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Introductory Speech  
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**Session:**

**Competing Demands for Scarce Water Resources in Agriculture, Industry and Urban Agglomeration**

**CHECK AGAINST DELIVERY**

Ladies and Gentlemen,

I would like to thank you for the opportunity to speak to you at this year's Arab-Europe Dialogue. I am representing UNSGAB, the advisory council of the UN Secretary General Secretary on water and sanitation. This board of about 20 eminent personalities from all continents is mandated to recommend action in order speed up the process of reaching the Millennium Development Goals on water and sanitation, agreed upon at the Millennium Summit in the year 2000; namely to halve the proportion of people without access to clean water and decent sanitation.

Our Board aims to bring attention to the most pressing water problems of our time, and work with actors in the UN system as well as beyond, to inspire dialogue and joint action.

Integrated Water Resources Management or IWRM is one of the areas that have received our heightened attention over the past couple of years. It is a way of dealing with competing water demands, as it seeks to integrate different water uses “in order to maximize the resultant economic and social welfare without compromising environmental viability”<sup>1</sup>.

The challenges of this endeavor become evident if we look at the projections, which show how water scarcity will increase over the years to come. Especially for Northern Africa and the Arab world, climate scenarios predict a considerable decline in water availability due to climate change. Water is already physically scarce in densely populated arid areas with projected availabilities of less than 1,000 cubic meters per capita and year. This scarcity will most severely impact agricultural and industrial production and specifically food security.

Above all, we need to take into consideration increasing inequalities in the access to water resources.

These inequalities are likely to lead to increased competition at the local level; some experts even fear that this might result in conflicts over water at the international scale, as countries are increasingly in competition for the scarce resource.

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<sup>1</sup> This is the official definition by the Global Water Partnership.

In this situation the following questions emerge:

1. What factors are aggravating the climate-induced scarcities?
2. What can be done in order to manage available and possibly declining water resources efficiently? What are good measures and who should implement them?

Let me address the first question.

In discussing the culprits for water scarcity we find the usual suspects, **overuse and over-abstraction** of surface and groundwater for irrigation, but also for industrial purposes, such as mining, processing and also increasingly power generation<sup>2</sup>. While in the Arab world agriculture consumes up to 83 % of available water resources, industry uses up to 7 %; the remaining share is consumed by households. Overall consumption is expected to increase significantly with population growth.

On the other hand we need to consider the impact of **water pollution**. Water pollution caused by industrial effluents, nutrient pollution from agriculture or due to the uncontrolled release of human waste.

More than 200 million tons of human wastes are discharged into the environment due to insufficient sanitary and treatment facilities. The costs of this pollution are immense and amount to 2 to 7 % of national GDP (cost of no action).

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<sup>2</sup> It is therefore advisable to combine the two parts of the conference (Global Water – Global Energy).

Furthermore, in developing countries on average 70 % of industrial wastewater, which is often highly toxic, is released into the environment untreated.

All these processes lead to a situation, where there is not enough water of sufficient quality to meet the daily human needs, those of agriculture or other wealth-generating activities. And actual scarcities are aggravated due to inadequate water management approaches.

Water is often provided to farmers at a too low price, which is leading to wasteful behavior. For example in Jordan, which is extremely water scarce, agriculture uses up to 65 % of available water resources, while only contributing about 3 % of gross domestic product.

Growing urban agglomerations, so called megacities are particularly prone to severe water challenges. It is expected that by 2025 about 60 % of world population will live in large conurbations, which require enormous amounts of water for domestic water uses. Water often needs to be transported over long distances necessitating significant maintained investments in water infrastructure.

In some cases, urban water supply is entirely dependent on groundwater. Large shared aquifer resources often represent the only source for drought security and life sustenance of large populations in semi-arid areas. The city of Riyadh is an example for the exploitation of such ancient aquifers. Sound groundwater - land linkages are critical for ensuring groundwater recharge. Land and eco-systems are

however threatened by the impacts of accelerated urbanization, land degradation and desertification.

In addition, the problem of lacking sanitation and wastewater discharge is particularly pronounced in big conurbations, such as Cairo or Beirut: high density settlements rarely provide sufficient access to sanitation and lack proper treatment facilities, thus posing a considerable threat for water quality and human health.

