

Ministry of foreign affairs of the Republic of Tajikistan

**International High Level
Conference on the Midterm Comprehensive
Review of the International Decade for Action
«Water for Life», 2005-2015**

Dushanbe,
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- M-34 **International High Level Conference on the Midterm
Comprehensive Review of the International Decade for Action
«Water for Life», 2005-2015.**
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**Minister of Foreign Affairs of the Republic of Tajikistan, Deputy Chairman of
the Organizing Committee of the International High-Level Conference on the
Midterm Comprehensive Review of the Implementation of the International
Decade for Action «Water for Life 2005-2015»**

Foreword

The Globalization in the modern world links up national processes with global ones through invisible threads, thus making them a part of global processes. While competing with each other and extensively developing natural resources, the countries unwittingly reached exhaustion of water resources in some part of the world. That is the first signs of impending water challenges and its managing is of vital importance for sustainable development and ensuring human security.

Numerous findings held in various parts of the world recognized that the root of all water challenges is complicity of water management, obsolete infrastructure and technologies, significant losses in water consumption, and unwise and irrational water intake from natural sources. Managing these problems is fundamental for ensuring drinking water supply, food security, hydropower development, preservation of ecosystems, people's prosperity and plenty.

Water supply for people worsens year by year. From year to year the world community faces need for taking tough decisions on water allocation with the interests of all water users and competing economic sectors being complied with.

Rational water management contributes to strengthening peace, security, cooperation and friendly relations between nations in accordance with the principles of justice and equity. Water has potential for and it is to contribute to economic and social progress of all people in the world — corresponding UN goals and principles, stated in the UN Charter and the Universal Declaration on Human Rights. Water is fundamental for a great many economic activities and achievements at Millennium Development Goals.

Numerous international water fora, summits and conferences on water issues held over the past years demonstrate unity of interests of peoples and nations in resolving water challenges and better understanding of the fact that strengthening international economic cooperation is critical to prevent impending water stress.

The modern history demonstrates that Tajikistan along with other members of the international community continues to be a global and real initiator of living actions on rational use and efficient management of water resources.

At its 55th session and on the proposal of the Republic of Tajikistan, the UN General Assembly adopted a resolution that announced 2003 as the International Year of Fresh Water. To continue the initiative and by the instrumentality of international organizations and specialized UN agencies the Government of the Republic of Tajikistan organized the Dushanbe International Forum on Fresh Water that was held in Dushanbe from August 29 to September 1, 2003.

As part of the measures taken within the framework of the International Year of Fresh Water the President of the Republic of Tajikistan, Emomali Rahmon proposed to declare 2005-2015 as the International Decade for Action "Water for Life". The initiative met with support by the participants of the Forum. On the basis of the Dushanbe Declaration the UN general Assembly adopted its Resolution 58/217 from December 23, 2003 and declared 2005-2015 as the International Decade for Action "Water for Life".

From May 30 to June 1, 2005 and under this Resolution of the UN General Assembly and jointly with the UN institutions and other international organizations, the Government of the Republic of Tajikistan held the International Conference on Regional Cooperation in the Basin of Transboundary Rivers. The Conference mediated the 3rd World Water Forum held in Kioto in 2003 and 4th World Water Forum held in Mexico in 2006.

Taking into account the increase in frequency of water-related natural disasters as an important global challenge and to draw the attention of the governments, international organizations and donors to the range of problems as well as in the framework of the water decade the Government of the Republic of Tajikistan organized the International Conference on water-related disaster reduction held in June 27-29, 2008. New proposals and recommendations were worked out during the discussions conducted in the framework of the Conference as well as reflected in Dushanbe Declaration that the Conference resulted in.

At the 60th session of the UN General Assembly, an International Conference aimed at appraisal of the measures taken under the International Decade for Action "Water for Life" as well as at a review of the progress achieved during the first half of the decade with its outcome to be widely brought down was proposed to be held in the Republic of Tajikistan as an initiator of the Decade.

Being an initiator of two critical water resolutions of the UN General Assembly on the International Year of Fresh Water (2003) and International Decade for Action "Water for Life", 2005-2015, the Republic of Tajikistan is highly interested in successful implementation and promotion of the decade's goals.

In this regard, in December 21, 2009, at the initiative of the Republic of Tajikistan and in co-authorship with other 36 UN member-states the UN General Assembly adopted

a new Resolution (64/198) on the need for a midterm review of the implementation of the International decade for Action "Water for Life", 2005-2015.

The proposal of the Republic of Tajikistan on holding in Dushanbe in June 2010 the International Conference on midterm comprehensive review of the implementation of the International Decade for Action "Water for Life", 2005-2015 was aimed at the need for midterm review of the progress achieved in implementation of the tasks set forth under the decade as well as identifying the most urgent tasks for the second half of the decade. The Interactive High-level Dialogue on water decade under the auspice of the UN was held in New-York in March 22, 2010 within the framework of the preparation to the International Conference.

Addressing the 5th World Water Forum held in Istanbul (2009), the President of the Republic of Tajikistan, Emomali Rahmon, proposed to adapt fundamental international legal framework on water resource management taking into account modern requirements and challenges. He also proposed to declare 2012 as an International Year of Water Diplomacy aimed at strengthening cooperation in managing water relations, believing that it will give a positive impetus both to achievement of the goals of the International Decade for Action "Water for Life", 2005-2015 and the Millennium Development Goals.

Coping with water challenges at the global level is being worsened by climate change that becomes more obvious in all regions of the world. Recognizing the climate change as a major challenge to water resources, both at anniversary meeting of the World Meteorological Organization held in Geneva and at the meeting of signatories of the Kyoto Protocol on climate change held in Copenhagen the President of the Republic of Tajikistan proposed to set up an International Fund for Saving Glaciers.

Water initiatives of the Republic of Tajikistan supported by the UN general Assembly, namely, on International Year of Fresh Water, 2003; and the International Decade for Action "Water for Life", 2005-2015 – strengthened international community's understanding on need for shifting from discussion, expression of intention and declaration of obligations to implementation of practical measures. That is a new strategic goal of the international community in the name of life and humanity.

Tajikistan stands resolving water challenges on the basis of internationally recognized principles: fair and equal, rational and usage that does not cause damage to riparian countries, Tajikistan is an initiator of proposals on further improvement of regional system and institutions on joint management of water and hydropower resource of Transboundary rivers.

The past decade after the MDGs were adopted and the first half of the Decade for Action "Water for Life" demonstrate that set forth goals and tasks are still far from being achieved at. Governments and the world community are to take more efforts to ensure safe drinking water supply for people and agricultural development as well as for ensuring required sanitation and decrease water-related diseases. There are a lot of other tasks on improvement of people's living conditions with environmental preservation and sustainability in water basins as well as exhaustion of water sources being ensured. Emphasizing considerable contribution made by

the UN, international community, public, professional, non-governmental and governmental international and national organizations during the first half of the Decade for Action "Water for Life" it may be concluded that water-related issues require emphasize placed on and are becoming most topical challenges of the modern world.

In this regard, the High-level International Conference on midterm comprehensive review of the implementation of the International Decade for Action "Water for Life", 2005-2015 held in June 8-1, 2010 in Dushanbe has become an important event that wrapped up the first half of the International Decade for Action "Water for Life" and provided opportunity for midterm comprehensive review of the progress achieved at over the period as well as for identifying political line for the second half of the decade and accelerating progress towards achievements of the MDGs.

The outcomes of the conference reflected in the Dushanbe Water Declaration include specific recommendations and proposals on further strengthening of efforts taken at national, regional and international levels during the second half of the decade within the framework of achieving at internationally agreed water-related goals with all stakeholders being engaged in.

Standing for extension of cooperation on water usage Tajikistan will continue taking every effort aimed at achievement at international water commitments by 2015 as well as at considerable progress in managing water challenges at the global level.

OPENING OF THE INTERNATIONAL CONFERENCE

**Opening speech
of the Prime Minister of the Republic of Tajikistan,
Chairman of the Conference Organizing Committee
H.E. Mr. Akil Akilov at the High Level International Conference
on the Midterm Comprehensive Review of the Implementation of
the International Decade for Action «Water for Life» 2005-2015**

Excellency the President of the Republic of Tajikistan,

Excellency Under-Secretary General of the United Nations,

Distinguished heads of delegations,

Dear ladies and gentlemen!

Allow me at the outset to declare the International High-Level Conference on the Midterm Comprehensive Review of the Implementation of the International Decade for Action «Water for Life 2005-2015» opened.

It is indeed a great honor to be the host of this important international event, which has gathered delegates from nearly 80 countries, representatives of all regions of the world, as well as the representatives of the UN, other international and regional organizations, civil society and non-governmental organizations. Taking the advantage of this opportunity, I would like to extend my sincere appreciation to all our distinguished guests, who accepted an invitation and arrived in Dushanbe to attend this Conference.

On behalf of the Government of the Republic of Tajikistan I would also like to express our gratitude to all our partners for their contribution to arranging this Conference. In particular, I would like to acknowledge the contributions of the UN agencies, including United Nations Department of Economic and Social Affairs, UN-Water, United Nations Development Program, FAO, UNICEF and other institutions of the United Nations, OSCE, South-South News and a number of the UN Member States in developing programs and elaborating draft documents of the Conference, as well as exhibitions on the theme «Water for Life».

Water scarcity, which becomes more critical over the years, makes the world community to feel the need for urgent respond actions to ensure access to clean and safe drinking water, food and energy security, particularly in poor and developing countries. At present, a number of countries experiencing water stress, that it may encompass a growing number of states in the future.

The international community takes concrete steps to improve the situation in this strategically important sector at all levels. In this regard, I would like to note focused and consistent efforts of the President of the Republic of Tajikistan H.E. Emomali

Rahmon aimed at ensuring broad cooperation of the UN member states, influential financial institutions and international organizations to address water issues. On the initiative of President Emomali Rahmon the UN General Assembly the year 2003 was declared the International Year of Freshwater and the period 2005 – 2015 has been proclaimed the International Decade for Action «Water for Life».

This conference is a logical continuation of joint efforts of the international community in achieving the internationally agreed goals on water and is being held to summarize the outcomes achieved in the first half of the International Decade for Action «Water for Life». The Conference was preceded by the UN General Assembly Resolution on the Midterm Comprehensive Review of the International Decade for Action «Water for Life» also initiated by the Republic of Tajikistan and supported by the consensus of esteemed UN member states.

The resolution also included an Interactive High-Level Dialogue on the International Decade, which was held in March this year on the World Water Day in New York in the 64th session of the UN General Assembly. This dialogue has become a reference point for convening Conference.

