

**Future of Turkey's Water Services
And Investment Environment Arena**

Strategic, Technical, Economic Research Center

STEAM

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“New Economic Realities and the Water Sector”

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Good morning and thank you for inviting me to today's STEAM arena.

Three months ago, in March, many of us participated in the **World Water Forum here in İstanbul**. At the Forum we talked about issues of water investment and financing, such as utility budgeting, long-term investment needs, and the financial challenges of climate change. Today we have an opportunity to continue and build on this dialogue.

In my short talk this morning, I will do three things:

1. draw on the World Water Forum dialogue—as many Forum participants observed, global experience can offer useful lessons;
2. cover some key points on water investment and financing in Turkey, e.g., water losses, utilities management, maintenance, etc., and also the future agenda of water and climate change in Turkey; mostly about the context and framework for investment and financing.
3. look ahead, to areas for action and the Turkey-World Bank partnership.

Many of the key water issues and challenges today are the same as those faced by the global water community for many years:

- improving access to water supply and sanitation services,
- expanding irrigation,
- improving water security, and
- promoting environmental protection.

The additional challenge we face today is managing the impact of the global financial & economic crisis—while also maintaining conditions for long-term growth, and what this means for infrastructure, including water.

We are in the midst of the most severe global economic and financial crisis of the last few decades.

- Production and exports are falling, many firms face financial difficulties, unemployment is rising, and poverty is increasing, as families' incomes and household purchasing power are declining.
- Often in such crises we **see a rapid drop in the ability** of vulnerable groups **to pay** for good nutrition or **for basic services such as water or sanitation**.
- Thus, taxes and revenues are falling exactly when there is an increased demand for spending to mitigate the impact of the crisis.
- **Effective and efficient public sector management and budgeting become even more important ... including in the water sector:**

- Past crises also showed a troubling trend, as spending on water infrastructure declined disproportionately relative to other public investments.

Governments are responding to the crisis in a number of new ways.

- Some put into place fiscal stimulus programs.
- Others recognize that investments in infrastructure do support job creation while laying the foundation for future growth.

Let us look a bit more at the set of issues around household water use, water losses, water utilities' bill collection and revenues, and related asset maintenance—internationally and in Turkey.

- With the global economic crisis, we see some global trends of concern.
- Many families today find it increasingly difficult to pay their water bills, and the bill collection rate of utilities—always a challenge—is suffering.
- This will increase financial pressure on utilities.
- Of course when revenues fall, it becomes even more important to maintain and prioritize asset maintenance.
- Often asset maintenance is of course already a challenge in good times, not to mention times of crisis. Until recently, pro-active asset maintenance has been rare outside larger water and sewer utility companies.

Like many countries, Turkey has introduced widespread metering of water at the household level.

- This water metering is initially helpful to conserve water use
- However, many municipalities in Turkey grapple with the problem of “apparent water loss” when bills are not paid.
- While there is some variation by region and income, this part of the water loss challenge appears fairly widespread.
- **In addition to systematic enforcement,** two factors are key: (1) good water utility service and (2) societal awareness. Fining or cutting off service to non-paying customers can help address the challenge in part; but it is obviously much better if consumers comply and pay voluntarily. People are more willing to pay for good service and in response to solid public awareness campaigns by innovative utilities.

Some international comparisons illustrate the matter:

- There are data from the International Benchmarking Network for Water and Sanitation database with more than two thousand water utilities around the world (though not for Turkey).
- The data show that, **in Europe and Central Asia, the ratio of revenue-to-operating expenses has been fairly stable at around 1.00 since 2000.**
- This means that annual expenses are being met, but additional revenue to address needs for capital improvements are not.
- **For Turkey, an EU study of 23 medium size municipalities shows that on average these cities do much better,** with an average revenue-to-operating cost ratio of 1.42. However, performance in Turkey varies greatly between municipalities—in this sample, from as low as 0.45 to as high as 2.
- **One critical factor with these 23 municipalities is water loss** which ranges from 40% to as high as 90%.
- **According to TurkStat, on average Turkish utilities lose about 50% of water from the source to the customer, due to leaks and illegal taps.**
- This is at the very upper end of water losses in the EU and well above the average: in Italy, water losses in some utilities are still around 50%; in well run Northern European utilities they are as low as 5%.

The same challenges of managing water losses, billing, and revenues apply not only to urban water and sanitation utilities, but also for irrigation providers.

- Improved efficiency and management of irrigation becomes even more important in countries such as Turkey that face increasing water scarcity.
- Turkey has been one of the front runners in irrigation sector reform.
- The almost full transfer of irrigation systems to water user associations has dramatically empowered users of Turkey's irrigation systems.
- However, the funding of operation and maintenance costs often remains difficult. And an increase in water use efficiency remains a challenge. And maintenance and rehabilitation become even more critical, because about one-third of the irrigation network is over 40 years old.

The challenge of adequate maintenance funding, for irrigation and for other water investments is a serious one, in Turkey and in the world

Turkey has a considerable investment stock in water.

