

**EAP Task Force**



**JOINT MEETING OF**

**THE EAP TASK FORCE'S GROUP OF SENIOR OFFICIALS ON THE REFORMS OF THE WATER  
SUPPLY AND SANITATION SECTOR IN EASTERN EUROPE, CAUCASUS AND CENTRAL ASIA**

**THE EU WATER INITIATIVE'S EECCA WORKING GROUP**

**GOING FOR RESULTS – PROGRESS IN ENVIRONMENTAL MANAGEMENT IN  
EASTERN EUROPE, CAUCASUS AND CENTRAL ASIA – WATER SUPPLY AND  
SANITATION**

**DOCUMENT 14**

**PARIS 2007**

## OBJECTIVE 2.2 WATER SUPPLY AND SANITATION

### INTRODUCTION

Improving access to safe water supply and sanitation (WSS) services is a good social investment. According to WHO estimates, more than 13 000 children under the age of 14 die every year in the pan-European region, most of them in EECCA countries. Moreover, the social benefits of having access to safe WSS services exceed 13 times the cost of providing those services (OECD, 2006).

The international community is aware of the importance of WSS issues. Reducing by half the proportion of the population that is without access to an improved water source between 2000 and 2015 is one of the original targets of the Millennium Development Goals. The companion target of lowering by half the proportion of the population that has no access to sanitation services was adopted at the 2002 World Summit on Sustainable Development.

This chapter focuses on the urban water supply and sanitation sector, as there is very little information available about the rural sector. This is not a reflection of the relative importance of rural issues, but rather of the information and analysis currently available. Indeed, the water challenge is most difficult in rural areas (see Box 2.2.4). The chapter is based on work undertaken by the EAP Task Force Secretariat (OECD, 2006) and includes data that became available in early 2007.

### CURRENT SITUATION

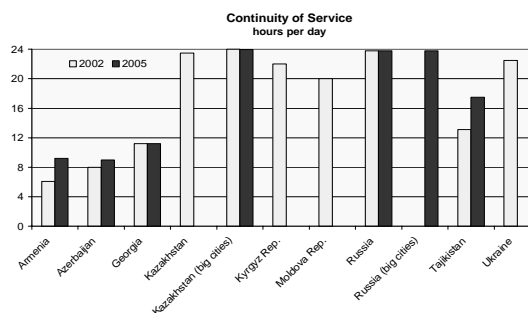
The official MDG water indicators provided by the UNICEF/WHO Joint Monitoring Programme give a distorted picture of access to water supply and sanitation in EECCA – as they suggest that the region is on track to meet the water supply target. They suggest that the proportion of urban populations having access to centralised services in EECCA countries remains at high level (over 90% according to the official

MDG indicator). However, they do not address the quality of that access, which has deteriorated.

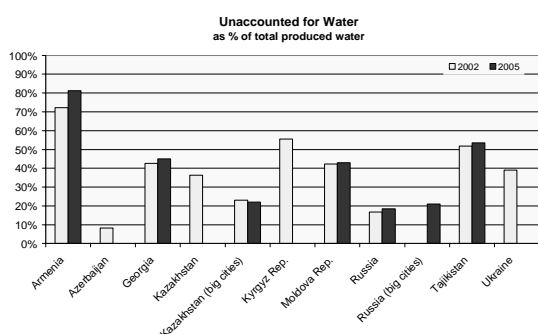
The water systems in EECCA are falling apart – disruptions of water supply, pipe breaks and unaccounted-for-water are steadily increasing. As a consequence, water is not always available, and, when available, it is often contaminated. In Moldova 32% of water samples do not meet microbiological standards and 80% do not meet chemical standards (World Bank, 2006).

While overall trends are broadly shared across the region, the state of water services and their adverse impacts are quite diverse. Positive achievements have been registered in the richer EECCA countries and in some large cities. But the situation remains critical in small and medium sized towns, as well as in rural areas, where water services have effectively collapsed. Despite recent efforts, sector data show a continued trend of deteriorating infrastructure and services. Significant additional efforts are required if the MDG targets are to be achieved, particularly in improving access to adequate sanitation facilities.

**Figure 2.2.1 Continuity of Service (hours per day)**



**Figure 2.2.2 Water losses  
(unaccounted for water as % of total produced water)**



Source: EAP Task Force Water Utility Performance Indicator Database

## RECENT PROGRESS

Many EECCA countries have introduced measures to improve the situation in the water supply and sanitation sector, most of them in line with the recommendations set out in the Guiding Principles adopted by Ministers in Almaty in 2000.

