well as technical alternatives to increase efficiency in water provision and water use in industry, agriculture and energy production.

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<sup>38</sup> The World Bank Group (2013). “Financing for Development Post-2015” available at: <https://www.worldbank.org/content/dam/Worldbank/document/Poverty%20documents/WB-PREM%20financing-for-development-pub-10-11-13web.pdf>

<sup>39</sup> WASH does not take a relevant share of the USD 15 billion spent by external support agencies in 2012 but, even if this was possible, 60% of countries do not have the capacity to generate and implement projects to absorb a high percentage of donor capital commitments for sanitation.

There are also many alternatives for adapting to climate change and reducing the risks derived from water extremes, such as floods and droughts.

The interconnectedness of water issues to other development areas which benefit from improved technology, such as agriculture, means that the water sector can piggyback on existing strategies. India, for example, made a legal commitment in 2013 to provide minimal essential calories to over 75 percent of the population. It includes “rain water harvesting, aquifer recharge and conjunctive use of ground water, surface water, treated waste water and sea water (...) farming systems involving halophytes and aquaculture”<sup>40</sup>. As salt water constitutes 97 percent of all global water resources, methods to utilize sea water for agriculture, which uses 70% of the world’s available freshwater resources, would represent a major technological breakthrough that would reduce the freshwater burden.

Technology, science and innovation development in recent decades have significantly widened the number and the scope of opportunities and options available to increase coverage and reporting of WASH access. Particularly in relation to the water and sanitation sector, **mobile to web-platforms** have emerged as an essential asset to aid in the long-term sustainability of water services. Mobile technologies collect data on water point type, location and functionality, and in real time map the distribution and monitor the status of water infrastructure at country level.

Mobile phone-based and geospatial data collection tools, for example, have been proposed as a means to create national inventories of critical facilities and infrastructure relevant to achieving and monitoring the SDGs, including schools and health clinics (significant for WASH access measurement), irrigation systems, municipal water systems, solid-waste treatment facilities and wastewater treatment facilities<sup>41</sup>. This kind of data collection could help remedy the gap of developing countries knowledge about their national physical assets and provide a platform for improving future ongoing administrative data and reporting.

The information collected in this way can provide valuable insights as a basis for informed decision-making, program planning, and strengthen transparency and accountability. The full potential of mobile to web solutions is still to be discovered and have potentials for governments to track progress on targets in real time. Additionally, despite the increasing pressures and the current degradation trends, a sustainable future for water is in the range of the resources and technologies available.

Yet, transferring technology requires both local knowledge and local capacities to make these options meet local conditions. The effective adaptation and use of these technologies, which been piloted already in Nigeria and other countries<sup>42</sup>, critically depend on the knowledge, the human and social capacities in place and the existing institutions and policies. Cost estimates for implementing these kinds of technologies are based on estimates of total facilities by population density, time required to move between facilities, and an overall management cost.

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<sup>40</sup> UNDP (2014), Human Development Report, p. 49. Available at <http://hdr.undp.org/sites/default/files/hdr14-report-en-1.pdf>

<sup>41</sup> UN Sustainable Development Solutions Network (2015), “Data for Development: A Needs Assessment for SDG Monitoring and Statistical Capacity Development. Available at <http://unsdsn.org/resources/publications/a-needs-assessment-for-sdg-monitoring-and-statistical-capacity-development/>.

<sup>42</sup> This tool has been piloted in Nigeria by the Nigerian MDG Office and the Earth Institute and designed but not fully implemented for the Government of Haiti. Many countries already have partial inventories so this tool is meant to support and enhance existing sources. The objective of this tool is to ensure national coverage.

### *Knowledge-sharing*

**Knowledge-sharing**, such as through Global Technology Platforms (GTP) is another important means to improve water decisions. This includes not only the dissemination of techniques but also to the enabling conditions that may favor their transfer and adaptation and of the capacities to make them viable.

Technology transfer may also be facilitated by **peer-to-peer transfers**, business networks and alliances. In the policy making arena, this interplay can be facilitated by Ambassadors able to connect business sectors in the water, energy, food and climate change sectors, and third parties able to connect social sectors, such as academia, civil society and governments.