Distinguished participants of the Conference,

Tajikistan as the country-initiator of the UN General Assembly resolutions on water is interested in the promotion and successful implementation of objectives of those resolutions.

We are hopeful, that this conference, which provides a good opportunity to discuss and develop new impactful measures to strengthen and enhance efforts for the timely and comprehensive achievement of the goals of the Decade, will be another contribution of our country to this process. I am confident, that the outcomes of our joint work within the framework of the Conference will facilitate a significant progress in achieving the internationally agreed goals on water and sustainable development at large.

I am firmly convinced that participants of the conference will approve a draft of the final document, which was developed jointly with the UN institutions and has been circulated to the permanent missions of UN member states in New York. We expect that it will be submitted to the 65th session of the UN General Assembly.

In addition to plenary session, the Organizing Committee of the Conference has scheduled to organize six round tables with the view of a detailed discussion of the implementation of the midpoint of the International Water Decade.

A topic of round tables embraces all aspects and objectives of the International Water Decade and other internationally agreed goals on water resources. Results of the topics discussed at the round tables will be presented at the wrap-up sessions of the Conference.

Statement by the President of the Republic of Tajikistan H.E. Mr. Emomali Rahmon

Excellency Under-Secretary General,

Dear ladies and gentlemen,

Distinguished guests,

1. It gives me great pleasure to welcome you all in Dushanbe at the International High Level Conference on the Midterm Comprehensive Review of the Implementation of the International Decade for Action «Water for Life» 2005 - 2015.

Five years ago, the UN General Assembly started the International Decade for Action under the motto «Water for Life». Today we are in the middle of this very important international event which is in connection with a need to summarize the work that has been done and take concerted steps to further actions.

Today, it is still early to talk about substantial achievements in implementing the internationally agreed goals on water. There are many problems and challenges that require immediate solution: nearly one billion people worldwide lack access to the safe drinking water and 2.6 billion people - are deprived of basic sanitation, more than 80 countries are experiencing water shortage, 42,000 people die every week from diseases due to poor quality of drinking water and unsanitary conditions, over 90 percent of cases apply to children under the age of five, drought and desertification threaten the livelihoods of more than 1.2 billion people around the globe.

According to the UN estimations, two-thirds of the planet will face water shortage by year of 2025. Therefore, water issues have an utmost importance in all international documents on sustainable development.

The primary objective of the International Decade «Water for Life» is to promote efforts to execute international commitments related to sources by year of 2015, in order to prove the substance of the decade of action.

The past five years were difficult due to the global financial crisis and problems related to change of climate. In many countries, these global processes have a negative impact on the implementation of goals, objectives and projects for water supply and overall water sources.

2. Water Resources of Tajikistan and their status. As you know, Tajikistan is one of the richest countries of the world on water resources. The country forms 64 billion cubic meters of water annually, representing more than 60% of river flow in the Aral Sea basin. However, only about 10% of river flow emerging in

the country is used for domestic needs, and the rest of the water flows into the downstream countries, which is mainly used for land irrigation purposes.

Despite an abundance of water resources more than 40% of our population has no access to safe drinking water and in some rural areas providing drinking water remains an acute problem. Alongside with this, over the past decade Tajikistan is also facing the increasing power shortages, lack of financing in water sector and other factors, such as natural disasters which, despite the government's untiring efforts to prevent them, continue having a tremendous negative impact on the development of our country.

In this context, resolution of water issues is an integral part of the National Development Strategy and Poverty Reduction Strategy of the Republic of Tajikistan. At the same time, Tajikistan has never created or imposed any problems for other nations and countries of the region and is not going to cause any troubles.

At present, our country is ranked as last in Central Asia on specific indices of irrigated land and water use per capita.

Tajikistan is one of the pilot countries for implementation of the Millennium Development Goals. In connection with this, a needs assessment was conducted for the implementation of the MDGs, according to which to reduce by half the number of people who lack access to safe drinking water, the country will need about \$US 1 billion by year of 2015. With the view to improve water sector and achieving the Millennium Development Goals Tajik Government has also adopted the «Program on the Improvement of safe drinking water supply to the population of the

Republic of Tajikistan for the period of 2008-2020». As a result of the measures taken over the past five years in this field, about 1.2 million people have been provided with water of improved quality and more than 600,000 people gained access to safe drinking water.

In order to solve water-related problems, more than 15 programs, as well as strategies and action plans had been implemented by the Government of Tajikistan over the past five years, in the margins of which dozens of projects are being implemented totaling to more than \$ 500 million.

Unfortunately, despite our every effort, the implementation of designated projects and programs are left far behind the timeline due to worldwide financial and economic downturn and annual natural disasters, which ultimately affect the country's budget.

3. The Aral Sea

Distinguished participants of the Conference are well aware of bitter experience of the region - desiccation of one of the largest lakes in the world - the Aral Sea. This tragedy first of all is the consequence of large-scale development of new lands, the area of which from 4 million hectares in 1960 has increased to almost 9 million hectares at present.

Moreover, more than 100 capacious reservoirs have been built in the downstream countries over the past years, and the volume of those reservoirs exceeds an aggregate water stock of the Aral Sea for one and half times.

The growth of the population, being one of the main reasons, has also contributed to the appearance of this tragedy. It should be mentioned that the population of Central Asia was 20 million in 1956, where to date it reached up to 63 million.

These trends led to a drastic reduction of water flow into the sea, which resulted in its volume decreased by more than 10 times.

Under such circumstances, regulation of water resources consumption at the interstate level, without doubt remains to be the key factor of water security in view of predicted decrease of river flows in Central Asia. The region is characterized by uneven distribution of water resources: the main flow of the Aral Sea Basin (over 80%) is formed on the territory of upstream countries, but more than 85% of than volume is used by downstream nations.

At the present time, due to the lack of economic mechanisms for water use, existing water allocation system does not meet a zone of runoff formation.

Therefore, addressing this challenge requires long-term agreement between all states of Central Asia, which would provide mutually beneficial mechanisms for their implementation. At the same time, Tajikistan proposes that in the process of development of any national and regional approaches and strategies, particular importance should be given to the issues of the settlement of return waters and the mechanism of guaranteed transit of water into the Aral Sea.

Tajikistan has repeatedly stated that the only solution to address the Aral Sea crisis is to undertake substantial water saving measures through rehabilitation of irrigation systems and lands on the regional level, as well as the replacement of such water-absorbing agricultural crops as cotton and rice by the less water retaining crops.

Thereby it would also contribute to addressing food security challenges.

Nowadays, according to expert estimates irretrievable loss of water in the downstream countries varies from 30 to 60%.

To this effect, Tajikistan has reduced its cotton plants to 30% and growing grains, vegetables and other less water-retaining agricultural crops on these lands, thus making a great contribution to water saving¹. Continuing this course, we hope that others in the region will follow this suit and take substantial steps for saving and improving of the environment.

Unfortunately, in addressing the Aral Sea challenges some individual nations are trying to distort a reality and divert attention from the root causes of this catastrophe - irrational and sometimes disastrous use of water resources.

In our view, such a biased interpretation of the facts is counterproductive. The effectiveness of efforts to save the Aral Sea, for which five countries have established the International Fund for the Saving the Aral Sea, primarily depends

on the clear and proper understanding of reality and the implementation of concrete steps, especially in the rehabilitation of outdated and obsolete irrigation systems.

Repeated efforts made by countries in the region with support of the World Bank, European Union, UN and other international organizations to develop a water strategy in Central Asia have not been successful. In all these processes, Tajikistan has been always a supporter of these strategies and expressed its willingness to implement them duly.

However, some countries in the region ignored the adoption of these strategies, pursuing only their own selfish interests and benefits. Today Tajikistan is ready to closely cooperate with all countries of the region and international institutions to address water and energy problems and improve the ecological situation in the Aral Sea. Therefore and with the view to obtain a feasible picture of the current state of water and environmental problems in Central Asia, Tajikistan has appealed to the UN for an impartial and comprehensive review of existing water systems, irrigation infrastructure and environment sanitation in the region.

We are convinced that the establishment of a mutually acceptable and mutually beneficial mechanism of water and energy resources in the region, which would combine the interests of upstream countries who are rich in water resources and downstream countries with a large hydrocarbon reserves, would contribute to longterm mutually beneficial cooperation in the region and their sustainable development.

Creating a water-energy consortium, which could play an effective role not only in addressing water and energy challenges, but also in the implementation of the MDGs, improving the socio-economic situation and the ecological rehabilitation of the region would be one of the most impactful steps in this direction.

4. Hydro energy

To date, about 1.6 billion people experience lack of access to electricity. Achieving the MDGs and other internationally agreed development goals needs significant expansion of access to energy in developing countries. It is estimated that if we succeed in strengthening the mechanisms of market expansion and financing, at least up to 1 billion people can be provided with access to energy supply from renewable sources.

Hydropower is an important source of renewable energy, consisting 20% of world electricity supply. In Tajikistan, this figure reaches 98% and therefore the concept of «water» and the «energy» for our country are identical. The hydropower potential of Tajikistan is estimated at about 527 billion kWh per year.

The country is rated the first and second among the nations in the world on specific indices of hydropower potential per one square kilometer and per capita accordingly.

However; only 3-4 per cent of this huge potential is currently developed in Tajikistan. At present, nearly one million people of the approximately 8 million in Tajikistan do not have access to adequate and constant energy services. Over the past 15 years, the country lives in conditions of severe energy deficit in winter, when electricity is supplied to the population not more than 4-6 hours a day.

Moreover, in some regions people are deprived of electricity supply for 2-3 months on end. This by first and foremost affects the scale of living and health of the people, especially that of children, women and the elderly population.

During this period, schools are closed and social security agencies and hospitals operate in a very limited mode. Lack of electricity has a severe impact the economy of our country: due to lack of electricity almost all national industry is halted. All this leads to increased unemployment, growing and social tensions.

In this regard, as well as by virtue of the fact that the country lacks the resources of hydrocarbons, hydropower development remains the most important area of public policy. The construction of hydropower projects in Tajikistan is of vital importance. At the same time, it is advantageous for other countries in the region to secure a guaranteed water supply to irrigated lands in view of increasing water scarcity.

Hydropower, in addition to supplying safe and cheap electricity is also important from the standpoint of sustainable use of natural resources in the long run, when the oil and gas reserves that are used today in the region for electricity generation, will be exhausted. Today about 80% of electricity in the region is generated from hydrocarbon resources, resulting in hundreds of millions of tons of carbon dioxide emissions into the atmosphere.