Many EECCA central governments have improved the **institutional and legislative framework** for the water sector. Some have developed legislation to better guide local level authorities, mainly in setting tariffs. For example, the Russian Federation and Ukraine have changed their tariff-setting frameworks to better reflect the cost of service provision and insulate tariff-setting from political interference.

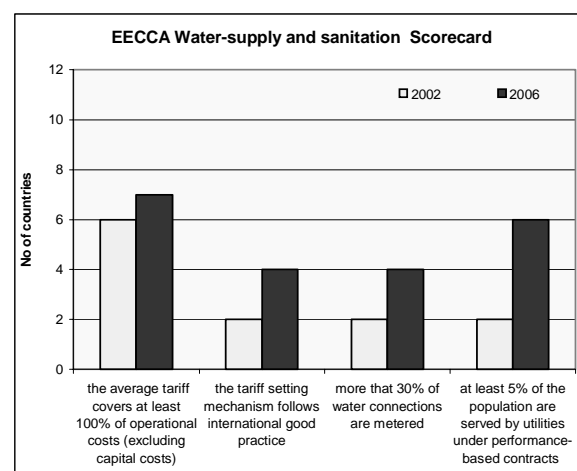
Less progress has been made with transferring **financial resources** from the central to the local level. The decentralisation of responsibility for providing WSS services has not yet been matched with commensurate financial resources, and in the current fiscal context local authorities can hardly be expected to cover investment costs for water infrastructure. As part of a regional development scheme, Ukraine has started to transfer co-financing funds from the state budget to local authorities to be invested in infrastructure, including WSS. However, across the region investment still falls short by a factor of 5 to 10

compared to the level that would be required to maintain and renew existing infrastructure (OECD, 2006). The low level of financial resources available for improving WSS services is often linked to the visibility of WSS issues in socio-economic development plans and poverty reduction strategies where, up until now, little progress has been made in including water sector targets.

**Institutional arrangements at local level** remain inadequate. There has been little progress so far in dissociating the responsibility for ensuring that WSS services are provided (attached to local authorities) from the actual provision of services (attached to local water utilities). Some cities have started to use performance-based contracts to engage private service providers or to better structure relations with municipality-owned utilities (see Box 2.2.3), but these remain the exception rather than the norm. Few cities have made progress in corporatising those municipality-owned utilities.

### Box 2.2.1 Water supply and sanitation scorecard

This scorecard shows that progress is taking place, albeit at a slow pace. Tariffs are now set in an improved framework in the Russian Federation and Ukraine. Tariffs in Ukraine now cover operational costs. Metering has improved in Armenia and Tajikistan. And the use of performance based contracts has reached a minimum critical mass in Azerbaijan, Kazakhstan and Ukraine.



Source: EAP Task Force Water Utility Performance Indicator Database; OECD questionnaires

### Box 2.2.2. Promoting metering in Armenia

By helping to improve the financial standing of water utilities, increased metering contributes significantly to also improving water coverage. But how can metering be promoted? Armenia has devised and implemented an incentive framework for households that encourages them to both voluntarily request meters and pay for their installation cost. In 2002 the National Assembly passed a law that offered to write off a portion of past arrears for households that are willing to install meters within six months. The Household Arrears Restructuring Programme has had a major positive impact on the bill collection rate. In addition to improving the financial standing of water utilities, the programme has also enhanced transparency in the sector.

Source: OECD (2006)

Achieving financial sustainability also requires improving **operational efficiency**. Here progress has been limited. While increasing user charges has helped to reduce excessive demand, energy costs and unaccounted-for-water remain 2-3 times higher in EECCA countries than in OECD countries.

Progress has also been slow in **involving the public** in the reform of the water supply and sanitation sector. Public participation is an important prerequisite for securing public support for reforms and improving the effective implementation of reforms.

The role of **private operators** in the water sector remains very limited in most countries in the region, but has been evolving quickly in some EECCA countries. In the Russian Federation, domestic private operators are now active in some 20 large cities (representing more than 10% of the urban population). In Armenia, all major cities are now being serviced by public-private partnerships with international operators. The debate between the public and private sectors has moved forward and now focuses on practical measures that will support effective involvement of the private sector.