### *Technology assessment for making better technology choices*

Technology choices are an integral part of water policy. They imply complex decisions based on non-technical criteria. Smart technologies choices requires comparing between conventional technologies and new ones, balancing traditional infrastructures with green alternatives, mixing local and global knowledge, adapting alternatives from abroad to local conditions, dealing with environmental and social impacts of the alternative technologies, etc. All these decisions require technology evaluation and assessment tools and good water governance so as to insure transparency and inclusiveness.

Poor countries managing water integrally have a lot to gain from choosing the best technologies by using sustainability criteria. Countries at an early stage of development have the opportunity to advance rapidly by harnessing new technologies and avoiding following the unsustainable development pathways of the past. Technological leapfrogging can allow these countries to make better choices between traditional and new technologies, especially when going further than mechanical technology transfers by disaggregating data among gender issues, local knowledge and intellectual property rights in making the right social choice. In addition, green technologies, which increase the amount of water available, boost resource efficiency and contribute to achieving development goals, may be converted into opportunities to create new business opportunities, markets and jobs. Technology, science and innovation development, when combined with public awareness, can make a real contribution to efficiency and sustainable growth in most water using sectors.

### *Dealing with the barriers for technology adoption*

This includes initiatives to ease or remove barriers that inhibit the adoption of water technologies – such as weak market demand, uncertain return on investment, and technological lock-in to current infrastructure - as well as other barriers that are more specific to some developing countries, such as lack of technical skills and capacity. Competition, policies may be examined under the lenses of its potential to foster or inhibit the adoption and dissemination of new technologies.

### *Providing incentives to foster research and innovation for sustainable water management*

The SDGs can be a driver of innovation. Besides supporting basic research, governments can play a key role to incentivize and foster innovation by creating the conditions to transform knowledge and sustainable technologies into viable opportunities, for example in encouraging the adoption of water efficient technologies through water prices that reflect water scarcities. Pilot projects or demonstration projects, can help reduce innovation risk and minimize costs when scaling up. Global business solutions like the certification schemes are also efficient means to motivate business to act in the right direction of technology, science and innovation

development. Further investments in science, and particularly in applied science, will help speed the innovation curve and the translation of new tested solutions into the ground.

Science, technology and innovation strategies are integral parts of sustainable development strategies. Many innovations in sustainable water management are high risk and with uncertain return. Government financing and policies for innovation, supported by public-private partnerships, can be purposely designed and implemented to reduce risks and promote research and development and diffusion and transfer of technologies.

### *Needs and implications for development and maintenance of infrastructure*

Additionally, most research on infrastructure costs and needs has focused on drinking water supply and sanitation<sup>43</sup>, leaving behind other important aspects that highly influence vulnerability to climate change. Particularly, further research should be done on the need for country-specific investment for water resources management and the control of water and wastewater quality, as well as for operation and maintenance necessary for the sustainability of services from both existing and new infrastructure, not forgetting funding of related governance functions. Apart from the development of new infrastructure, important investments will be required to upgrade and maintain existing infrastructure to avoid it becoming obsolete. Countries will have to allocate research focused on identifying strategies to attract financing and human resources capacity that will address the water targets.

## 2.3 Capacity-building

Target 17.9 promotes capacity-building. The concept of capacity-building entails much more than building schools and training people. It comprises the establishment of a solid knowledge base and awareness at all levels, including those of individuals, organizations, partnerships, communities and the enabling environment as well as the untapped ability of volunteerism to engage and benefit all segments of society (Figure 2).

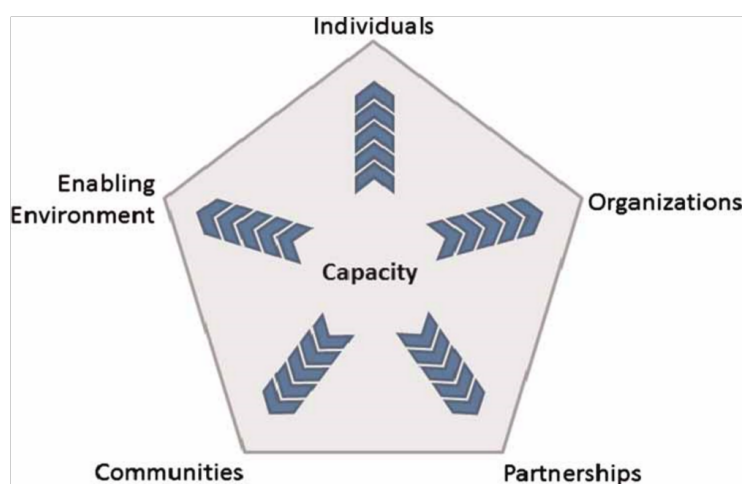


Fig. 2. Five key dimensions of capacity. Adapted from Wouter T. Lincklaen Arriëns and Uta Wehn de Montalvo, “Exploring Water Leadership”. In: *Water Policy* 15 (2013) 15–41

<sup>43</sup> Doczi, J, Dorr, T., Mason, N. and Scott, A. (2013). *The Post-2015 Delivery of Universal and Sustainable Access to Infrastructure Services*. Overseas Development Institute, London.