The use of water resources in this context could significantly reduce these emissions and thereby contribute to improving the environmental situation. This approach is also fully consistent with current global trends to climate improvement and adaptation to the consequences of climate change, that it was once again clearly indicated at the World Summit on Climate Change in Copenhagen.

Tajikistan has repeatedly initiated an idea on joint development of the abundant hydropower resources and hopes for cooperation, understanding and support from neighboring countries and the international community in its implementation.

We are confident that given the rapid demographic growth ' and a clear climate change, rational use of hydropower resources in the development and adoption of agreed mechanisms for long-term and unrestricted water and energy flows are the non-alternative measures to ensure sustainable development and to address challenges in poverty alleviation, education, health, job creation and other vital socio-economic issues.

While developing own hydropower resources, Tajikistan fully respects the interests of neighboring countries. Therefore, demonstrating good will and based on the need for transparency, openness and respect for common regional interests, we approached the World Bank with request to conduct a feasibility study and evaluation of social and environmental impacts of the construction of Rogun, which is now under implementation.

5. Sarez Lake

In connection with the intensive development of agriculture and population growth in the region the issue of safe drinking water supply to the people becomes more critical over the years. Prediction for population growth and its impact on water resources in the near future is unconsoling. To address this issue, Tajikistan has offered to build a water pipeline from Sarez Lake, which is located in the heart of the Pamir at an altitude of 3300 meters above sea level.

The water volume of safe freshwater lake is about 17 cubic kilometers and it could be used to supply drinking water to millions of people living in Central Asia. In the terms of increasing water shortages in the region, the sustainability and purposefulness of this project focused to address the vital issue of the region's population - drinking water supply, can become one of the successful projects to help those in need of safe drinking water.

6. Climate Change, Natural Disasters

Tajikistan is one of the most mountainous countries in the world, 93% of its territory is covered by mountains. Difficult geographical conditions and landscape make it one of the most vulnerable to natural disasters and climate change on the Eurasian continent.

Every year, unpredictable natural disasters in Tajikistan, mainly water-related disasters, inflict tremendous economic damage, thousands of families remain homeless and those disasters often cause civilian casualties. Frequently, entire villages with existing socio-economic infrastructure are completely destroyed mudflows, floods or landslides.

The death toll only in result of floods since the beginning of this year totaled 46 people and dozens of people are reported missing. More than 20 cities and districts of the country were hit by natural disasters, which resulted in the destruction of more than 4000 homes, thousands of people left homeless and damaged dozens of schools, hospitals, social facilities, as well as roads, bridges, power transmission lines and other vital infrastructure.

According to preliminary estimates, damage to the national economy caused by natural disasters since the beginning of this year has amounted to U.S. \$ 600 million.

The Government of the Republic of Tajikistan annually allocates tremendous funds for the prevention and mitigation of consequences of natural disasters. An overwhelming part of those funds are spent on to the resettlement of the affected population, financial aid, as well as for restoration and shore protection works.

The amount of more than \$ 20 million has been spent over the past two years on shore protection works of the Amudarya River basin.

We are grateful to the Governments of friendly countries, international organizations and donors for their assistance to the population affected by these natural disasters. These disasters do not only cause unpredictable damage, but also undermine our efforts to achieve the MDGs, causing additional difficulties and imposing hardships in implementing programs and strategies to reduce poverty.

7. Glaciers

The issue of degradation of glaciers and snowfields in the area of main rivers runoff becomes a matter of deep concern for our region. In recent decades, the area of glaciers in Tajikistan has decreased by one third. More than a thousand of 14 000 glaciers are completely melted and one of the largest glaciers in the world on land - Fedchenko has lost more than 20% of its volume during the second half of the 20th century. This trend predicts substantial changes in the region's water resources, which are fundamental elements for the development of all sectors of the economy and, in general, in securing sustainable development.

In this regard, it is necessary to develop a comprehensive program to study and preserve these unique sources of fresh water in cooperation with international organizations. In this context, several glaciers of the Pamir, and particularly Fedchenko in Tajikistan could be the main objects of study and preservation.

8. International cooperation on water issues.

Global change and the processes of the past decades have had increasing pressure on water resources. In this connection, water becomes a major component of international cooperation and peace.

Tajikistan is a supporter of the agenda of water resources management that should be observed by all parties by the spirit of cooperation, tolerance and mutual respect that will provide a safe way to achieve sustainable development.

Prudent water resources management in trans-boundary river basins should be set up with a glance of equitable and mutually beneficial use of not only water but also other natural resources of the basin. Only such attitude would ensure sustainable development of our countries and preserve the environment for future generations.

In this regard, development of water diplomacy could be considered as the key element. Those having a variety of approaches to cooperation in water resource management in more than 263 trans-boundary river basins are the evidence that the water is the main source of both human welfare and regional security. These basins, representing the territory where about 40 percent of the world's population is living, occupy almost half of the Earth's surface and contain about 60 percent of freshwater.

The waters that cross national boundaries are of great strategic importance not only at the interstate level, but also at local and national levels.

In this context, I believe that the declaration of the year 2012 the International Year of Water Diplomacy would have significant contribution to enhancing cooperation and dialogue, elaboration of new approaches to resolution of water relations among riparian countries, as well as would improve understanding between water consumers at all levels.

We have already announced this initiative at the Fifth World Water Forum in Istanbul in 2009. We hope that other UN Member States will accede to Tajikistan in the promotion and adoption of a resolution on this agenda in the upcoming 65th session of the UN General Assembly.

9. Human rights

It is necessary to develop more effective integrated approaches in order water to be efficiently used for the needs of all people, addressing their social and economic challenges, and improving the environment. Solely such approach could ensure the sustainable development of our countries and save the planet.

We therefore, deem that the time has become for a broad discussion of adaptation of international law on water management to modern requirements and challenges with the view to improve the international legal framework of water cooperation, taking into account the needs and interests of states and human security in particular.

In accordance with the International Covenant on Economic, Social and Cultural Rights, all nations can freely dispose their natural wealth and resources to achieve their objectives, without prejudice to any obligations arising out of international economic cooperation based on mutual benefit and international law. No nation, in no case can be deprived of its means of livelihood.

If water resources are the basis for the development of other sectors of the national economy, which affects not only people's lives, but also poverty reduction, health, education, energy and other sectors people protection, so in this case, the rights of individuals and countries on water use should be respected.

10. Proposals for the second half of the International Decade

There are a number of economic difficulties, which become a major barrier in solving the tasks in the water sector. In this vein, we must consider the special needs of least developed and land-locked countries. It is important to promote:

- free movement of goods, which play a strategic role in addressing problems of poverty, disaster management, health support, education and etc.;
- debt relief for Heavily Indebted Poor Countries Debt Initiative;
- debt write-off on official bilateral loans and performs more generous official development assistance for countries committed to poverty reduction.

Therefore, today, more than ever, we by our joint actions, have to be guided by our commitment to develop a global partnership that was stated by us in the Millennium Declaration.

Global climate change and its associated trends happening in recent years, exacerbate the life difficulties of millions of people in water and food, but especially deteriorating living standard of the most vulnerable and poor population.

Thereupon, Tajikistan as the initiator of the International Decade for Action «Water for Life 2005-2015», suggests that the second half of the decade should be devoted to the implementation of specific measures at international and regional levels to ensure the most vulnerable and poorest segments of the population with safe drinking water and basic sanitation.

I am hopeful that World Summit on the Millennium Development Goals to be held in September 2010 will also be a historically important event to review progress in implementing the Millennium Development Goals over the past 5 years.

Tajikistan intends together with other UN member states and its various institutions to submit the report on the outcomes of today's Conference and other international events on water and sanitation to the forthcoming September Summit.

In addition, we intend to continue to raise issues on water along with other pressing issues of modern world in the Conference on Sustainable Development Rio +20 and other high-level meetings to be held in 2012. In all this, we hope for the support of esteemed UN member states and international organizations.

I wish you a pleasant stay in our country and wish everyone fruitful deliberations!

Welcoming speech of the Under-Secretary-General for Economic and Social Affairs Mr. Sha Zukang

Your Excellency President Emomali Rahmon,

Your Excellency Prime Minister Akil Akilov

Excellencies,

Ladies and Gentlemen,

It is an honour to take part in the opening of this High-Level International Conference on the implementation of the International Decade for Action, "Water for Life", 2005-2015.

As you know, the United Nations General Assembly, in resolution 64/198, welcomed the offer of Tajikistan to host this important event at the mid-point of the Water for Life decade.

I would like to thank the government of Tajikistan for its longstanding, dedicated work on water issues and for its cooperation with the UN System in making this event possible.

The Secretary-General, who visited the region recently, asked me to represent him at this important event. I will begin, therefore, by delivering a statement on his behalf. I quote: "I thank the Government of Tajikistan for hosting this conference.

More people die from unsafe water than from all forms of violence, including war. These deaths are an affront to our common humanity and undermine our work for development.

Almost one billion people lack access to safe drinking water. Twopoint-six billion lack access to basic sanitation services. Meanwhile, we are pouring millions of tons of untreated sewage and industrial and agricultural waste into the world's water system every day. Clean water, which is already scarce, will become more so with climate change. And as with so many global ills, the poor, including disproportionate numbers of women and children, suffer most -- from pollution, water shortages, floods and lack of sanitation.

That is why the United Nations declared the years 2005 – 2015 the International Decade for Action on water resources management. The Decade is meant to focus efforts on fulfilling international commitments on water and related issues by 2015, with a particular emphasis on women's participation. This conference is a key event for mobilizing the necessary support. Your work here will also contribute to preparations for the United Nations Conference on Sustainable Development in 2012 – Rio plus 20.

We must collaborate on action plans that enable everyone, in every country, to access water. This is a prerequisite for lifting people out of poverty and achieving economic growth. It is central to achieving every one of the Millennium Development Goals.

We must also improve our management of trans-boundary waters.

Disagreements over resources can be averted, when there is collective political will to improve cooperation.

This is a crucial issue for Tajikistan and its neighbours. During my recent visit to Dushanbe and other Central Asian capitals, I urged leaders to resolve differences over resources and other issues through dialogue.

The UN's Regional Centre for Preventive Diplomacy can play a key role in such efforts.

The United Nations is committed to assisting Member States in tackling the complex political, economic and environmental challenges related to trans-boundary issues, as well as to water quality, scarcity and capacity-building. We must work together to protect our waters, and to enable everyone to have access to them. Please accept my best wishes for the success of your deliberations."

That concludes the message of the Secretary-General.

Mr. President,

Mr. Prime Minister,

Excellencies,

Ladies and Gentlemen,

I would like to share with you my own remarks on water and sanitation challenges and how the UN system can help member states reach the MDG targets.