### Box 2.2.3 Getting it right at the local level

In 2002 the West Siberian city of Surgut (population 282 000) launched a EUR 87 million project aimed at improving its water and district heating services. The city's reputation for good management helped it to secure a EUR 45 million loan from EBRD. In addition to improving the quality of the services, capital investments have allowed for cost reductions through reduced energy consumption and increased operational efficiency. At the institutional level, the enhancement of commercial, administrative and managerial capacities has led to better financial and operational performance. Higher tariffs, and the income they generated, have allowed the two municipal utility companies to service their debts. Most remarkably, in 2004 the municipality and the two utilities entered into service contracts, making the utilities and the water service "marketable" to private operators. Furthermore, every year the municipality publishes information in the local press on performance of the utilities, including operating efficiency.

Source: OECD (2006)

### Box 2.2.4 What about rural water?

The water challenge is most difficult in rural areas, as shown by the wide urban/rural gap in access to drinking water. This is particularly true in the low-income EECCA countries. For example, in Tajikistan, 47% of rural households have access to water, compared with 93% in urban areas. The sorry state of the rural WSS sector in EECCA is related to a combination of factors, which include institutional (unclear responsibilities), economic (high cost of providing "urban level" service to dispersed populations with little ability to pay) and capacity-related issues (communities with little access to expertise). It is generally accepted that little progress has been made in implementing policy measures to improve access to water supply and sanitation services in rural areas.

Source: EAP Task Force Secretariat staff

## MAIN BARRIERS

Since in many EECCA countries the basic legal and institutional framework has largely improved, slow progress in reform at municipal

level is now probably the most important barrier to improving the provision of water supply and sanitation. Increasing operational efficiency requires up-front investments. Central governments need to provide the finance for these investments, but often they do not trust local authorities due to their poor performance record.

In most cases, inadequate capacities are the main problem, particularly as regards the now needed commercial, financial and procurement skills. Technical skills, traditionally good, are now at risk, as many competent professionals are nearing retirement age and the sector appears to be unattractive for the younger generation. In some instances corruption also plays a role, as local politicians and utility managers may divert resources from water utilities to other ends.

The lack of information is another important barrier to faster progress, in several ways. In the area of rural water supply, even basic descriptive information is unavailable, which also contributes to rural water not being on central governments' radar screens. Moreover, the overly optimistic picture provided by the MDG indicators risk diverting the attention of international financial institutions (IFIs) and donors to other regions and bypassing EECCA countries.

#### **WAYS FORWARD**

- Provide predictable resources from central government for investment in water supply and sanitation infrastructure. Develop sector-wide financial strategies within the framework of integrated water resource management (IWRM) plans and integrate them into medium-term expenditure frameworks. Link financial transfers to local authorities to outputs, such as extended coverage and increases in service quality. Given budgetary restrictions and affordability constraints, consider maximising the number of households served by providing water and sanitation services through communal rather than in-house water services (particularly in poorer EECCA countries).

- Provide an appropriate incentive framework for local actors and help them to develop their capacities. Establish responsibilities for rural WSS at central level and learn from available experiences to develop appropriate approaches.

- Reform effluent standards (currently too strict and not enforced) to make the cost of water treatment requirements more predictable for water operators.

- Improve local planning efforts, particularly in terms of setting consistent and stable objectives, elaborating realistic financial strategies and translating those strategies into rolling, medium-term investment programmes. Clarify the responsibilities of water utilities and municipalities (preferably through corporatisation of water utilities and the establishment of performance-based contracts). Promote public participation in the development and implementation of reforms of water supply and sanitation services.

- Donors could continue to provide grant funding, as their resources, while modest in terms of both overall funding needs and flows, are often catalytic. With bottlenecks now predominantly at local level (both in institutional and operational terms), international financial institutions need to develop mechanisms for borrowing at sub-national level.

#### **FURTHER INFORMATION**

OECD (2001), *Guiding Principles for the Reform of the Urban Water Supply and Sanitation Sector in the NIS*. Organisation for Economic Co-operation and Development, Paris.

OECD (2006), *Financing Water Supply and Sanitation in Eastern Europe, Caucasus and Central Asia*. Organisation for Economic Co-operation and Development, Paris.

World Bank (2006), *Monitoring What Matters: How to Tailor Millennium Targets and Indicators of Environmental Sustainability to Local Conditions in ECA*. World Bank, Washington, DC.

## OBJECTIVE 3.1 WATER RESOURCES MANAGEMENT

### INTRODUCTION

Sustainable water resources management is essential for achieving the MDG focused on reversing the loss of environmental resources. Good water resources management requires not only infrastructure (for managing floods and droughts, multipurpose storage, water quality and source protection), institutional frameworks and management instruments, but also taking into account the political economy of water management.

