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OECD Global Forum on Environment: Making Water Reform Happen

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Report of the *Rapporteur*

This report summarises the main conclusions of the OECD Global Forum on Environment: Making Water Reform Happen, held on 25-26 October 2011 in Paris. It distils the principal insights for water policy reform that emerged from the keynote speeches, presentations of thirteen country case studies from OECD and non-OECD countries and the ensuing discussion among Forum participants. Insights were drawn on the role of crises in catalysing reform; the importance of setting priorities, sequencing and political leadership; various approaches to reserve water for environmental use; efforts to improve the performance of utilities; and the role of infrastructure, markets, financing, regulatory oversight and private sector participation. These lessons for water policy reform provide a pool of experience that can be used to improve the prospects for success of future reform efforts.

**The views expressed herein are those of the author and do not necessarily reflect the views of the OECD or its member countries.*

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Report of Rapporteur¹

The Global Forum was held over two days and was attended by over 250 participants. The first day contained four sessions, namely “Framing the Reform Challenges”, a “High Level Panel on Key Reform Challenges”, “Water Reform at the National Level”, and “An International Perspective on the Urgency of Reform”. The three sessions held on the second day covered “Water, Agriculture, Energy and Environment Linkages”, “Meeting the Water Supply and Sanitation Challenge”, and the “Closing Session – the Road to Marseilles, Rio and Beyond”.

Context and orientations

In his introduction, **Mr Aart de Geus** (former Deputy Secretary-General of OECD) placed the Forum in the context of the OECD’s wider project on *Making Reform Happen*. Reforms typically bring long term benefits, but impose short term costs. Reforming countries can benefit from learning from each others’ experiences, otherwise they are forced to learn from their own mistakes through trial and error. This is part of the rationale underpinning the OECD’s work on peer reviews and facilitating exchanges and comparisons among countries.

In his [opening remarks](#), **Mr Angel Gurría** (Secretary-General of OECD) pointed out that water was often the “quiet crisis” overshadowed by other, better publicised, crises. However, crisis may be the mother of bold innovation and reform. The technology, know-how, resources and capacity to provide “Water for All” is available, yet the reforms necessary to achieve this are often resisted or not pursued to their full potential. While it is true that every country’s problems are original and unique, they are not totally original and unique – and cross-country comparisons and exchanges can be illuminating. He summarised key lessons from recent OECD work on water² and noted the state of the art in various aspects of water management. The forthcoming OECD *Environmental Outlook to 2050* projects that the status of the world’s water will significantly decline unless action is taken.

Keynote speeches

In the first [keynote speech](#) **Ms Helen Mountford** (Deputy Director of OECD’s Environment Directorate) enlarged on the messages in the water chapter of the forthcoming OECD *Environmental Outlook to 2050*. Under a business as usual scenario, unconstrained global water demand is projected to increase by 55% between 2000 and 2050, mainly from growth in demand from manufacturing, electricity generation and domestic users. This would leave little scope for increased use for irrigation. Unless measures are taken to curb water demand and make alternative water sources competitive, 3.9 billion people (almost half the world’s population) are projected to suffer “severe water stress”, and there would be serious pressure on groundwater abstraction. Growing numbers of people are at risk of

¹ The text in parentheses are quotations from presentations and interventions.

² *Meeting the Challenge of Financing Water and Sanitation (2011)*; *Pricing Water Resources and Water and Sanitation Services (2010)*; *Sustainable Management of Water Resources in Agriculture (2010)*; *Benefits of Investment in Water and Sanitation (2011)*; *Innovative Financing Mechanisms for the Water Sector (2010)*; *Managing Water For All – an OECD Perspective on Pricing and Financing (2009)*; and *Water Governance in OECD Countries – a Multi-Level Approach (2011)*; *Ten Years of Water Sector Reform in Eastern Europe, Caucasus and Central Asia (2011)*.

flooding. Although access to water supply and sanitation services is expected to continue to expand, population growth and urbanisation would mean that by 2050 there would still be 240 million lacking access to an improved source of drinking water and 1 580 million without adequate sanitation. Water quality outside OECD is also expected to deteriorate. These are the sombre reminders of the urgency of global water reform.