As head of DESA, the UN Department of Economic and Social Affairs, I have tried to prioritize water issues. As the Secretary-General highlighted in his message, water is central to achieving all the MDGs.

We are, therefore, very much encouraged to see Member States coordinate and host events like this one. Last December, the General Assembly adopted resolution 64/198, which welcomed Tajikistan's offer to host this high-level review conference.

The offer was just one more example of Tajikistan's leadership role on water issues, not only among Central Asian countries but on the international stage. Tajikistan's role was also integral to the General Assembly's decision to declare 2003 the International Year of Freshwater and the years 2005 – 2015 as the Water for Life Decade.

These efforts have prompted governments to reinvigorate their work on water targets. They have also drawn attention from the worldwide public and the media to water scarcity, water pollution, and the staggering numbers of people who lack access to water, our most precious resource.

Their collaboration has resulted in drawing a wide range of stakeholders here today – government ministers, members of civil society and NGOs, and colleagues from

UN agencies and programmes. Thank you for your presence here. It is heartening to see strong support for the UN and for water issues here in Central Asia, a beautiful part of the world.

Ladies and gentlemen,

The Secretary-General's message stressed the gross disparities that exist today in terms of water access. One billion people lack safe drinking water. The deep-seated economic, social and environmental causes behind this crisis of access demand immediate attention but lasting and integrated solutions – that is, sustainable development solutions.

As the latest World Water Development report advises, to address water problems one must think and act outside the water box. We must go beyond the water sector to engage and involve actors and policy makers in a variety of fields such as energy, social services, development finance, economics, sustainable forestry, statistics, population and the environment.

By way of example, my Department hosts ten divisions that bring together statistics, population, advancement of women, social development, sustainable development, development policy analysis public administration, sustainable forest management and financing for development.

All of these fields are relevant for water resources and drawing upon their knowledge greatly enriches our consideration of water issues. In assisting the host government at its request in preparing this conference, my department drew on the resources and knowledge of several of these divisions.

The only way to promote sustainable development in each region is through dialogue and cooperation both at the country as well as the inter country levels. What is needed is productive dialogue between economic, social and environmental actors and interests at both levels. The UN is an impartial servant of all 192 of its member states.

The UN's forte is providing spaces where all countries as well as major groups and diverse interested parties can come together to dialogue - that is, forums where each one can enjoy an equal voice at the table.

This impartial convening power is the hallmark of the UN.

The United Nations stands ready to assist nations, at their request, in facilitating dialogue and discussions. I reiterate this point because the UN has only the agenda given it by its member states and its Charter commitment to serve nations where they ask the Organization to do so.

Agenda 21 which we will assess comprehensively in two years is a magnificent example of such a holistic agenda embraced by all member states that guides UN action on a daily basis.

Excellencies,

I also remind you that UN country teams, along with my Department in New York, have a long tradition of assisting countries in response to their requests, including those of Central Asia, with policy advice on water and energy issues. My Department

serves as Secretariat for UN-Water and UN-Energy – two inter-agency coordination mechanisms that draw on the collective experience of the UN system in governments, as we have done in preparation for this conference.

As the Secretariat of these two knowledge and collaboration networks, we may not have all the answers in-house but we can draw on the expertise of over two dozen partners from the UN system and civil society to help countries who ask for our assistance to find integrated and sustainable solutions to their water and energy problems.

In the area of water resources, though the network of UN-Water, countries can obtain expertise, if they request, in such areas as developing transboundary water agreements, water as a sustainable energy source, efficient irrigation for more crop-per drop, implementing integrated water resources management at river basin level, watershed management, adapting to the water-related impacts of climate change, transforming women and girls lives through better water access, and improving industrial supply chains for more efficient water use.

The network of UN-Energy can help countries address issues of energy access for the poor, energy efficiency in industry and promoting renewable energy. The lack of modern fuels and electricity in most developing countries entrenches poverty, constrains the delivery of social services, limits opportunities for women, and erodes environmental sustainability.

Currently 1.6 billion people lack access to electricity and 2.4 billion people lack access to modern fuels for cooking and heating. Often these are the same people who lack access to water and basic sanitation. It makes sense therefore that integrated solutions are found for sustainable water and energy access.

Ladies and gentlemen,

The international decade for action, “Water for Life, 2005-2015,” was intended to persuade policy-makers and the public to place a greater focus on water-related issues at all levels so as to accelerate progress towards the internationally-agreed targets and goals on water access and sanitation.

This conference is very much about reviewing progress since 2005 on the international decade and suggesting additional measures needed over the next five years to bring water related issues to the fore of policy and action at the country and international level.

In doing so, this conference will consider six dimensions of the water challenge in six round tables, where practical policy and technical solutions such as those that I have mentioned can be discussed.

Please consider how you can tap into UN resources on concrete policy and technical guidance. And please think outside the water box.

Adopt a sustainable development approach to all water issues.

In this way you can identify entry points where you can request the United Nations to serve you in finding solutions to your water challenges.

As you do so, consider also the close water-energy nexus and search for integrated solutions to water and energy challenges.

The record shows that since 2005 public awareness of the use and management of freshwater resources for achieving sustainable development has increased dramatically. Among many concrete measures, UN-Water launched two action programmes with dedicated offices in Zaragoza and Bonn geared to communications and advocacy and capacity building to support the decade. The 27 agencies of UN Water have worked hard to support member states in implementing the decade.

Nonetheless, much more remains to be done over the next five years to ensure the success of the decade. Among other things, water issues need to be placed firmly in the public mind in the context of sustainable development. Policy makers need to be persuaded to allocate a greater share of public funds for water resources development and access. And greater progress is needed in transboundary water cooperation and concrete steps taken towards more effective transboundary agreements at river basin level.

The details of the progress on the decade since 2005 are contained in the Note of the Secretary General on the organization of the review of the decade contained in document A/64/693 which was provided on the conference website as background documentation for your deliberations. I urge you to refer to it.

Excellencies,

I am confident that the six round tables will provide useful policy and technical guidance on water quality initiatives, adapting to climate change, promoting integrated water resources management, particularly at the basin level, and techniques for transboundary water cooperation.

The outcomes of these deliberations will provide entry points for future cooperation between my Department, other UN entities and member states at national levels in further implementation of the Water for Life Decade. Region by region, water targets must be met. I reiterate the willingness of the United Nations to assist you in implementing them.

Please participate actively in the next two days. Your feedback and recommendations here will feed into the Millennium Development Goals Summit in September. They will also be incorporated into the planning and agenda-setting for the 2012 United Nations Conference on Sustainable Development in Brazil – also referred to as “Rio plus 20”.

I will serve as Secretary-General of that conference; may I take this moment to encourage your contributions and support toward its success.

Remember that addressing your water problems is all about promoting sustainable development in your countries, considering the economic, social and environmental pillars and their interlinkages.

May your deliberations here be stimulating and productive! I look forward to reviewing the outcomes.

Thank you.

**Welcome Address by Mr. Tair Mansurov,
Secretary-General of EurAsEC
(Eurasian Economic Community)**

Excellency Mr. President!

Distinguished delegates!

Allow me to welcome you at such a large-scale international conference and to extend sincere gratitude to the leadership of the Republic of Tajikistan and the United Nations for the preparation and conduct of this important event.

Thanks to the initiative of President Emomali Rahmon Dushanbe recently is firmly established as a venue for major international forums. Dushanbe has been an arena for the International Conference on Water-Related Disaster Reduction in 2008 and the Third CIS Scientific Intelligentsia Forum. Today we are witnessing how an active and unwavering support of the United Nations has consistently contributing to the implementation of the International Decade for Action «Water for Life» 2005-2015 proposed by the President of the Republic of Tajikistan H.E. Emomali Rahmon.

Water can serve as an activator of interstate cooperation and should not become an insurmountable obstacle to economic prosperity.

Today's Conference serves as a unique equator in the ten-year cycle of measures aimed at creating an effective system to ensure stability in the region by addressing the complex water issues.

First of all, I would like to commend a contribution of the UN Department of Economic and Social Affairs and the UN Development Programme in bring parties together in the use and management of water resources.

At this stage, the adoption of two substantive resolution of the UN General Assembly which is in the course of Agenda of the XXIst century, the Millennium Declaration and other comprehensive initiatives consolidate the efforts of the international community in implementing the water agenda.

The Dushanbe Declaration, adopted at the 2008 International Conference is a critical to boost cooperation in Central Asia on water – related issues and raising public awareness.

However, our meeting today is taking place against a background of dire consequences of natural disasters in Tajikistan.

As it is known, from the beginning of the year as a result of various natural disasters, including earthquakes, torrential rains and floods in Tajikistan, 10.000 hectares of cultivated land, hundreds of miles of roads and power transmission lines have been destroyed and over 2000 houses and social facilities have been ruined causing civilian casualties.

EurAsEC has sincerely responded to this tragedy and makes an outstanding contribution to help the brotherly people of Tajikistan.

Acceleration of progress towards achieving the development goals mostly linked with an agreed long-term solution of water issues at the international level. Ensuring water infrastructure security and water resource management require preventive measures and integrated control methods. It is therefore required constant attention of the international community to address the acute water problems.

Economic cooperation in the EurAsEC is a key element in building an effective system to ensure stability in the region and expand economic cooperation. Water issues in the EurAsEC are given an utmost attention.

As mandated by the EurAsEC head of states on 6 October 2007, parties work on the draft concept of efficient use of water and energy resources in Central Asia with the involvement of independent international experts. A series of meetings and negotiations on that issue have been held with the top leaders and principals of the United Nations at the 62nd session of the General Assembly in December 2007.

At the meeting with the UN Under-Secretary General for Economic and Social Affairs Mr. Sha Zukang I have conveyed a request of the governments of EurAsEC for assistance in attracting independent international experts for the draft concept.

At the moment, we have received statements of individual experts and we seek funding sources for further works on the draft document.

We hope that the visit of the UN Under-Secretary General to Tajikistan and his participation at the Conference will allow us to jointly address the issue of attracting independent international experts to work on the said concept.

In conclusion of my statement, I wish to emphasize that a short-term situational arrangement remains a negative factor in solving water issues.

Whilst the importance of the International Decade for Action "Water for Life" presents to move to thinking over problems in the context of long-term prospects.

This conference, beyond all doubt, brings the mid-term outcomes of the Decade, but real life calls for increased actions for the next five years, which will facilitate the search for regional solutions to water issues.

I wish participants of the conference fruitful deliberations.