In the water and sanitation sector, as in other sectors, capacity-building and capacity development are critical for the successful implementation and scale-up of development programmes. Development experience demonstrates that the concept encapsulates a “diverse array of functional capacities – from planning, oversight, and monitoring to situational analysis, facilitation of stakeholder dialogue, training, implementation capacities and management support, and provision of policy advice – must be developed and put in place”<sup>44</sup>.

### *The role of capacity-building and IWRM*

The obligation to implement national Integrated Water Resources Management (IWRM) plans, has been accepted and embedded in international development agendas since Agenda 21 in 1992 and is included in the SDG 6 under target 6.5. See **section 2.5** of this paper for further information on IWRM policies and their implementation at the national level. By its very nature, IWRM requires a special focus on capacity-building at each stage in order to be successful (Figure 3).

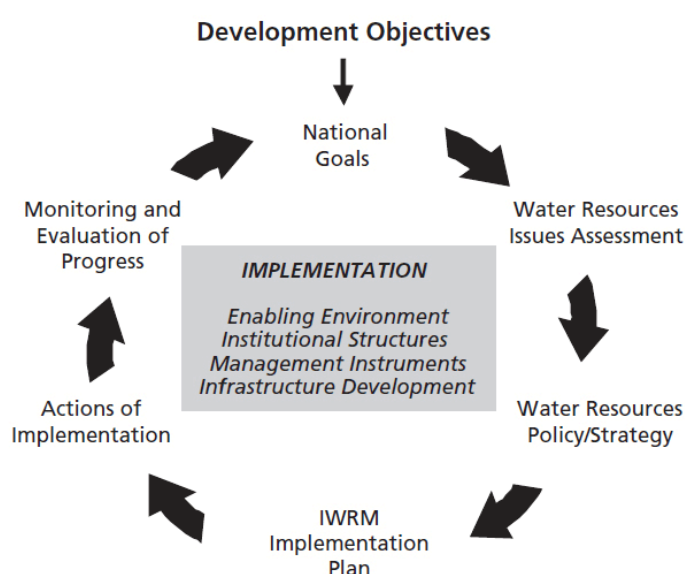


Fig. 3. Stages in IWRM planning and implementation. Adapted <http://www.un.org/waterforlifedecade/iwrm.shtml>.

Yet information on IWRM is limited and it is even less accessible to partners in the developing world. Obtaining new skills requires improved access to information, sharing capacity (e.g. as when trainees become trainers) and its application. Information materials, training materials, knowledgeable capacity builders and experts are part of the inputs to a capacity-building programme, and online platforms of open content education and training materials can help facilitate these processes.<sup>45</sup> This is particularly the case with IWRM, which requires a cycle of responsiveness to capacity development needs coming from different target groups around the world, along with and adaptive knowledge management systems. The process of managing, transferring and developing knowledge for WIRM is shown in Figure 4 below.

<sup>44</sup> UNDP and AEPC (2010), “Capacity Development for Scaling Up Decentralized Energy Access Programmes: Lessons from Nepal on its role, costs, and financing”. Available at [http://www.undp.ro/download/capacity\\_dev\\_energy\\_access%20full%202010.pdf](http://www.undp.ro/download/capacity_dev_energy_access%20full%202010.pdf).