In the second [keynote speech](#) **Prof John Briscoe** (Harvard University) advocated a reform philosophy based on “principled pragmatism”. He referred to the gulf between thinkers and do-ers (“researchers don’t practice and practitioners don’t read”); the disparate challenges of the rich and developing countries; and the divide between technocrats and advocates on the one hand, and politicians on the other. He cast doubt on the degree to which evaluation tools are objective, “value-free” and applicable to all circumstances, across different time periods – with specific reference to dam building. He enunciated eight [“Rules for Water Reformers”](#), including the need to have demand for reform; proceeding step by step; combining the impatience necessary to catalyse reforms with the patience needed to follow through on the implementation over the long term; seeking low hanging fruit and “quick wins” to gain initial momentum; understanding the motives of politicians who are key to change; and not holding out for the best, when this can be the enemy of the good. He also cautioned against emphasising process to the detriment of outcomes. He argued that there cannot be “Definitive Solutions” for water – all solutions are provisional in that the solution of one problem leads to the next set of challenges. Good professionals learn from failure, as well as success. Overall, sound water policy must be contextual and avoid simplistic reductionism. The context of water policymaking reflects the well-known insight of E.O. Wilson, that we have “God-like technologies, medieval institutions and paleolithic emotions”.

The final [keynote speech](#) was delivered by **HRH The Prince of Orange** (Chair of the UN Secretary-General's Advisory Board on Water and Sanitation - UNSGAB). He described the role of UNSGAB in rebalancing the agenda of global discussions on water in several key respects – particularly in bringing sanitation into centre stage and raising the priority of wastewater collection and treatment. He reminded the Forum that there was still no international commitment to action on wastewater, nor any co-ordinated effort to monitor its status. Many of the gains made in improving access to water through the Millennium Development Goals are being eroded because water is becoming depleted and contaminated. UNSGAB is sustaining the momentum of the drive for sustainable cost recovery through collaborative efforts³ to promote innovative financing solutions. He dwelt on the pressing need to produce more food with less water – “more crop per drop” - stressing that water is the crucial link between the vital global issues of food, energy and climate change.

Key reform insights

During the three substantive sessions of the Global Forum, 13 country case studies were presented from a range of OECD member and non-member countries. The remainder of this report draws on the principal insights that emerged from these presentations and the ensuing discussions.

Crisis: the mother of reform?

It is often said that a crisis is a precondition of reform (“this crisis is too good to waste...”). The case studies did not fully support this view. Crises may create political capital that can be used to enact reforms. For instance, dramatic

³ E.g. through a joint study with the World Bank on the finance of water utilities in Peru.

changes in water quality may provide the tipping point for reform when they reach crisis levels. This was the case in London in 1858 (“The Great Stink”) and recently with salinity in the Indus Basin and Australia. However, water reformers can also take advantage of other types of crises and radical reforms, arising in other policy domains and from other causes (e.g. the current [Australian](#) water trading system was created well before the recent drought as part of broader economic reforms; the privatisation of utilities in the [Philippines](#) occurred in the power sector prior to taking place in the water sector).

Politicians may need a crisis to spur them to action and water reformers may need to speak in a language that will get through to their leaders and garner broad public support (“how many people will die”). All those engaged with water can win political influence by capitalising on opportunities that may arise outside the traditional boundaries of water policy. In this context, the Green Growth agenda creates opportunities and synergies for water, which are being exploited in new policy developments in [France](#), Korea and elsewhere.

Likewise, some durable reforms (e.g. [France](#), [Australia](#), [UK](#)) did not originate in water crises *per se*. Four of the cases presented occurred in the wake of fundamental political transitions ([Chile](#), [South Africa](#), [Estonia](#), [Armenia](#)). In [Estonia](#) the “policy space” available for water reforms initially arose due to a double seismic shift – firstly from the political transition after 1990 and secondly from the requirements of EU Membership.

Some cases represent “quiet crises”, with a *status quo* that is difficult for insiders to break out of, without external shocks or catalysts of change. In [India](#) there are strong pressures for reform coming from farmers themselves, but institutional segregation hinders reform (“the Left Hand of drinking water doesn’t know what the Right Hand of irrigation is doing”). In Gujarat, India, external actors ([PepsiCo](#), along with the Columbia University’s Earth Institute) have been the catalyst for a promising pilot scheme to encourage farmers to grow more water-efficient crops. The scheme has combined the use of price guarantees and procurement for low water use crops, direct cash subsidy and metering of power, and affordable soil moisture gauges.