Urban and also industrial growth is often premised on the availability of sufficient water. Increasing scarcities will thus compromise not only urban growth but also industrial development as a basis for economic growth and diversification. Already nowadays, many governments struggle to make enough water available to sustain projected growth trajectories. Water is more and more a limiting resource to all activities.

In striving to meet this ever increasing demand water needed for ecosystems is often neglected. Only in a few countries, such as South Africa, we find progressive legislation, which sets aside water for environmental use and the protection of ecosystems. This however is crucial in making sure water sources are replenished and sustained for future use.

In addition to local conflict scenarios, we should also keep in mind how these find their reflection at the international level. It is mostly thanks to the Nile Basin Initiative that the conflict prone environment at this river is more or less

controllable. Riparian interests clash over use of the Nile for energy production (e.g. Ethiopia) and agriculture (e.g. Egypt). The balance is however fragile, such as demonstrated by the most recent failure to come to an agreement including all basin countries.

And we even need to look further beyond. Water scarce countries in the Arab world are more and more looking for other places to grow their food and thus often turn to water-rich places in Africa and also South East Asia. While this has often been demonized as “land grabbing”, we certainly need to make sure that this so-called trade of virtual water does not lead to ‘new remote conflicts’. Putting in place sound governance systems, that ensure local communities’ access to sufficient water for local food production, while at the same time allowing for the export of food, is therefore of utmost importance.

I am now turning to the second question.

What are solutions that should be promoted in order to alleviate water stress?

As I mentioned in my introduction, one component of the solution is managing water better - managing it in an integrative and also participative way, which involves all potential users groups and not only those with the most powerful lobby. Demand management is also crucial in this regard. Making people aware of how much water they actually use and what they could do in order to save water and avoid pollution is crucial.

Secondly, improving efficiencies is key. And there are many promising solutions out there already, which however need to be upscaled and receive broader attention. I would very much like for this Arab-Europe Dialogue to provide a platform for this.

If we just look to agriculture; drip irrigation is a key achievement. The FAO has shown that water efficiency could be improved by up to 70 % through drip irrigation. Also, the reuse of agricultural drainage water already amounts to 3 % of water supply in Arab countries and could be developed further. Just as many outdated and wasteful irrigation systems and canals need to be replaced; also municipal water infrastructure deserves some check-up. Losses due to leakages as well as illegal water use can reach up to 70 %.

Water efficiency furthermore should be part of every management strategy. Business often has the knowledge as well as the innovative potential to develop new water saving technologies. Often the key is the reuse of water of different qualities for the appropriate purpose. Water of drinking water quality is often too precious for agricultural or industrial uses.

In Jordan for example, treated wastewater is used for watering vegetables. This is then freeing up high quality water as drinking water; currently this is only available in Jordan's capital Amman for a few hours a day.

And nutrients contained in the waste water can be used as fertilizer. These concepts are also often referred to as productive sanitation or Ecosan as they combine several benefits, which can also save costs.

Equally, municipal greywater is often sufficient for numerous industrial applications. There are great examples throughout the Arab region for wastewater reuse. But there is still room for improvement and innovation. This has been demonstrated with regards to desalination, where the Arab peninsula has been in a leading position for more than 25 years. However, with even more desalination capacity to be installed, we need to keep in mind the substantial amounts of energy required here.

These examples show that solutions are at hand to address the water challenge worldwide as well as in the Arab world and to manage the scarcity issue.

Eventually, all boils down to the question of how water resources are managed. Are the different actors aware of the respective water needs of others? Are water demands managed in a balanced way? Certainly, governments need to play a strong role in allocating water and monitoring use as well as providing the right incentives for water saving. We must make sure that there is enough capacity vested in government actors to do this. Often regulatory frameworks are known to be weak, service delivery is therefore often inadequate.

In concluding I would like to highlight two important aspects:

First, there is a strong necessity for the private sector to act responsibly for water. This might even be motivated by pure self-interest, as water becomes a more and more important limiting factor for production. And of course we should look into opportunities for new partnerships between business and other actors to ensure equitable access to water resources for all.

Secondly, I advise to look to the international mechanisms that could support integrative water resources management. Best practices have been developed, which need to be further adapted and applied at the local level. At the same time, they might assist in alleviating potential water conflict between neighboring countries.

With this I would like to conclude my brief introduction - Thank you for your attention.