<sup>45</sup> See, for example, the UNDP Cap-Net virtual campus, launched in September 2014 and building upon programmes on how to use integrated water resources management tools and instruments for adapting to climate change, and in managing floods and droughts, including the use of earth observation tools: <http://campus.cap-net.org/>



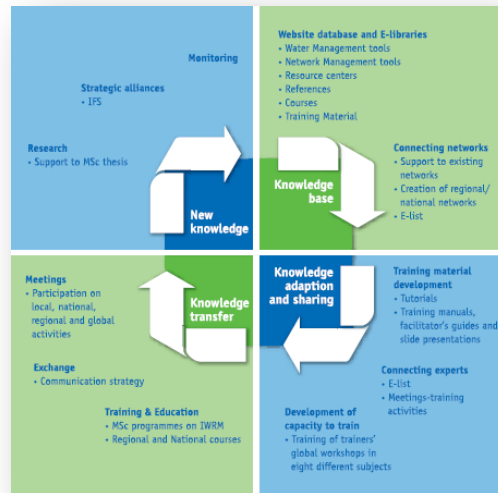


Fig. 4. Addressing IRWM Knowledge Management: Conceptualising the flow and management of knowledge in the context of capacity-building and the strategy of the Cap-Net programme. Adapted from UNDP-Cap Net

### Investing in capacity-building

Capacity-building can be the engine and driver to achieving the SDGs, yet increasing investments in capacity-building is a major challenge facing not only the water and sanitation sector. It is important to note that capacity development costs can represent a significant portion of the overall costs of projects, especially in the initial stages, and must be fully taken into account in planning programme budgets. Yet there is strong evidence from other sectors that investing in capacity-building not only makes sound economic sense in terms of return on investment, but it can also help leverage additional sources of funding. In a recent UNDP project, initially funding from public sources played a dominant role in the beginning (well over 90 per cent), much of which was dedicated to capacity development. Yet the share of public financing gradually declined to about 50 per cent at a later stage, suggesting that the pivotal role of public investments in developing national and local capacities subsequently attracted private financing. Following the publicly financed capacity/building, communities and households made significant contributions to implement them<sup>46</sup>.

In the water and sanitation sectors, capacity-building is closely linked to investments which support the use, adaptation and transfer of new technologies. The water development goal (Target 6.a), for example, highlights the need to expand international cooperation and capacity-building support to developing countries in water and sanitation-related activities and programs, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies.

Yet to be successful, capacity-building in the water sector should also include the design and implementation of new financing instruments as well as capacities to water resources management, and especially to make the most of water cooperation and stakeholder engagement.

<sup>46</sup> Ibid

### *The capacity-building model – building upon and involving local knowledge*

Policy and technology choices must take existing capacities into account and their implementation must consider processes that enable people to implement policies and make use of innovative technologies in due time. This also requires identifying local knowledge and mobilizing it from the start. Decision-making and capacity-building should therefore be considered simultaneous and mutually reinforcing. Otherwise, innovative solutions cannot be adopted and the required capacities never built---and the cycle continues.

Capacity-building is an accumulative *learning by doing* exercise. It is not just a process of absorbing information and skills brought by experts, whether local or external, but one of assuming responsibilities and being able to adapt existing knowledge and to assume new knowledge in order to respond better to local circumstances. Capacities are also needed to implement, monitor and report on development plans and strategies.

Capacity-building works better and delivers better outcomes in terms of human development when social-cultural aspects are taken into account and when locals and their institutions understand the value of building capacities. This may require undertaking intensive communication to bridge the gap between decision makers, experts and local communities. Advocacy, scaling up, social mobilization/building networks are also necessary means and should be focused on implementation.

### *People-centered approaches*

The SDGs call for people-centered approaches to development, yet human resources are perhaps the most underused resources that must be unleashed in order for communities to achieve the water goal. In particular, in the water and sanitation sectors it is important to recognize the central role of women and to give value to inter-generational responsibility for transformation. Successful examples exist whereby women have become effective and reliable water managers and where young people were trained a community-level to build and maintain low-cost toilets, or hand pumps in rural areas.

**The role of volunteerism** is another factor which is often overlooked but can be essential to achieving development goals. Volunteerism fundamentally represents a people-centered and rights-based approach acknowledged by the OWG on SDGs. The power of volunteerism has been recognized as a cross-cutting means of implementation, yet an under-utilized bridge, to achieving sustainable development. Recently, the International Forum for Volunteering in Development produced the 2014 Lima Declaration, which provides a strong argument, including financially, that sustainable development is not possible without volunteers<sup>47</sup>. Specifically, in the context of SDG 6, the organizations at this forum have called attention and committed to volunteer programmes which “cooperate with local authorities in the improvement of local capacity for self-sufficiency” and are “designed to empower grassroots-level water resources management and to provide capacity development to ensure access to adequate and equitable sanitation and hygiene for all.”<sup>48</sup>