**Welcome Address by Ms. Kori Udovički,
United Nations Assistant Secretary
General UNDP Assistant Administrator Director,
UNDP Regional Bureau for Europe and the CIS**

Mr. Chairman, Excellencies,

Distinguished Guests,

Ladies and Gentlemen,

I would like first to express my appreciation to the Government of the Republic of Tajikistan, for the wisdom and foresight shown in organizing this meeting.

It is an honour for me to represent the Group of United Nations Development Agencies at this meeting. We regard this conference as extremely important, for two reasons. First: it is an important contribution by governments of Central Asia and the international community to better respond to the region's core development challenge—the efficient and sustainable management and use of water. Second: this conference underscores the important role Central Asia can—and must—play in resolving global water issues.

Water is obviously at the core of the world's energy, food security, and broader human security concerns. Effectively addressing these issues globally and in Central Asia would resolve a great part, and perhaps the most difficult part, of the sustainable development agenda. In Central Asia the livelihoods of some 22 million people—nearly half the region's population—depend directly or indirectly on irrigated agriculture. Hydro power accounts for more than 90% of the electricity generated in Tajikistan and Kyrgyzstan. Central Asia's mountains contain some of the world's largest glaciers, which provide downstream countries with water year round, especially for agriculture.

At the same time, water is under-valued: we don't realize how much we need it until it is gone. For much of the world, and in Central Asia in particular, climate change in the longer term promises to make water increasingly scarce. Rather than being treated as a free resource, water should be valued as the life-creating and life-saving substance that it is.

In this context, I would like to call your attention to two inter-related challenges that are at the heart of the water-energy-food security nexus in Central Asia. These are: first—helping Central Asia respond to climate change threats by capturing the benefits of renewable energy and carbon finance; and second—making national water management frameworks more sustainable. Neither of these challenges necessarily involves large infrastructure investments of regional significance. Nonetheless, both

could significantly affect living standards across the region. And both are the focus of major initiatives and support from the international community in general, and the United Nations (and UNDP) in particular.

Climate change is a sword of Damocles hanging over Central Asia's long-term development prospects. Evidence that global warming is accelerating the melting of Central Asia's glaciers—the region's water towers—continues to accumulate. Faster glacier melt increases the risk of devastating flooding and mudslides, as Southern Tajikistan experienced earlier this spring. In the decades to come, however, shrinking glaciers threaten to expose Central Asia to the risk of permanent drought. Like the small island states in the South Pacific or the South Asian developing countries that rely on food produced in low-lying coastal areas, Central Asia needs—and should demand—accelerated introduction of robust global climate change mitigation mechanisms.

However, climate change can also bring development opportunities to the region. Available data indicate that greenhouse gas emissions and water use per dollar of GDP produced in Central Asia are among the world's highest. The payoffs to modernizing the region's water and energy infrastructures and practices could likewise be among the world's highest. There are very real opportunities for Central Asia in attracting carbon finance into sustainable energy and water use projects.

UNDP's Carbon Facility is helping Central Asian countries to capture the benefits of carbon finance, which can be used to finance initiatives to achieve the Millennium Development Goals. UNDP country offices across Central Asia are supporting the countries to remove the regulatory and commercial barriers now standing in the way of the expanded use of small hydro, biogas, wind, and other decentralized renewable energy technologies. And UNDP's new \$12 million climate risk management programme will assist the five Central Asian countries to strengthen climate-related disaster risk reduction and adaptive capacity, with a particular emphasis on the water sector.

Among Central Asia's many development challenges requiring coordinated responses, the trans-boundary nature of Central Asia's water resources obviously requires regional cooperation. But these can take a long time to resolve, and structures of regional relevance will take much time to complete. In the meantime effective solutions to regional water problems can only be built on successful national and local water management initiatives. For example, the absence of regional solutions to the Aral Sea tragedy has not kept the Government of Kazakhstan from rescuing the northern part of the Sea, where water levels and fish stocks are starting to rise. Here, the key is the application of integrated water resources management principles, to allow policy makers and economic actors to see the full effects, and opportunity costs, of national water allocation decisions. UNDP is promoting the application of these principles in Central Asia via its \$5.4 million integrated water resources management project, which enjoys strong financial support from the European Commission.

More efficient local water management for irrigation, power generation, and household and industrial uses can go a long way. For example, water usage in

Pakistan and Nepal has become more sustainable with the expanded application of run-of-river small hydro power technologies. These technologies can generate electricity all year round with minimal capital investments—from private investors, as well as from donors. As they do not affect water flow for downstream countries, run-of-river technologies can avoid the worst of the “electricity versus food” trade-offs now facing Central Asia’s water managers.

Likewise, small community investments to replace depreciated pumping systems, can help bring damaged water infrastructure back on line with minimal capital outlays. They can also be an important source of “green” employment generation. The same goes for community-driven energy efficiency projects, which can help reduce the load on over-burdened winter-time hydro-electricity infrastructure.

These issues are unparalleled in their scope and importance, both for Central Asia, and for the world. As such, they are sure to be discussed at the MDG Summit in New York in September. This Conference in Dushanbe is an excellent preparatory platform for the water dimensions of the MDG Summit—and not only MDG7 (on environmental sustainability). I would therefore invite all participants here to actively contribute their knowledge, experience, and ideas, in order to make the Dushanbe Declaration as meaningful as possible. The UN family of agencies stands ready to help deepen the cooperation in this important area.

Thank you very much for your attention.

FIRST PLENARY SESSION STATEMENT BY HEAD OF DELEGATIONS

**Mr. Aymeri de Montesquiou,
Senator for the Gers, special representative of the
President of the Republic**

Mr. President,

It is an honour for me to represent President Sarkozy here. It is also a great pleasure and a privilege to come back to Dushanbe, where for over 15 years I have been able to appreciate the legendary Tajik hospitality.

The Dushanbe Conference and its six themes offer a new opportunity for a mid-term review of the «Water for Life» decade and for stepping up efforts in the second half of the period.

France welcomes the Tajik government's commitment and its determination to mobilise on this critical issue, as was already the case in June 2008 on the prevention of water-related disasters. That conference was followed by a meeting on progress towards the water supply and sanitation MDGs held alongside the UN General Assembly in September 2008.

Mr. President,

The picture remains bleak: each year, dirty water kills as many people as AIDS, or perhaps even more, most of the victims being women and children.

The water supply and sanitation MDGs aim to halve the number of people without access to a drinking water point and decent sanitary facilities. The 2015 deadline is approaching and global trends suggest that it will be difficult to achieve the goals.

- The access to drinking water target should be met, though great disparities remain.

- The sanitation target will not be met.

Mr. President,

Interdependence is central to water management in Central Asia and underlines the need for a coordinated and cooperative approach to the management of water resources, especially cross-border resources. Cross-border cooperation has a particular resonance here in Dushanbe.

The first priority for progress is to implement a framework defining international principles for the protection and management of cross-border watercourses.

Various European initiatives encourage concerted action by Central Asian countries in water-related matters, especially by improving cross-border cooperation. France gives them its full support, as it does to UN-ECE and implementation of the 1992 Helsinki Convention on trans-boundary waters.

Here in Central Asia as in other regions facing the same challenges, cooperation on water calls for great political commitment from all countries. The principles of water diplomacy that France has supported in other regions and cross-border watersheds will be useful in this region.

At the Istanbul Summit in March 2009 France announced its accession to the United Nations Convention on the Law of Non-Navigational Uses of Watercourses adopted in New York in 1997. 35 countries must ratify the Convention for it to come into effect; to date, only 19 have done so. French encourages other States to embark on the process.

Mr. President,

The financing of water-related infrastructure is the other great issue we have to address. We are still a long way from the objectives.

Nevertheless, the financial commitments of OECD countries amounted to over 6 billion dollars in 2005-2006, twice as much as in 2001-2002.

France is the OECDs fifth-largest bilateral donor in this area. It also contributes to the greater efforts being made by multilateral institutions, especially the World Bank, the European Commission and the African Development Bank.

Our financial commitment underlines France's unwavering resolve to play a part in the major formative projects of our time. We welcome the feasibility study launched by the World Bank for the Rogun project, which could be a key step for central Tajikistan on the road to becoming an electricity exporter. Such a project requires consultation between the various parties involved.

Mr. President,

I would like to recall that France will host the 6th Global Water Summit in 2012 with the intention of making progress towards achieving the MDGs for water supply and sanitation. The Summit was launched last week by President Sarkozy. Between now and 2012, through dialogue and consultation between all those taking part, the preparatory process will enable the assessment of progress to continue.

Mr. President,

I congratulate you on this initiative and thank you.

Mr. João Gomes Cravinho, Portuguese Secretary of State for Foreign Affairs and Cooperation

Your Excellency, the President of the Republic of Tajikistan, Mr. Emomali Rahmon

Your Excellency, the Prime Minister of the Republic of Tajikistan, Mr. Akil Akilov

Your Excellency, the Under Secretary-General for Economic and Social Affairs, Mr. Sha Zukang

I would like to start by thanking President Emomali Rahmon, the Government of Tajikistan and the United Nations, firstly for inviting me to this timely initiative of a High-Level Conference on the Mid-Term Review of the International Decade “Water for Life”; and, secondly, for receiving me with such hospitality in Dushanbe, in my first visit to your country. It is an honor to participate in an event of this relevance to the XXI century and I hope that the results that will come out from the conference will have a positive impact on the lives of people.

Excellencies,

Few things in life are more political than Water. Water concerns us both as individuals and as citizens; and throughout history, access to water and water management have been driving forces of Civilization.

Because of its scarcity, water has far too frequently been at the center of conflicts between nations. However, History has also shown us that even the most deeply entrenched rivalries have witnessed the possibility of understanding and cooperation where water has been at stake. Looking at the 145 nations sharing transboundary waters today, perhaps the most amazing outcome in the history of water management has been, indeed, the endurance of water governance institutions and the level of conflict resolution that it has been possible to achieve. So pessimism and concern must be tempered by a degree of optimism and confidence, in the transformative possibilities of shared interests.

We all know that water and sanitation services are critical to the world’s sustainable development and that water challenges will increase significantly in the coming years. If no action is taken to ensure its good management, shrinking water resources, growing populations, and our changing environment will almost certainly increase tensions between countries, especially in those cases where water sources are shared.

So there is definitely a case for increased international cooperation, indeed, we are witnessing a growing need for mechanisms that produce such cooperation. If there is one lesson that we can learn from History on this matter, it is that cooperation over water has strengthened communities, in a way that battling over water could never have achieved. So it is about time that we put water and sanitation at the top of the international agenda.