Water is the basis for the development of key economic sectors in the EECCA region, starting with agriculture, and also including energy and industry. Although water supply and sanitation (see Objective 2.2) account for less than 15% of water uses, integrated management of water resources is increasingly important for delivering quality water supply and sanitation services. Ultimately, what is important is not water itself but water services, from irrigation to navigation to sustaining biodiversity. This shift in perspective has not yet happened in EECCA.

This chapter focuses on domestic management of water resources, paying particular attention to integration aspects (the Johannesburg target) and water pricing. It partially draws on dedicated input produced by UNDP as well as on available reports from EEA, Global Water Partnership, UNEP and the World Bank. Trans-boundary water issues, as well as marine issues, are covered under Objective 7.

### CURRENT SITUATION

EECCA countries face a wide and diverse water resources agenda. On the quantity side, Azerbaijan, Turkmenistan, and Uzbekistan are classified as water stressed, while 300 major Russian cities are prone to floods. Irrigation accounts for over 60% of water use in arid EECCA countries (EEA, 2007).

On the quality side, large rivers, such as the Volga, Kura and Syr Darya are heavily polluted. Pollution hotspots are found downstream from

large cities due to the discharge of insufficiently treated wastewater. Water is also polluted by heavy metals from mining and industry and by ammonia and nitrates from the fertiliser industry.

Despite high wastewater treatment connection rates, large amounts of wastewater are discharged untreated into EECCA watercourses as many treatment plants are no longer operational – around 80% in Georgia, Moldova and Tajikistan (EEA, 2007). Moreover, discharges from diffuse sources, in particular agriculture, are very difficult to control.

Water abstraction and pollution discharges experienced reductions during the economic crisis years, but water-efficient or pollution control technologies have not been introduced.

Climate change will aggravate many of these problems, changing rainfall and river flow patterns, but also affecting demand, particularly in agriculture.

#### Box 3.1.1 Water management issues in EECCA

EECCA countries face a complex water resources management agenda. However, all water resource management issues do not have the same importance in all EECCA sub-regions. The table identifies the most important water resource management issues in each sub-region. Water supply and sanitation are not included in the table, as this is dealt with elsewhere in the report.

	RF	BUM	CAU	CA
Legislation and regulation			√	
Institutional strengthening		√	√	√
Floods	√	√	√	√
Water flow monitoring and glaciers		√	√	√
Climate mitigation and forecasting	√	√	√	√
Irrigation and drainage	√		√	√
Wetlands and coastal zone management		√	√	√
Dam safety	√		√	√
Integrated basin management		√	√	√
Transboundary water management	√	√	√	√

Note: RF=Russian Federation; BUM=Belarus, Ukraine, Moldova; CAU=Caucasus; CA=Central Asia

Source: World Bank (2002)

## RECENT PROGRESS

Progress is being made in **integrated water resources planning**, although at a relatively slow pace. Transition of the water sector to a governance system based on integrated water resources management (IWRM) principles is in progress in practically all EECCA countries. However, they are at different levels of readiness to develop and implement appropriate IWRM and water efficiency plans. Some countries are already on the way towards practical implementation of more integrated approaches to water resources development, management and use (Armenia, Kazakhstan), but others have only taken initial steps in this direction (see Box 3.1.2). Overall, a river basin management approach has not yet been adopted.

New **legislation** has generally focused on establishing the framework for bilateral co-operation, not on river basin management, although very few bilateral agreements have been concluded since Kiev. Kazakhstan, Turkmenistan and the Russian Federation have passed Water Codes, establishing the priority of water body protection over water use and a river basin management approach. Armenia has integrated IWRM principles into the bylaws that developed its 2002 Water Code.

Little progress has been achieved in **integration**. Achieving *integrated* water resources management requires the commitment of line ministries. In EECCA, IWRM implementation has generally started with the establishment of river basin organisations (with different names) based on the old territorial branches of water committees.<sup>1</sup> This is a positive step, but early experience suggests that integration of other sectors into the work of these river basin organizations is not yet happening.

While the legal and institutional frameworks are relatively well developed and IWRM issues are often included in national development plans, gaps in **institutional capacity** and serious

resource constraints have hindered the implementation of action plans in some EECCA countries, such as the Kyrgyz Republic, Moldova, Tajikistan and Uzbekistan.

There are also examples of successful community mobilisation, as in Uzbekistan and the Crimean peninsula. But the lack of social capital on which to base **participatory** water resource management is a real problem.