- We understand that DSI (the State Hydraulic Works) oversees infrastructure stock assets valued around 90 billion YTL (at 2007 prices).
- The total capital stock includes many large dams, reservoir facilities (dams and ponds), and hydropower plants.

- More than 700 irrigation facilities service an area of 2.9 million hectares.
- DSI supplies more than 2 ½ billion cubic meters of potable water annually.
- If our figures are correct, total maintenance, repair and renewal of these aforementioned facilities amounted to about 234 million YTL over the period 2000-2007. This would be around 30-35 million YTL per year—or only around 1/25 or 1/30 of 1 percent per year. Should these figures not be correct, please let us know.
- ***Overall, Turkey faces a huge challenge of maintenance financing.***

One compounding factor is the age of existing facilities, which affect maintenance, repair, and renewal needs.

- Looking at DSI's portfolio in Turkey we understand that about half of *all* the facilities are over 20 years of age.
- A rule of thumb is that such facilities tend to need serious renewal when they reach about 30 years of age. Over the next 5, 10, 15 years Turkey will likely face a major and rapidly growing repair and renewal challenge and corresponding investment requirements.

Investments in efficient infrastructure can help in these crisis times.

- Few decision-makers talked about “the water-energy nexus” 3 years ago.
- Today, we have a deeper appreciation of its importance in development.
- Increased energy costs directly increase the costs of water supply and management.
- Indeed, energy is the second largest operating cost, just after labor, for many utilities. Especially irrigation entails significant pumping costs.

So far I've talked about water losses, utilities management, maintenance, and some challenges to water financing. Now I will look ahead a bit, at two specific issues for the future—(1) the climate change agenda and water; and (2) the role of the private sector. And then I conclude with a few words on the Turkey-WBG partnership.

First, on the climate change agenda and water, internationally and in Turkey:

- Looking ahead to the coming decades, we share the view of Turkey's water community and specialists that the impact of climate change—while it is still uncertain—will likely be important for broader water sector planning.
- Turkey's 2007 National Communication to the UN FCCC notes the expected variability in impact:
 - from *significant reductions* in precipitation in southwestern Turkey, which will challenge water supply and irrigation

- to *increases* in southeastern Turkey, which could exacerbate flooding.
- The World Bank has just launched a Flagship Report on adaptation to climate change in the ECA Region (launched in Bonn on June 2nd).
- The analysis in the report suggests that Turkey will likely experience some of the greatest regional extremes in climate by the end of this century.
- As we all know, and as Turkey already envisages, this calls for careful monitoring and continuous updating of water investment planning.
- And such strong investment planning may well involve a reassessment of the basic hydrology of Turkey's river basins, because of changing patterns of precipitation, together with an overall increase in ambient temperatures.
- For example, research conducted by Japan and the Technological Research Council of Turkey in the Şeyhan Basin suggests, for example, that sound hydropower investment and operations may be able to overcome a projected shortfall in basin annual runoff in the middle of this century.
- And I would like to highlight the importance of approaches to help ensure climate resilience of infrastructure that do not require major new financial commitments—such as the issues of increasing water use efficiencies that I talked about earlier.

Second, on the role of the private sector:

- A flagship study we released at the World Water Forum indicated that the private sector has an essential role to play in the water sector. Leaving aside the issue of who owns the assets, the private sector has proven to be effective in driving better operational efficiencies which directly improves the financial viability of utilities.
- The private sector has proven very adept at adapting to local economic and political realities. In the right setting it has often managed to outperform public utilities. Local, smaller-scale providers have proven to be especially effective in difficult situations, and preserving the access to capital for these firms is important.

I will conclude with a few words on the partnership between Turkey and the World Bank:

- Turkey is one of the World Bank's largest and closest partner countries. And, especially as the impact of the global economic crisis is felt around the globe, and also in Turkey, I expect that our strong and close partnership will continue—both in terms of analysis, advisory services, and sharing of international experience, and in terms of financing.

- The World Bank is honored to have had the opportunity to support Turkey's investments in water for more than 40 years.
- The mix of investments has varied over time, as we have jointly been addressing old and new challenges. Past and recent priorities have included
 - Rehabilitating water and irrigation systems,
 - Improving the efficiency of urban water and wastewater infrastructure
 - Developing sustainable hydropower for renewable energy, and
 - Stabilizing degraded lands and watershed improvements.
- **Longer-term challenges of climate change are now becoming evident and a priority of Government, and for the World Bank.**
- **We see this area of climate change, energy, and water as a major opportunity for strong and growing future collaboration— along with the broader sustainable environmental management agenda.**
- Just two weeks ago the World Bank Board approved financing for Turkey's Private Sector Renewable Energy and Energy Efficiency project, which will go mainly towards renewable energy projects such as small hydroelectric facilities, as well as energy efficiency investments. The project will utilize resources from both the World Bank and the newly launched Clean Technology Fund. Turkey is the very first country, and this is the very first project, to access the Clean Technology Fund.
- It is my hope that such innovation will continue as a hallmark of our partnership.

Thank you. Çok teşekkür ederim.