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<sup>47</sup> The Lima Declaration, 2014. *International Forum for Volunteering in Development*. <http://forums.org/conferences/ivco/ivco-2014/lima-declaration/>

<sup>48</sup> *ibid*

## 2.4 Trade

SDG 17 includes targets on trade that are not directly related to water. However, it would be a mistake to assume water and trade are not linked. This will become increasingly critical for water. Trade in high water consumptive goods from water scarce regions is not viable long term and is a threat to meeting the water and other goals<sup>49</sup>. Countries will need to revise policies to avoid incentivizing high water use for low value purposes and unsustainable export promotion. This is a very complex issue and requires much more research to find real water-trade links and to find possible solutions if trade is causing unsustainable water practices and reducing local availability of adequate water resources. Water is an important requirement for the production of most, if not all, traded goods. It is, therefore, an important dimension of trade as it relates to the SDGs, and other forums mandated to develop trade-related policies and agreements. Trade policies and practices need to be aligned with the goal of sustainable water at global, regional and national levels and to support overall gains in water-use efficiency and providing incentives to countries to produce and trade goods in-line with their specific water circumstances, while fully participating in fair, equitable and sustainable trade.

Generating energy either by hydropower or by thermo-electric, including for trade, has significant water requirements. Application of good practices and following international guidelines helps to meet energy needs for development without compromising long-term sustainability of water resources, significant impacts on other water uses and the health of dependent ecosystems.

## 2.5 Policy and institutional coherence\*

Policy and institutional coherence are covered by Targets 17.13 to 17.15. Integrated responses are called for in many sectors, based upon sustainable development strategies at the national and sub-national level and a global partnership for sustainable development at the international level<sup>50</sup>. Yet the nature of the water cycle calls for a particular need for integrated responses, in addition to a sector-specific focus on the enhancement of global macroeconomic stability, policy coordination and policy coherence across the different ministries and agencies involved with water. Given that water affects and is affected by many constituencies, particular effort is needed to promote multi-stakeholder partnerships (public-public, public-private and civil society partnerships). These can help mobilize and share knowledge, expertise, technology and financial resources to support the achievement of the SDGs in all countries. For water and sanitation management in particular, supporting and strengthening the participation of local communities is fundamental for the implementation of SDG 6<sup>51\*</sup>.

### *IWRM, appropriate adaptive planning and integration in national strategies*

In the water sector, integrated planning is a key instrument for building policy coherence and coordination so as to connect water policy, land use planning and to take advantage of the multiple synergies between water and food security, energy development, industrial progress, etc. It helps in dealing with various pollutants from agriculture, energy and manufacturing

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<sup>49</sup> See research done on virtual water trade by, for example, [www.waterfootprint.org](http://www.waterfootprint.org) and FAO.

<sup>50</sup> High-level Forum on Sustainable Development Issues Brief (2014). Available at [http://sustainabledevelopment.un.org/content/documents/1322HLPF\\_Brief\\_5.pdf](http://sustainabledevelopment.un.org/content/documents/1322HLPF_Brief_5.pdf).

<sup>51</sup> \* Many of the recommendations in this section were gathered from high-level input provided by stakeholders at the 2015 the UN-Water annual international Zaragoza conference, Outcomes available at <http://www.u.org/waterforlifedecade/waterandsustainabledevelopment2015/>.

which remains a critical issue, in particular within developing countries. Coordinated policy approaches are needed to overcome the institutional silos in which water, land planning, agriculture and industrial policies are defined and implemented. The integrated responses required must be based upon sustainable development strategies at the national and sub-national level and a global partnership for sustainable development at the international level<sup>52</sup>.

Introduced and described earlier in this paper in the section on capacity-building, integrated water resources management (IWRM) plans have so far been developed by 64% of countries<sup>53</sup>, 34% at an advanced stage. These need to be implemented to achieve SDG 6. Some IWRM plans may require updating from the MDG agenda in order to take account of new demands, reduce path dependency and encourage the formulation of innovative and forward-looking water strategies across policy fields and territorial and institutional levels, for example, by helping countries move from reactive to proactive policies which anticipate the effects and reduce the considerable impacts of water-related disasters<sup>54</sup>.

Integrated water management plans must therefore be an integral part of national development strategies, but they are of little use unless they are implemented. External support agencies, UN, Donors, pressure groups need to help countries to implement their plans and not promote a constant cycle of plan formulation that never leads to implementation.