While **awareness**-raising campaigns for politicians and water professionals have taken place – for example in Kazakhstan and Armenia – in many cases there has been little progress in increasing the awareness of water management issues among major water users.

### Box 3.1.2 Has EECCA met the 2005 IWRM target?

At the 2002 World Summit on Sustainable Development (WSSD), 193 countries committed to “develop integrated water resources management and water efficiency plans by 2005”. Progress in the EECCA region is roughly in line with the rest of the world. According to a survey by the Global Water Partnership, Armenia and Kazakhstan are classified as having plans/strategies in place, or a process well underway, incorporating the main elements of an IWRM approach.

The other four Central Asian countries are in the process of preparing national strategies or plans (the Kyrgyz Republic, Tajikistan and Uzbekistan have developed “roadmaps” on the reform process towards IWRM), but require further work to live up to the requirements of an IWRM approach. Azerbaijan and Georgia have taken only initial steps in the process towards preparing national strategies or plans and have not yet fully embraced the requirements of an IWRM approach.

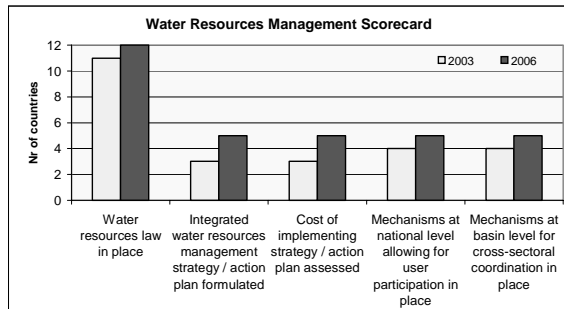
Belarus, Moldova, Russian Federation and Ukraine were not surveyed or did not respond. The MDG Task Force has suggested that the WSSD target should be interpreted as calling for the “initiation of a robust water resource management process” rather than simply the creation of a traditional prescriptive “Plan”. By this definition, 75% of EECCA countries have met the target.

Source: Global Water Partnership (2006), UNEP (2006)

1 . In Armenia, these organisations were established following hydro-geographical boundaries.

### Box 3.1.3 Water resources management scorecard

As is the case with the scorecards presented elsewhere in the report, countries may have interpreted the questions in different ways. Generally, their responses suggest that water resources management is an area lagging behind, but also one where progress is taking place, albeit slowly.



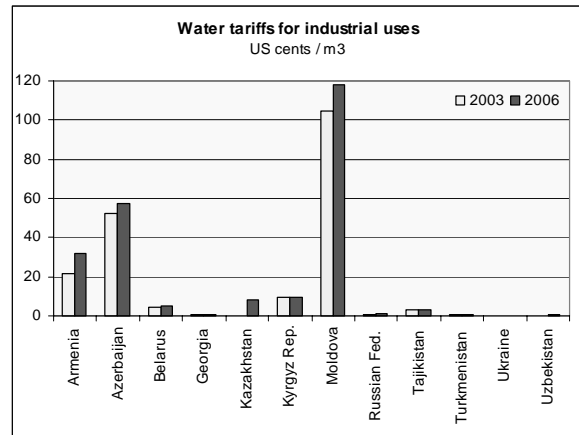
Source: EECCA countries' responses to EAP Task Force questionnaire

Progress in **water pricing** is uneven, at best. Water prices were heavily subsidised in the region before 1990, yet in some EECCA countries there has been a marked increase in water prices during transition, resulting in lower water use. Currently, Georgia and Turkmenistan effectively have “zero tariffs” (less than USD 0.001/m<sup>3</sup>) for all water users. In addition, Kazakhstan, the Russian Federation and Uzbekistan charge “zero tariffs” for irrigation. Even for countries that charge for water, tariffs are not always revised annually and so are eroded by inflation – this has been the case in the Kyrgyz Republic and Tajikistan.

Countries that have recently increased nominal tariffs include Armenia (doubled for household and agricultural uses), Belarus (doubled for households and 18% increase for industry), Moldova (13% increase for industry), the Russian Federation (70% increase for industry and 17% increase for households), and Uzbekistan (roughly 150% increase for all users). Only Armenia, Kyrgyz Republic and Tajikistan seem to charge above USD 0.05/m<sup>3</sup> for irrigation. In EECCA, tariffs for industrial uses are rarely above USD 0.10/m<sup>3</sup> (see Figure 3.1.1).<sup>2</sup>

2. For comparison, in the late 1990s water prices in OECD countries were generally about USD 1-2

Figure 3.1.1 Water tariffs for industrial uses



Note: No data for Ukraine. No data for Kazakhstan in 2003. Tariffs calculated using 2005 exchange rates.