There are different kinds, and degrees, of crisis. Change happens as a result of the convergence of forces with the potential for reform which at some point become critical in producing change. There was a measure of consensus in the Forum on what these forces are, summarised in the following sections.

Ingredients of reform

The following factors (amongst others) are present in many successful water reforms:

- strong political leadership and buy-in;
- the presence of outstanding individual “champions” of reform;
- a degree of consensus amongst key stakeholders;
- a balance of “hard” (e.g. infrastructure, technology) and “soft” (e.g. legislative and regulatory frameworks, demand management, education, information) measures as part of the reform mix;
- willingness to spend on infrastructure to expedite the solution, or cash to compensate those adversely affected by change;

- adequate institutions to ensure implementation, including a good regulatory structure;
- a recognition that reforms create both winners and losers, and that the problems of the latter need to be understood and addressed
- commercial performance and orientation by water utilities, whether they are public or privately owned;
- market-based mechanisms and incentives to promote efficiency in use and allocation of water;
- trade as an adjustment option;
- supportive business partners;
- adequate information and transparency about the reform process; and
- financial measures to support reform, generating revenues and offsetting costs.

While it is unlikely that all these factors will be present in every case, there must be a sufficient number of them to create the necessary synergy and critical mass. There is also no “Silver Bullet” – the trigger for reform will be different in different circumstances.

Reform priorities and sequencing

The case for water reform should be aligned with the aspirations of a population to fulfil basic needs, pursue development and realise a better life. Water reforms should be wrapped into policies addressing social and political priorities, which may shift over time ([South Africa](#)). This point affects how reforms are framed and the sequence in which they occur. In [India](#), most farmers can see the growing water problems very clearly in what is happening to their own livelihoods, and would support changes that will bring clear benefits to them. India also illustrates the point that targets driven by top-down processes can be counterproductive by undermining local ownership – the movement for proper household sanitation has been most successful where it has been community-led.

The *Environmental Kuznets Curve*⁴ in practice is correlated with the income level of the politically dominant group. This is evident at the national level in [South Africa](#), though there are many *local* environmental actions with clearly visible benefits. Also in [South Africa](#), the control of leakage and improvements in the quality of river water reduces the treatment and other operations and maintenance (O&M) costs incurred by local governments, releasing funds for other pressing purposes.

In some situations it may be appropriate to follow a process of *triage*, dealing with issues in sequence according to their relative urgency. A common case in point is the related issues of water supply, sanitation and wastewater. Despite the persuasive reasons for treating these matters simultaneously in a coherent manner, in practice they are often not dealt with in this way. Instead, investment may follow a pattern whereby the fulfilment of the most urgent demand (*e.g.* for drinking water) begets pressure to address the next pressing demand (*e.g.* for sanitation) and so

⁴ The tendency of environmental status to firstly decline, and later to revive, during the process of economic development.

on. The result may be an investment schedule that is more closely aligned with a sequence of political priorities, but may not be as efficient from an economic point of view.

Step-by-step pragmatism may not be the right approach where irreversible processes and tipping points are involved (e.g. contamination, exhaustion or salinisation of aquifers) or when this would accumulate huge problems and defer costs into the future. Sometimes it is necessary to get ahead of the game to avoid such future catastrophes and avert significant costs, as preventive measures are often more cost-effective than curative ones. There were also advocates of more comprehensive solutions (e.g. through Integrated Water Resources Management) on the grounds that “wicked problems need integrated solutions”⁵.

Politicians and political leadership

The Forum heard cases of bold political leadership that drove reform in the face of strong vested interests in the *status quo*. We should never underestimate the obstacles politicians meet, and understand the need to align the reform agenda to meet political goals too. Some politicians have a “transformative vision”⁶ essential to drive through major projects or difficult reforms. That said, many other politicians have very short horizons (“a week is a long time in politics”) and need to win elections - which are difficult to reconcile with the long slog and hard decisions that reform entails – hence the importance of seeking quick wins and “low hanging fruit” as part of the reform package.