### *Institutional reforms*

As noted by the high amount of countries which have created IWRM plans, institutional reform is on track in many countries, yet implementing them has proceeded at a slow pace; almost one-third of countries consulted about IWRM planning noted inadequate participation and awareness of decision makers, users and other key stakeholders<sup>55</sup>. For the water sector, legal and policy reforms should be encouraged which increase joint decision-making at national level, facilitate management of water resources at basin level and legitimize stakeholder structures at community level. When water-related concerns are taken on at an early stage of decision-making, encompassing areas such as water resources (environment), exposure to water-related risks or planning affecting water infrastructure, institutions can provide valuable support to the management of shared river basins and aquifers.

When reshaping legal frameworks and institutions, policy-makers need to consider the ability to cope with risks. Governments must develop institutional systems for coordinated and coherent responses on disaster risk managements and risk reduction across different sectors and between central and local governments.

### *Regulations and regulatory bodies*

Improving regulation and enforcement can help to curb environmental degradation and reduce health risks particularly in developing economies. While the WHO produces international norms on water quality in the forms of guidelines which can serve as a basis worldwide<sup>56</sup>, many countries will need to develop or adapt their own national guidelines for “acceptable”

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<sup>52</sup> High-level Forum on Sustainable Development Issues Brief (2014). Available at [http://sustainabledevelopment.un.org/content/documents/1322HLPF\\_Brief\\_5.pdf](http://sustainabledevelopment.un.org/content/documents/1322HLPF_Brief_5.pdf).

<sup>53</sup> UNEP 2012. The UN-Water Status Report on the Application of Integrated Approaches to Water Resources Management. [http://www.un.org/waterforlifedecade/pdf/un\\_water\\_status\\_report\\_2012.pdf](http://www.un.org/waterforlifedecade/pdf/un_water_status_report_2012.pdf)

<sup>54</sup> UN-Water (2009), “Global Trends in Water-Related Disasters”. Available at <http://www.unwater.org/downloads/181793E.pdf>.

<sup>55</sup> Ibid.

<sup>56</sup> See WHO drinking water quality guidelines, available at [http://www.who.int/water\\_sanitation\\_health/dwq/guidelines/en/](http://www.who.int/water_sanitation_health/dwq/guidelines/en/)

water quality for household consumption, standards for industry effluents or for the minimum water quality requirements for irrigation water for food, forage or industrial crops.

A well-designed institutional framework of water use rights, regulations and water allocation has to be established and combined with more conventional engineering works. Strengthening safety regulation dealing with water-related risks would contribute to better planning, development and monitoring mitigation measures and ensure resilience of societies and the environment. This will encourage sound enforcement and compliance mechanisms, accurate and consistent data and better disclosure of information to the public. Effectiveness of regulation is improved by harmonization across borders, notably in the case of shared waters, where appropriate.

Guaranteeing the stability of the regulatory framework is fundamental to protect long-term water management objectives and principles from the threats of short-term political calendars. Once decisions on targets and the distribution of responsibilities are made in the political arena, decisions regarding their implementation, including benchmarking, needs to be based on technical criteria. Independent regulatory bodies must have the possibility of self-financing. This independence is critical in order to make the right decisions for the disadvantaged and underrepresented groups.

### *Information and decision support systems*

The disclosure of timely, comprehensive, and forward-looking information in accessible formats as well as the gradual development of the capacity to stream information into the decision making process is a means to allow people and institutions to access new insights and innovations as well as to build a better connected and empowered society which enables transparency and trust in the pursuit of collective goals. A necessary prerequisite for this is adequate, reliable monitoring of relevant parameters on the status of water resources and on pressures exerted on them. This access is important in terms of different levels and stakeholders across and between sectors and agencies, such as the scientific community, for example to allow for the development of information products that can eventually become operational, and to civil society, to ensure transparency.

Information on the extent, condition and functioning of water services infrastructure is also important, but monitoring that is variably a public sector-private sector joint effort. Remotely sensed information can valuably support water resources planning and decision-making, contributing, for example, in areas of flood control and monitoring of pressure sources on waters.

This can serve to support holistic decision making approaches able to cope with water management, water and sanitation services and water related risks. Water management and water risks are often interlinked and spill over to different sectors (drought in agriculture, flooding in land planning, modified freshwater systems for hydropower, etc.). Comprehensive policy support needs to include the tools for assessing risks and options for achieving win-win outcomes across various sectors.