Source: EECCA countries' responses to EAP Task Force questionnaire

### Box 3.1.4 Kazakhstan's national IWRM

In Kazakhstan, a formal network of 24 institutions (government authorities; planning, research, and academic institutions; and NGOs) is facilitating the development and implementation of the national IWRM plan. This work is being supported by international organisations and bilateral donors, such as Norway. Progress ranges from the incorporation of basic IWRM principles into the 2003 Water Code to awareness-raising campaigns for politicians and water professionals. The Kazakh experience highlights the need for a modern water law, an inter-ministerial working group, the availability of an “early draft of the draft plan”, education of stakeholders, establishment of stakeholder river basin councils, and public awareness campaigns.

Source: UNDP staff, OECD staff

EECCA countries have a long history of water **monitoring**, which is biased towards monitoring larger rivers and emphasises

for households, USD 0.5-1.5 for industry, and less than USD 0.01 for agriculture (OECD, 2003)

upstream/downstream monitoring with regard to major cities. At present there are no signs that the significant decline in water quality monitoring experienced over the last 15 years is reversing.

#### **Box 3.1.5 Building bridges in the Volga basin**

The Volga basin comprises 40% of the population of Russia, 45% of the country's industry and 50% of its agriculture. The river and its basin suffer from poor water quality and ecosystem degradation. Mainly as a result of household and industrial wastewater discharges (and the absence or poor condition of wastewater treatment systems), most sections of the river are classified as polluted and 22% as dirty. Water management problems include weak institutional co-ordination, lack of good local governance, unsafe dams and hydro-facilities, and unsound waterway and infrastructure conditions.

In 2006 the Russian government passed a Water Code that establishes and strengthens basin management bodies, including regional ones. The lack of co-operation between all stakeholders, however, has slowed down progress. To help solve this problem, the CABRI-Volga project (an international project involving 17 public and private sector partners from the Russian Federation, the EU and the UN) has made use of institution-twinning and networking to enhance institutional co-operation around environmental risk management.

Source: CABRI-Volga Project staff ([www.cabri-volga.org](http://www.cabri-volga.org)); EEA (2007)

#### **MAIN BARRIERS**

EECCA countries face major political, cultural and capacity barriers on their way towards integrated water resources management. In many countries in the region there is still little political willingness to reform water tariffs and increase public participation. The water sector has not yet completed its transition to a "water services" mentality. Moreover, water institutions are weak, in particular with regard to "integration" aspects of water resources management.

In addition, there is no clear sense of the costs of inaction (whether regarding water services, ecosystem services or transboundary

co-operation) and how these compare to investment costs.

#### **WAYS FORWARD**

- Advance with IWRM planning. Make the preparation of the IWRM plan/strategy a dynamic instrument that progressively identifies necessary future actions in water resources management, water infrastructure development, improved water efficiency and better water service provision. Define clear and measurable targets, and strengthen water monitoring and information management to assess whether targets are being met – including by developing skills for data collection and analysis.
- Work towards integration bottom-up, by promoting decentralisation (including pricing functions and public involvement in water management).
- Focus on the efficiency of water use and on improving the management of river ecology. Speed up demand management, including through pricing reforms to encourage technical and allocative efficiency, and also through public information campaigns.
- Strengthen institutions and build capacity in water management. Support the establishment and operation of basin authorities. Encourage the development of water user associations aimed at improving water use efficiency in the irrigated agriculture sector.

#### **FURTHER INFORMATION**

UNDP (2006), *Human Development Report 2006 – Beyond scarcity: power, poverty and the world water crisis*. United Nations Development Programme, New York.

GWP (2004), "Integrated Water Resource Management and Water Efficiency Plans by 2005 – Why, What and How", *TEC Background Papers*, No. 10. Global Water Partnership, Stockholm.

GWP (2006), *Setting the Stage for Change*. Global Water Partnership, Stockholm.

OECD (2003), *Improving Water Management – Recent OECD Experience*. Organisation for Economic Co-operation and Development, Paris.

UNEP (2006), *UNEP Support for Achieving the IWRM 2005 Target in Central Asia – Accelerating the Process*. UNEP Collaborating Centre on Water and Environment, Horsholm (Denmark).

World Bank (2002), *Water Resources in Europe and Central Asia*. World Bank, Washington, DC.