Progress in water is governed by national political constitutions. Countries (such as South Africa) that have kept water as a federal government issue have avoided some of the problems that arise where water is a matter for state governments (as in India and Australia). For water *management*, however, a number of cases demonstrated the benefits of using river basins as the administrative unit (France, Colombia, England and Wales, the Australian Murray-Darling Basin, etc).

The environment finds a voice

Restitution of the environment’s claim to water was a theme in many presentations. [Australia](#) is moving to enshrine the prior claim of the environment in the water trading system of the Murray-Darling Basin. [Chile](#) has amended its water market regime to recognise the need for an ecological minimum of water flow, has revoked a proportion of original water rights, and is taking action against illegal extraction due to rapid depletion of the groundwater aquifer. [Colombia](#) has a range of measures to protect its vital *paramos* (the origin of 70% of national water) and other catchments from deforestation from extensive cattle ranching and despoliation from illegal gold mining. It was one of several case studies where payment for environmental services (PES) schemes were cited. [France](#) is buying back wetlands important for water storage and filtration.

In most of these cases, the reservation of water for environmental use, or the protection of its catchments, serves a vital and clear public interest. Where the environmental case is less obvious, and needs greater political support, greater efforts were called for (e.g. by [France](#)) in developing convincing water national accounting, valuation of

⁵ From remarks by the Chair, Ania Grobicki

⁶ From presentation by John Briscoe

benefits, and measures of foot printing⁷. Combating water pollution would be helped by better estimation of its external costs, giving pollution taxes a firmer basis. Priority ecosystems may need to have “conservation thresholds” (WWF).

Commercial orientation and performance by water utilities

Some public water utilities have made impressive progress in turning themselves into client-centred, commercially-oriented business undertakings. In [Uganda](#), the National Water and Sewerage Corporation was turned around from a failing organisation into a profitable, customer-centred utility over the course of a decade or so, under strong and imaginative management. In the [Philippines](#) reforms to the 6 000 or so water utilities has been part of a gradual, comprehensive set of self-reinforcing reforms including ring-fencing water from other operations, the development of a credit rating system, the creation of the Water Operators Partnership Program (a capacity building programme), establishing an Independent Water Regulatory Commission, and creating the Philippine Water Revolving Fund with the help of the United States Agency for International Development (USAID) and the Japan International Cooperation Agency (JICA) (“..comprehensive water sector reform is a gradual and fluid process that can only be achieved through the close collaboration of all concerned stakeholders and the alignment of their incentives for change”⁸).

Megacities in the water agenda

The growth of urbanisation globally, and of megacities particularly, is forcing this issue to the top of the agenda. In Africa large cities have a doubling period of 15-20 years, and water consumption a shorter doubling time of 10-15 years due to economic development and rising standards of living⁹. “Smart” and sustainable urban design is essential to make megacities habitable and functional; technological innovation will be vital ([Shell](#)).

Infrastructure

New infrastructure was a crucial part of reforms in South Africa and Australia. In the former case, the extension of services to people previously without access created a basis of support for change, while in the latter case, where money was not spent on promised infrastructure, there was greater opposition to reforms. However, there was a warning that in some countries (e.g. India) there was a shortage of sites for major new dams and other structures, while current infrastructure capacity is under-utilised.

In [Israel](#), alongside strong measures of demand management, desalination both of seawater and brackish water is a major factor in aiming to balance the future supply and demand for water. Thanks partly to the attention paid to energy efficiency, the cost of desalination at the latest plant (Sorek) is down to USD 0.52/m³. As in other countries, education is important in accustoming the population to a water-scarce economy (children are the Israeli “water police”¹⁰).

⁷ Subject to the comment that compulsory disclosure of their water footprints could lead companies to shift production elsewhere, with loss of jobs and social disruption.

⁸ Jeremias Paul, Jr. “Making water reform happen: the experience of the Philippine Water Revolving Fund” P. 1.

⁹ Michael Jacobsen, Session Chair. See also remarks by Loic Fauchon, referred to later.

¹⁰ Presentation by Abraham Tenne.

The role of markets

The Forum heard ample evidence of the truth of the aphorism, “the market is a good servant but a bad master”. Market mechanisms of various kinds – water prices, pollution charges, water trading systems, subsidies, private service provision, etc. – have had a place in all successful reforms, alongside other features of the policy mix. However, there has also been market failure and abuse of market power, which has had to be corrected. The public must set the parameters and the boundaries for markets, within which they can deliver their well-known benefits.