Opportunities are increasingly opening to apply analytical tools to inform decision-making to policy domains “outside the water box”, revealing opportunities to improve, for example, water use efficiency in energy planning and agriculture.

## 2.6 Multi-stakeholder partnerships

Recognizing that SDG 6, as currently formulated, has many, often competing, demands for limited resources, multi-stakeholder partnerships are an important tool to bring together a broad set of governmental and supporting actors. Under the MDGs, partnerships have proven effective in a variety of means of implementation roles: from coordinating stakeholders at national and/or global levels to facilitating political dialogue, for monitoring of progress, and building consensus to serving as vertical funds.

For SDG 6, a broad partnership inclusive of all targets may be an appropriate umbrella to bring various stakeholders together. Furthermore, specific multiple partnerships may also be needed for different targets. The direction provided in Goal 17 is more ambitious than in the past, and extensive efforts have already started to build strong multi-stakeholder partnerships. Rather than initiate a new partnership platform, efforts should be made to recognize existing alliances and retool or build upon them.

A good example is the Sanitation and Water for All (SWA) partnership - a multi-stakeholder partnership of over 95 developing country governments, bilateral donors, civil society organizations and other multilateral partners working together to catalyze political action, improve accountability and use scarce resources more effectively. SWA has been recognized in UN resolutions and has successfully convened three high level meetings attended by finance, development cooperation and sector ministers. Partners work towards a common vision of universal access to safe water and adequate sanitation. SWA is a platform for coordinated action, global high-level political dialogue, the implementation of the development effectiveness agenda and strengthening mutual accountability. At the global level, SWA encourages a dialogue amongst decision-makers, especially governments, to prioritize water and sanitation. At the national level, SWA promotes country-led, coordinated multi-stakeholder efforts to strengthen national WASH sector planning, budgeting, investment and accountability frameworks. SWA has been recognized in UN resolutions and has convened three high-level meetings attended by finance, development cooperation and sector ministers.

### *Public involvement, stakeholder engagement and effective partnerships*

Governments need to act in partnership with civil society, the private sector and the broader range of stakeholders. Promoting partnerships as a governance model to implement the water related SDGs is of crucial importance and can serve to the following purposes (see the OECD Programme on Water Governance)<sup>57</sup>:

- Clearly allocate roles and responsibilities for policymaking, service provision and regulation and ensuring sound coordination between stakeholders
- Manage water at the appropriate territorial scale(s) including coherent and integrated basin governance systems to accommodate needs and priorities across levels of governance.
- Go beyond silos and foster policy coherence between all areas linked with water, and essential to build a sustainable water future, such as climate change adaptation, food, urban development, energy, trade, etc.
- Where access to services is most needed, ensure that increased decentralization and empowerment of local government and communities comes with increased financial resources and capacities at this level;

<sup>57</sup> Available at <http://www.oecd.org/env/watergovernanceprogramme.htm>.

- Produce, update, and share meaningful, quality, timely, consistent, and comparable data and information on water and water-related issues, and use it to guide, assess and improve policy formulation and water management.
- Foster integrity and transparency, as corruption and rent-seeking is still a barrier to make public action serve its intended social goals; it is estimated that the revenues captured by corruption in the water sector accounts to 20 to 30% of the income from tariffs collected;
- Engage with stakeholders in water management with sufficient attention to consumer behavior to build acceptability, legitimacy and sustainability of decisions and policies, to build trust and strengthen transparency, but also to support capacity.
- Conduct regular and thorough monitoring and evaluation of water policy and water governance systems, and share the results with the public in order to identify areas of improvement and adjust when needed. This also requires robust, timely and comparable data and information at all levels of decision-making.

### *Trust-building and collective action*

Promoting effective social dialogues leading to legitimate decisions requires that these are based on shared perceptions of the water management problems to be faced as well as in the trust and mutual recognition of the stakeholders' vested interests. This can be achieved through partnerships and consultation. Collective management such as National Water Resources Committees, adequate legislation and enforcement of the right to access to information are means to give civil society a role and a responsibility in collective decisions. At the same time efforts have to be made not to delay action by endless participatory processes that stop development.