Five years ago, we entered the 'International Decade Water for Life'. As we know, this decade was proclaimed by the United Nations to focus international attention upon the Millennium Development Goals. Portugal would like to emphasize the efforts of the UN system in this field, namely by agreeing on legislation aimed at facilitating the relations between countries that share watercourses. In this context, I am glad to confirm that Portugal has already ratified the 1997 UN Watercourses Convention (UN Convention on the Non-Navigational Uses of International Watercourses) and the 1992 UNECE Water Convention (UN Convention on the Protection and Use of Transboundary Watercourses and International Lakes).

From Portugal's perspective, water management is primarily an element of conflict prevention, which should be viewed against an international framework that recognizes access to water as a human right. As a fundamental element for peacebuilding, cooperation on water management may serve as a catalyst for integration and cooperation in other areas, and this was clearly the case for my own country and for Spain as we settled on how to manage our common rivers. And when we talk of access to water as a fundamental right, we move from simple charity to a legal obligation and from simple desirability, to political accountability.

I would therefore like to take this opportunity to reiterate what I said last March, in New York, at the High-level Interactive Dialogue on the World Water Day. Portugal is committed to the recognition of the human right to water. It is our intention to continue cooperating with other countries towards the fulfilment of national and international obligations, as is currently the case with various projects financed by the Portuguese Development Agency in Portuguese-speaking countries to ensure access to safe, affordable and acceptable water.

As Secretary of State it has been my privilege to inaugurate safe water systems in São Tomé and in Timor-Leste; I can assure you that little has given me greater sense of accomplishment, or conviction that we are making a very major transformation in the lives of whole communities, and without doubt saving lives that would otherwise be cut short through disease.

Excellencies,

International water cooperation becomes much harder to develop amid distrust between nations. That is why water, peace and security will certainly continue to be linked in a fragile balance. Such a balance can only be sustained through a continuous effort of cooperation by those responsible for water management, but also through an understanding of the various dimensions that need to be tackled, from the human level to internationally agreed norms and practices. For each case of mismanagement and dispute over water resources there are numerous examples of cooperative initiatives that have greatly contributed not just to a more efficient management of water resources but also to a more cooperative international environment. It is up to all of us to help make sure that the latter increasingly become the norm and not the exception.

Thank you.

**Message from Mr. Ambassador Abdullah M. Alsaidi,
Permanent Representative of the Republic of Yemen to the
United Nations and Chairman of the Group of 77 and China,
delivered by Dr. Tarek Mutahar, Permanent Mission
of the Republic of Yemen to the United Nations**

Mr. President,

Distinguished Guests,

Ladies and Gentlemen,

1. On behalf of the Group of 77 and China, allow me to express our gratitude to both the Government and the people of the Republic of Tajikistan for hosting this very important Conference. We are indeed appreciative of your efforts and wish you all success of this Conference, considering the mandates given by the UN General Assembly to review the progress made over the past 5 years in achieving the internationally agreed goal to halve by 2015 the proportion of people without access to safe drinking water and basic sanitation.
2. As you all know, water resources are under extreme pressure today especially as growing urbanization and global warming are affecting access to drinking water and sanitation; especially, countries of the South face daunting water resources challenges as the needs for water supply grows and water becomes more and more scarce, its quality declines and environmental and social concerns increase due to climate change. The emerging lack of adequate availability of water resources is more and more recognized as a major focus in the efforts to improve the quality of life of southern countries and achieve socio-economic development.
3. While some progress has been achieved towards the target of halving the proportion of people without access to clean water, in most developing countries, particularly in sub-Saharan Africa, progress is very slow and the challenges are still tremendous.
4. Water, sanitation and hygiene education are crucial for poverty reduction and form the bedrock of a healthy, productive society. The challenges facing developing countries in this area include improving the quality of drinking water, addressing causes of pollution and contamination of water, water supply network leakages, natural disasters, and drought. Efforts of developing countries are constrained by the unavailability of appropriate technologies. Furthermore, due to the lack of financial resources developing countries find it difficult to increase investment in water.
5. According to UN statistics, there are currently 1.1 billion of people in the world which represent 18 percent of the world population, who does not have access to

safe drinking water, and 2.6 billion lack access to basic sanitation. Moreover, water is implicated in 80 per cent of all sicknesses and diseases in the world and especially in developing countries; 1.4 million child deaths result from diarrhea; 500,000 deaths from malaria; 860,000 child deaths from malnutrition; and in addition, 5 million people can be protected from being seriously incapacitated from lymphatic filariasis and another 5 million from trachoma. In improving the provision of safe drinking water, however, developing countries have limited financial and technological capacity to respond to the growing demand for water for agriculture, industrial and potable water.

6. Reaching the water access goal for sub-Saharan Africa, which would mean achieving 75 per cent water access by 2015, would require major national and international development efforts, including massive and steady investments. The estimation for additional investment is about USD 11.3 billion per year to achieve the MDGs for drinking water and sanitation at the most basic levels. Thus, developing countries need the support of the international community to improve the infrastructure for the provision of water, including for water supply networks in the cities and their maintenance.

7. It has been estimated that about ninety per cent of wastewater is discharged into rivers and streams without any treatment, since the adequate wastewater treatment facilities in developing countries are very limited, and the public health problems caused by the lack of these facilities represent setbacks to our socioeconomic progress. Access by people living in rural and remote areas in the developing countries to safe drinking water continues to be a major problem due to the huge investment and capacity needed.

8. Despite their national efforts, developing countries lack financial and technical resources to properly address these pressing issues and, in that regard, the Group of 77 calls for not only urgent financial support from the international community but also for educational and technical support to improve the systems and infrastructure for the provision of water, including water supply networks in the cities, rural areas and their maintenance.

9. Another critical aspect of this issue is the devastating impact natural disasters have on the ability of developing countries to provide water. The recent experience of the earthquake in Haiti and in Chile demonstrates the magnitude of the problem and how significant the lack of clean water and sanitation could affect populations in such dire crises. As such, the G-77 encourages the promotion of innovative technologies to address the negative impact of water-related disasters such as floods, droughts, cyclones, desertification, deterioration of river watersheds and the intrusion of sea water into non-saline groundwater in coastal areas resulting from the rise of the sea surface caused by climate change and global warming.

10. We believe that important progress can be made through transfer of technology, science and biotechnology to provide clean water and improved sanitation to communities in developing countries. We strongly consider that such goals could be reached through intergovernmental cooperation between countries.

11. The Millennium Declaration targets on poverty eradication and access to freshwater should be supported by targets on the means of implementation. Tremendous progress can be made through transfer of technology, science-based programmes and biotechnology to provide clean water and improved sanitation to communities in developing countries. We stress the need to take the necessary actions, using science-based programmes to provide clean water and improved sanitation to communities and households. We strongly believe that key goals could be reached through the development and strengthening of human and institutional capacities for effective water management service in many developing countries.

Mr. President,

Distinguished Guests,

Ladies and Gentlemen,

12. Technology transfer and provision of financial resources are crucial for conservation, efficient, equitable, optimal and sustainable use of waters in order to satisfy the human, ecological needs and the demand generated by the productive processes of countries and to guarantee the access to this fundamental resource to all, the urban, rural and indigenous communities. Therefore, we call on the United Nations system to play an important role in the exchange of scientific and technological research in the field of water resources.

13. There is an urgent need for the international community, in particular developed countries and the international institutions to provide additional resources in order to implement actions and projects that will improve access to water and basic sanitation in the countries of the South. Provision of water and basic sanitation is critical for poverty eradication; in that regard, improving water related issues for southern populations plays a key role in the reduction of poverty.

14. Considering the relative progress registered by some developing countries in vital areas of water management, water supply and sanitation, the Group of 77 organized, in February 2009 in Muscat, Sultanate of Oman, a Ministerial Forum on Water in order to explore new ways and means to tackle the serious issues of water.

15. In this connection, we invite the UN system and the international financial institutions to also promote scientific and technological cooperation among developing countries in order to implement easy access to clean water and basic sanitation. South-South and triangular cooperation is another avenue where financial assistance is needed in order to make a positive impact in water related issues.

16. Finally, we call for enforcing international laws so that water facilities and infrastructures are not targeted during wars and conflicts.

I wish all success to your deliberations.

I thank you.

**Ms. Martha Moren Abat,
Director General on Water Issues, Ministry of Ecology,
Rural and Sea Areas of Spain on behalf of
the EU and its Member States**

Your Excellencies,

Ladies and gentlemen,

We are honoured to attend this interesting Conference organized by the Tajikistan Government and very pleased to participate in this Plenary Session with you.

The mid-point of the International Decade for Action, "Water for Life", year 2010, provides us a great opportunity for reviewing the achievements reached during this first half of the Decade, and encourages us in giving a boost to the implementation of internationally agreed water-related development goals.

The outcomes of the high-level interactive dialogue on the implementation of the International Decade for Action «Water for Life 2005-2015», held in New York last 22nd of March, highlighted the role of water as a cross-cutting issue of vital importance in achieving the Millennium Development Goals, showed the need for adaptation in order to manage the impacts of climate change on water and emphasized the need for enhancing cooperation in transboundary basins' management.

This Conference gives us the opportunity of sharing our views and exchanging experiences on complementary water related topics.

Allow me to remind you that improving water quality and ensuring access to safe water and basic sanitation should be a priority for all countries; that water resources should be managed in a sustainable way to ensure human development, dignity and economic growth, as well as to safeguard water quality and quantity.

With regard to water quality, the European Water Framework Directive can be an example to take into account in global water management.

Developing further international cooperation and sharing responsibilities should be also considered, so that States can benefit from transboundary water cooperation and avoid conflicts. A good example of the aforementioned cooperation between riparian States is the Albufeira's Convention, signed between Spain and Portugal in 1998.

As an increase in the severity of weather-related natural disasters is expected (such as recurrent and persistent droughts and desertification processes, or more intense rainfall for fewer days, causing floods, soil erosion, landslides and mudflows), we cannot forget taking into account the predicted effects of climate change when developing water policies. Managing increased variability of water resources should require additional natural and constructed storage facilities, support frameworks for regional and international cooperation and other forms of partnerships.

In order to develop efficient measures, approaches have to be taken at all management levels (international, national and regional), and participation of public and private stakeholders, including civil society from all relevant sectors, including health, agriculture, energy, public infrastructures, urban planning, etc., should not be forgotten.

The integration of disaster risk reduction, moving from a reactive to a management approach, such as Drought Management Plans and Floods Risk Management Plans, and adaptation to climate change, should be a priority for water management national policies and strategies.