In [Australia](#), the existence of water markets helped the states sharing the Murray-Darling Basin to weather an unprecedented drought with a relatively small loss of agricultural output, due to the reallocation of water from lower to higher value uses. At the same time, there are plans to enshrine in law the prior rights to water of the natural environment, to protect essential river flows. In [Chile](#), however, the initial creation of tradable water rights in 1981 has been followed by several modifications to the laws and regulations governing trades. These changes were adopted to counter problems due to the initial allocation criteria, the lack of transparency in the market, the tendency to market concentration, and the failure to protect the environment- including overexploited aquifers. We were reminded that markets have an important social dimension, and their unfettered working can have serious social consequences.

Privatisation and private service provision

Although the full transfer of assets for water supply and sanitation into private ownership is confined to a few countries (notably, [England and Wales](#), [Chile](#) and in the [Estonian](#) capital, Tallinn) the use of private companies as service providers, under various kinds of contract, is widespread. Growing experience with such contracts is taking much of the heat out of discussions of “public *versus* private” approaches to water management, and the debate is now on the more pragmatic basis of what works in particular situations¹¹. Public-private partnerships (PPPs) are not a panacea, but can produce good results in the right context. [Armenia](#)’s evolving experience with PPPs in Yerevan and other towns and villages has been an instructive learning process in the transfer of risk to private companies, which can raise costs in some situations. However, on balance, PPPs have led to striking progress in overcoming the serious problems inherited from the pre-transition era.

Regulatory oversight

Regulation is essential for monopoly service providers, both private and publicly-owned. In [England and Wales](#) the economic regulator (OFWAT), working in tandem with environmental and drinking water quality regulators, has the difficult job of balancing the interests of consumers with those of the companies providing the water services. A national system of Consumer Councils provides a link with consumer stakeholders. Having an independent regulator provides a useful buffer between the service providers and politicians, who can use OFWAT as a scapegoat for their grievances.

The major achievement of OFWAT has been the £98 billion invested so far by private companies, obtained at low interest rates due to the efficiency and creditworthiness of the companies, and reflected in acceptable tariff levels. Challenges remaining include those of increasing the coverage of water meters, addressing the environmental

¹¹ Intervention by Gerard Payen

problems caused by low flows of rivers during periods of water stress, and agreement on inter-regional water movements.

Financing reform

Reforms often entail costs – of compensation to those adversely affected by reforms (e.g. farmers, employees, existing rights holders), the creation of new infrastructure, rehabilitation of existing installations, provision of new public functions, etc. In the majority of cases heard in the Forum, the reforms contained measures to generate revenues to offset or neutralise the costs of change.

The measures included: privatisation of water services ([England and Wales](#), Estonia); cost recovery from water users (“water pays for water”, as in [France](#)); cross-subsidisation from more affluent consumers and larger commercial users ([South Africa](#) and others); commercial turnaround of a formerly loss-making public utility ([Uganda](#)); creation of markets for the purchase and sale of entitlements ([Chile](#), [Australia](#)). In several cases external funding was available (EU financial support for [Estonia](#)’s transition, USAID and JICA funding of the [Philippines](#)). In [Uganda](#) a debt-equity swap by the Government was crucial in the reform of the NWSC, enabling it to obtain commercial finance. Financial innovation in the [Philippines](#) (creation of a revolving fund backed by credit enhancement and blended grant and loan funds) has enabled utilities to attract commercial loans. In the case of [England and Wales](#) the administrative cost of the economic regulator is defrayed from a statutory levy on water bills.

Final thoughts

Concluding the Forum, **Mr Loic Fauchon** (President, World Water Council) outlined the roadmap for 2012 and beyond, proceeding through the Sixth World Water Forum in Marseilles and on to the Rio + 20 conference in June. In his view, the three pillars of water reforms were governance, knowledge and finance. But he also stressed the strong ethical dimension of water, affirmed in the movement for the Right to Water¹² and the drive for better sanitation. The role of water in the growth of megacities is critical, and a worthy topic for a future OECD conference.

Water is at the crux of global energy, food and urbanisation challenges. It must be reformed.

¹² Also referred to earlier by Ger Bergkamp