## **2.7 Data, Monitoring and Accountability**

Targets 17.18 and 17.19 focus on data and monitoring, which is supported through three pillars in the water and sanitation structure: the monitoring of outcomes (covering targets 6.1 – 6.6), the monitoring of the means of implementation (covering targets 6a, 6b and Goal 17), and the need for an accountability platform. These should build on existing instruments examining inputs where available, such as the WHO/UNICEF Joint Monitoring Programme (JMP), UN-Water GLAAS and the UN-Water IWRM status report, which could be used as a basis for monitoring of means of implementation. Such means of implementation monitoring could cover aspects of finance and human resources, and enabling environment factors such as policies and plans, institutional arrangements, capacity and technology and provide insights into topic such as the progressive realization to the human rights to water and sanitation.

Monitoring of progress against outcomes on drinking water and sanitation is already undertaken through the JMP, which has been consolidating data from Member States for more than 20 years. Means of implementation issues have been monitored through the UN-Water GLAAS process. Both have been essential in monitoring the MDG targets on water and sanitation and together allow reliable, disaggregated data on progress in addition to detailed analysis on enablers and barriers to progress, indicating where additional support is needed to make progress. They could be adapted to cover monitoring for targets 6.1 and 6.2 in the SDG framework.

As regards the “new” water-related targets which go to the heart of the expanded ambition of the Post-2015 Development Agenda vis-à-vis the MDGs (targets 6.3-6.6), UN-Water has been

working on developing indicators and monitoring systems<sup>58</sup> to support their implementation and is preparing this advice on implementing the water related sustainable development goals. The GEMI initiative GEMI complements and builds on the JMP, which has demonstrated that credible monitoring focuses national and global policies and resource allocations. GEMI also complements and builds on a wide range of other monitoring initiatives and data centers in the water sector, such as FAO AQUASTAT and UNEP's GEMStat, to name a few<sup>59</sup>.

One example of where much better data and monitoring approaches, and related capacity, is required is for the ecosystems component and aspects of SDG 6. Ecosystem-related data and monitoring has traditionally tended to focus on the impacts of water use, and interests need to shift more towards monitoring ecosystem services that underpin SDG 6; that is, making more succinct links between ecosystems and human well-being. A critical requirement is for ecosystems to be incorporated into national accounts. For example, the World Bank initiated WAVES partnership (Wealth Accounting and the Valuation of Ecosystem Services) aims to promote sustainable development by ensuring that natural resources are mainstreamed in development planning and national economic accounts. WAVES helps countries to adopt and implement the central framework of the System of Environmental-Economic Accounting (SEEA), adopted by the UN Statistical Division, to develop an ecosystem accounting methodology. Water is often the most advanced area incorporated into such accounts. The multi-lateral environment agreements (notably the Convention on Biological Diversity and Ramsar Convention on Wetlands) already require data and monitoring in many ecosystem relevant areas at national level. These represent useful existing initiatives that can broaden the information based needed to account for progress towards the full scope of SDG 6.

### 3. Concluding Remarks

Earlier this year, global decision-makers and experts at the World Economic Forum recognised the “water crisis” as the risk that could have the highest adverse impact on countries and industries, if not properly addressed. It is important that the SDG agenda not only prioritises this issue, but also builds on the existing institutions and processes to ensure that the emerging water goal is achieved.

It is clear that strengthening the means of implementation for water and sanitation in SDG 6 will help the realization of many of the other SDGs. A key for the successful implementation of the entire set of goals will be to make a rapid start once the Post-2015 Development Agenda is agreed upon in September 2015. Countries and supporting institutions, both local and international, need to gear up rapidly to apply the examples set out here and the many others that are available. With Member States in the driving seat of this process, the main focus must be at the country level, where local systems will determine which means of implementation can be readily applied and which will require external support.

For the water related-targets a solid base of experience, technologies, and institutions and to some degree funding mechanisms already exists. These can be scaled up and out, and built upon for future development agreements.

Meeting the proposed SDG 6 and its associated targets will require a major effort by everyone to ensure that the specific actions proposed can actually be implemented. Achieving SDG 6 will

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<sup>58</sup> [www.unwater.org/gemi/en/](http://www.unwater.org/gemi/en/)

<sup>59</sup> Ibid.



need increased investment: there is clearly a cost associated with action, but the cost of inaction on water and sanitation is even greater – in terms of loss of social, environmental and economic benefits, opportunities for future generations, and recent figures about the truly considerable drag on global economy of water and sanitation. Given the risks and impact that the water and sanitation sector have on sustainable development for the world as a whole, the world cannot afford not to take timely and commensurate action.