The EU believes that this International Conference should encourage countries to evaluate their water policies regarding climate change adaptation and mitigation measures, as well as assess, review, and amend regional and national action programmes, at the adequate level, to address water quality, water resources and disaster risk reduction.

The Millennium Development Goals include the target, as we already know, of reducing by half the proportion of people without sustainable access to safe drinking water and basic sanitation. A broad consensus exists on the direct impact of water and sanitation on the other Millennium Development Goals.

As stated in the already-mentioned UN Resolution “International Decade for Action “Water for Life 2005-2015”, water is crucial for sustainable development, including environmental integrity and eradication of poverty and hunger, and it is indispensable for human health and integrity.

The EU has clearly stated that the eradication of extreme poverty and hunger requires a combination of different sectoral and thematic interventions. Its recommendations also include reducing the financing gaps for critically needed investments in infrastructure, in particular water and sanitation systems.

The UN Human Rights Council has clearly recognised that sanitation and water are human-rights related issues. The EU considers that sanitation and water are fundamental to achieve an adequate standard of living and sustainable development. Therefore, the EU is looking forward to examining the conclusions and recommendations of the IE’s first report to the General Assembly, which will be focused on improving the achievement of the MDGs, in particular of MDG 7.

Finally, the EU Member States, committed to the timely implementation of the MDGs, call for an engagement to transforming the ‘Water for life’ decade in a decade for action in the water sector.

Based on the experience obtained so far, the EU would recommend to agree on and establish a set of measurable milestones to increase the number of people with access to water and basic sanitation by 2015.

The EU considers that these important matters should be a priority in all national policies and should be addressed in a sustainable development manner.

Finally, Spain, as EU Presidency of the Council, as well as all Member States, wish you a fruitful Conference.

Thank you for your attention.

**Mr. Majidi Nomju,
Minister of Water and Energy of the
Islamic Republic of Iran**

In the name of Allah, the most Beneficent, the most Merciful

Excellency Chairman of the Conference,

Excellency President Emomali Rahmon,

Honorable representatives of the United Nations,

Ladies and gentlemen,

I am very pleased to be able to participate at the high international conference «Water for Life» and alongside with those high-ranked officials of global and regional scale who are responsible for water issues deliver a speech on water agenda and water resources the value of which increasing each year.

In the year which elapses under the sign of «Clean Water for a Healthy World», I would like at the outset to begin my speech with noting the importance of water, identified by a verse (ayat) of God, which reads as follows: «We gave a life to all beings through water.» This ayat shows that all living beings depend on water and no creature can survive without it.

Distinguished delegates!

More than 80 countries are located in arid and semiarid regions. These countries are home to about 40% of the world population. These regions are characterized by lack of precipitation. Iran, whose 85% of territory is located in arid and semiarid regions, is the bearer of one of the first civilizations, which by virtue of its geographical location has started construction of water reservoirs and water distributing facilities many thousands years ago, that later it was named by historians as «the country of water civilization». An average annual precipitation in Iran equals to 250 mm, i.e. a third of the total rainfall in the world. Only one third of Iran's water resources is renewable and makes a figure of 130 billion cubic meters a year, although 1% of world population is living in this country.

After victory of 1979 Islamic Revolution in Iran, there have been social changes, including industrial development, intensification of urban processes, economic growth in the country, particularly agricultural and industrial development led to increase of water utilization in agriculture, industry and urban economy. 30 years ago, an average annual amount of renewable water in Iran per capita was about 1000 cubic meters that foreshadows crisis situation, which we can face with in the future.

In order to imagine a whole range of problems associated with water in Iran over the past decade, we should add to the above, such challenges as the effects of global warming and climate change, the protracted regional drought and the issues associated with common transboundary waters.

On the assumption of these changes, it should be definitely concluded that it is further impossible to enjoy using traditional and old methods of country's water resources management, since issues and disagreement over the growth in demand forced the heads of water sectors of the country to think about "an optimization of the management and regulation of demand and supply" based on:

- increasing capacity of water volume of the country through the construction of new water wells and water distribution facilities, which currently reaches more than 40 billion per year;
- transition from local and zonal water resources management to the complex and interrelated system of water resources management;
- undertaking educational efforts, raising the overall culture of the population and adequate water consumption manner according to certain models;
- use of new technologies in the field of water resources, information and data management with the view to optimize water allocation;
- making efforts to determine real price for water in order to change the behavior of stakeholders;
- increasing the profitability of water use, especially in agriculture with simultaneous change in irrigation methods;
- raising the level of hygiene by expanding water-purifying and sewer systems throughout the country up to the most remote villages;
- planning the prevention of water sources pollution, especially overground waters;
- expansion of international and interregional activities to share with knowledge and experience gained in the process of research works;
- applying efforts in using turbid water in the secondary objectives and water recycling.

Ladies and gentlemen!

The modern world is confronted with a phenomenon which is called the first real danger. It is about global warming and climate change during the past forty years as a consequence of an intensification of industrial and agricultural activity and greenhouse gas emissions have had a negative impact on land and especially water resources, both qualitatively and quantitatively. Third world countries with the lowest share in the creation of such a situation are mostly affected by its devastating impact on resources, particularly on water. According to statistics from Intergovernmental Panel on Climate Change (IPCC), we already observe average warming of +1.5 to +2.0o degrees centigrade in the arid regions of the Middle East and, consequently, decline in rainfalls, increased evaporation, reduction of water in reservoirs, lakes and even its full depletion. In short, we are witnessing a profound negative impact on overground and underground water.

Given the above realities, the countries of our region, especially those arid and semiarid as Iran and its neighbors are forced to adapt to new conditions and pass this stage with the least possible losses through undertaking adaptation measures in water management. We can infer that since climate change is a global challenge, we should not regard water resources management as a local or let us assume an island issue. This problem requires taking deliberate steps towards a joint regional management up to international cooperation, as it is exemplified by this conference on water issues.

Distinguished delegates!

The Government of the Islamic Republic of Iran and the Ministry of Energy as a responsible authority for water issues taking into account the role of international relations are going to increase international cooperation. In this regard, at the suggestion of Iran and consent of UNESCO two water management centers are set in Iran that serve to meet the needs in addressing water issues. They are called the "Regional Centre for Urban Water Management-Tehran" and "International Center of underground irrigation canal and historic installations – in Yazd".

"Regional Centre for Urban Water Management-Tehran" which has been founded in 2002 in the Islamic Republic of Iran today employs 15 members from among countries of the region and 8 members representing international scientific institutions and think tanks.

This center has conducted 24 master classes, 8 special training courses, 3 workshops and international conferences. The center held seven annual meetings with the involvement of ministers or deputy ministers and heads of member-organizations, the last of which was held in May 2010 in Tehran. I, as the chairman of the Expert Council of the Centre, have the honor to invite the countries of Asia, Africa and the Middle East by joining the Centre, which is a regional - international organization, to participate in the process of ever-growing water problems in this important region of the world.

It should also be noted that on the one hand the water is of great creative and vital importance to the people, but on the other hand, it can play a destructive role and be an enemy of humanity. There is no life for humans and other living beings without healthy and safe water, but on the other hand, contaminated water and mud flows may expose people's lives to mortal danger. To date, according to the statistics due to disease, emerged from the use of polluted water 1.5 million people die mostly children and more than 2.2 billion people are at risk of many diseases due to the lack of sanitary - hygienic conditions.

Given the above-mentioned, it may confirm findings of the UN that the world in the 21st century will be moving towards a global water crisis, but Middle East and Central Asia, diminishing their water resources both qualitatively and quantitatively will be moving in that direction more quickly.

I believe, that in the modern world, a scales of which have significantly reduced by the development of means of communication, consideration and resolution of water issues locally and individually does not seem logical action, and for the solution of these issues we need an assessment at international and regional forums, in the result of which we could expand regional cooperation through the establishment of regional and international boards and organizations. Such organization could be the

Council of Islamic countries on water issues which would serve as a tool for regional cooperation in order to address existing issues in this area. It should be noted that the Ministry of Energy of Iran during the the World Water Forum in Turkey in 2009 was one of the initiators of the establishment of the Council of Islamic countries on water issues, and still supports this initiative.

In conclusion, I consider it necessary to congratulate the President of the Republic of Tajikistan, our brother Emomali Rahmon who promoted this initiative and holds the International Forum on "Water for Life" and wish to see the outcomes of this conference have found under the auspices of the United Nations practical implementation in enhancing sustainable regional and global water management both in quantity and qualitative terms.

Mr. Vladimir Garkun
First Deputy Chairman of the
Executive Committee - CIS Executive Secretary

Distinguished ladies and gentlemen!

On behalf of the Executive Committee of the Commonwealth of Independent States I would like to welcome you at the opening of the International Conference on very important and topical issue. I first of all, would also like to express my sincere appreciation to the Government of the Republic of Tajikistan and the organizers of such a representative conference for the invitation to attend this event.

This conference which is being held in accordance with the decisions and under the umbrella of the United Nations stresses the fact of its particular significance and the global nature of issues included to the agenda for discussion.

We all witness that the deficit of water resources, reduction of drinking water quality, land degradation and climate change come to the foreground along with a number of new challenges of the XXI century. These phenomena pose a real threat to international stability, sustainable development and progress. Taken together, they aggravate food, migration, energy and demographic aspects of national and regional security.

At the existing circumstance, which according to experts, is tending to deteriorate with potentially disastrous consequences, is a clear need for coordinated and concerted approaches. It is impossible to achieve a solution to a complex of these hard problems on the scale of an individual country or group of States. It is necessary to consolidate the efforts of the entire world community, which are intended to facilitate the proclamation of the UN General Assembly of the International Decade for Action «Water for Life» for the period 2005-2015.

These challenges are most sensitive to Central Asian states within the space of the Commonwealth. Founders of the International Fund for Saving the Aral Sea - Republic of Kazakhstan, Kyrgyz Republic, Republic of Tajikistan, Turkmenistan and Republic of Uzbekistan have been cooperating in this direction.

Intensive drying of the Aral Sea, which is recognized as one of the most greatest in our world man-made disasters have a devastating impact not only on the area around its territory, but also on the entire Central Asian region.

We observe a desertification, increased environmental risks, adversely affecting the quality of life, health, and, most importantly, the genofond of the population living there.

Taking the advantage of this high tribune, and seizing this opportunity, it is my duty to extend my heartfelt appreciation to the heads of the states-founders of the International Fund for Saving the Aral Sea for the untiring efforts and organization of joint action against the global threat.

Meeting of the Head of States - the founders of the Fund held on April 28, 2009 had a fundamental importance. During the summit important agreements have been reached on strengthening cooperation in order to improve the environmental and socio-economic situation in the Aral Sea region, as well as assistance in finding a mutually acceptable mechanism for the integrated management of water resources and environmental protection of Central Asia, taking into account the interests of all states in the region.

We cordially welcome a signing of a Memorandum of Understanding between the UN and the Executive Committee of the International Fund for Saving the Aral Sea held under these agreements on March 3 2010.

Given the existence of a similar document between the Executive Committee of the Fund and the CIS Executive Committee, there are real prerequisites for the tripartite partnership. We are ready to contribute to its establishment and development.

Distinguished participants of the Conference!

I think it would be no exaggeration to say that the subject of the planned discussions is among the key problems of modernity.

Participation of government officials, international and nongovernmental organizations, business and scientific community in the debate and discussions, includes a broad exchange of views, the definition of a common vision of the necessary steps to address the problem of water in all its diversity.

We do believe that the final documents of the conference desirably shall include the following measures, in particular:

- improvement of scientific research on a thorough and reliable substantiation of overall strategy for water use and the subsequent development of interstate legal and regulatory framework;
- establishment of a just and rational mechanism of water and energy resources with complete ensuring of a balance of interests of all states of Central Asia;
- expansion of donor assistance from individual countries and international organizations to restore, preserve and maintain very fragile regional environmental and water balance.

On behalf of the Executive Committee of the Commonwealth of Independent States I wish you all constructive and fruitful work.

Thank you for your attention.

**Mr. Umesh Narayan Panjiar,
Deputy Minister of Water Resources of India**

HE Mr. Chairman,

Distinguished delegates,

Ladies and gentlemen,

First of all I convey greetings and best wishes on behalf of the people of India, the Government of India and on my own behalf for the success of this important High-level International Conference on the Midterm Comprehensive Review of the Implementation of the International Decade for Action «Water for Life, 2005-15».

Undoubtedly, all developmental activities continue to be most influenced by the sustainable development and efficient management of water resources. The population growth, industrialization and urbanization have resulted in many challenges in the water sector. These challenges get more complex in case of countries like India which experience relatively very large temporal and spatial variations in the availability of water.

Mr. Chairman, in India we have laid due emphasis on water resources development and initiated several measures. There has been significant all round achievements in respect of creation of irrigation potential, in providing safe drinking water to our people, particularly the people in rural and remote areas, in meeting the industrial water demands, and in addressing the environmental issues. I would like to make specific mention about the achievements in respect of the Millennium Development Goals targets related to providing access to safe drinking water and improved sanitation facilities.

The access to safe drinking water sources in urban areas of India was about 90% in the year 1990 and 93% in the year 2000 and this has improved about 96% by the year 2008. In rural India, access to drinking water source has increased from about 58% in 1990 to about 73% in year 2008. Thus the MDG goals for reducing by half the proportion of people without sustainable access to safe drinking water, is already achieved.

As per the reports of the Joint Monitoring Programme of World Health Organization and UNICEF, the use of improved sanitation coverage in rural areas of India was 7% in the year 1990 and this increased to about 21% in 2008. The urban sanitation coverage was 49% in 1990 and increased to about 54% by the year 2008. The current coverage of sanitation facilities in the rural areas is more than 65%. MDG of improved sanitation facilities in the rural areas is planned to be achieved by the year 2013.

Several initiatives have been taken by the Government in respect of women empowerment including those related to water and sanitation programmes. At least half of the members of village water, sanitation and health committees are women and women self help groups are actively associated with the programmes particularly the awareness programmes.

However, we observed that as more than 85% of drinking water sources in rural India are based on ground water as source, due to aquifer dynamics and other constraints, there has been a slip back from full coverage status in respect of about 0.3 million habitations. In order to prevent slip back, the Government of India had made a paradigm shift from over dependence on single water source to conjunctive use of ground water, surface water and rainwater harvesting. Due emphasis has been laid on sustainability.

Mr. Chairman, despite significant achievements, we continue to face numerous challenges in the form of reducing per capita water availability, declining ground water table in some areas and deterioration in water quality. Further, like all other countries, particularly the developing countries, we are equally concerned about the two very serious challenges, namely, the food security and impact of climate change, water being central to both these challenges. We are implementing a National Food Security Mission. A National Action Plan on Climate Change has also been launched by the Prime Minister of India. Missions are envisaged under the National Action Plan on Climate Change which, inter-alia, includes «National Water Mission». The basic underlying principle of the National Water Mission is protecting the poor and vulnerable sections through inclusive and sustainable development strategy which is sensitive to climate change. Its main objective is conservation of water, minimizing wastage and ensuring its more equitable distribution both across and within States through integrated water resources management.

We firmly believe that the objectives of integrated water resources management can be achieved only if the modern approach to planning, implementation and management of water resources are adopted with very active participation of experts on one hand and the stake holders on the other hand. All sections of the society - government agencies, planners, users, non-governmental organizations, academia and also the private sector have to play their role in this endeavour. Therefore, we have duly emphasized on participatory approach to water resources management.

Mr. Chairman, I thank you for giving me an opportunity to share my views with the distinguished participants. I took forward for greater cooperation of among all the nations to address the challenges in water sector.

Thank you.

Mr. Kamal Majidullah
Special Assistant to the Prime Minister
of Islamic Republic of Pakistan

Mr. President,

Ministers,

Heads of delegations,

Colleagues,

Ladies and Gentlemen!

Greetings from Pakistan, from the people of the Indus - the Sindhu River and her contributing sister waterways.

Mr. President,

The people of the Indus river system have flourished on the bounty of this ancient river system for over a 100,000 years, nurturing civilizations and their later cultures, serving humanity, enriching the people of far-off regions with ideas, innovations and the development of their societies both materially and spiritually.

Today Mr. President,

The people that have inhabited the Indus lands from the times before antiquity are facing their worst threat, a threat that for the first time is questioning their very survival, their existence.

Water is life and for life you need water. This fact on which human development is based has assumed a level of critical importance that was never considered in the past when water and air were infinite resources and always in abundance.

With that thinking, societies evolved, more land through water was brought under cultivation to feed the growing numbers of people, small towns and urban centres developed with their special skills and expertise as plentiful food and water was available to them.

The creative impulse of die human race brought societies in different eras and epochs to levels of existence that were unthinkable some decades or centuries earlier.

The policy makers and planners tried to harness that energy with their own concepts of what was good for the multitude and the one using kept constant was that the abundance of water availability.

That headlong rush for a better future is now hurtling towards a clash with a reality that is water scarcity which is last moving towards water starvation, a situation that is demanding hundreds of trillions of dollars for solutions, precious capital

resources that are being pulled by all aspects of human existence none more than water and food security, poverty alleviation of both mind and both, health and a steadily improving, sustainable life

Mr. President,

Global warming, climate change, the constant shrinking of glaciers, the inconsistent precipitation of snow and rain have exacerbated the condition of water scarcity but they too in most part are a consequence of regional human activity that continues degrading the environments, the bio-diversities, the existence of all living things - great or small, of our planet with a flourish, a gusto and an astonishing abandonment that has brought us to this sorry state of affairs or is it the sorry affairs of state.

Policy makers and planners, propagating a perpetually unquantifiable luxury of more and more, continue to think in terms of out-dated technologies and age-old methodologies that will only perpetuate a path of destruction in spite the illusion of short-term gains.

Pressures are being brought to bear for innovations and foresight in harmony with nature, particularly as man has forgotten to live in peaceful existence with the natural environment bringing upon him disaster after disaster.

More food security is needed but the land to water ratio has been exhausted, energy is needed but the manipulation and constriction of water flows and the trampling of right of the water users, depriving them of food security is increasingly keeping river-based societies in a state of permanent crises, leading as it were to heightened levels of confrontation, all the more dangerous as countries today are extremely well-armed for conventional warfare and some in critical areas with nuclear weapons making their unthinkable use «thinkable», when societies are forced to face their mass destruction.

This is indeed a century where wars will be fought over water, the source of life or death.

The machinations of state of decision-makers, has brought us nearer to the probability of confrontation with policies leading to unsustainable water use and agriculture, to conflicts within and without, to murder and suicides.

Mr. President,

Perhaps, the solutions lie with the adoption of mechanisms by the people, the stake holders directly related to and dependent on the waters.

Their ancient existence together with their common desire for survival; for self-interest if nothing else, will ensure equitable and just use of the water in accordance with their cropping needs and demands for a better individual and collective existence through the extensive and intensive use of water conserving technologies, the use of renewable sources of energy, through innovation and invention of bio-saline agriculture and the optimization of agricultural productivity. Food security based on the earth, the weather, the climate and the general environmental conditions dictated by nature and mostly by water for life.

Thank you.

**Mr. Koshmatov Baratali,
Acting Chairman of the State Committee on
Water Resources and Melioration of Kyrgyz Republic**

Excellency President,

Distinguished delegates,

Dear ladies and gentlemen,

First of all, I wish to express profound gratitude to the Government of the Republic of Tajikistan and to the President, His Excellency Emomali Rahmon for initiating and hosting this global conference on the implementation of the International Decade for Action «Water for Life».

Allow me on behalf of the delegation of the Kyrgyz Republic to warmly welcome all participants of this Conference!

Kyrgyzstan attaches a great importance to present conference and expresses the hope that it will make a significant contribution to improving water supply and water use efficiency in the world and in the region.

Let me briefly share the vision of Kyrgyzstan in addressing water and energy issues and challenges facing our country and Central Asian region at whole.

Almost 80% of water resources are formed on the territory of Kyrgyzstan and Tajikistan, increasingly used by downstream countries, which have abundant reserves of oil and gas. Kyrgyzstan needs water to generate electricity, while those downstream nations need water for irrigation.

As it is known, Central Asian countries are dependent on each other's water supply and hydro-energy resources of the region. During the Soviet period, this issue was resolved by the central planning and mutual deliveries of water and energy resources among countries. With the collapse of the Soviet Union's regime, this scheme has been broken.

After the breakup of the Soviet Union, Kyrgyz Republic is actually continuing to carry out its obligations to supply water in the spring and summer to the neighboring countries.

However, in recent years, our country has faced with the threat of energy crisis caused by the challenges of drought and rising prices for other energy sources, particularly for gas.

Central Asian regional arrangements, in particular the Agreement of 1998 on the use of water and energy resources of the Naryn-Sirdarya, which includes Kazakhstan, Kyrgyzstan, Uzbekistan and Tajikistan, are not working at full capacity. Commitments taken by some Central Asian states on regional agreements are not executed.

Lack of long-term cooperation has led in 2008 to a crisis of electricity in our country that has been aggravated due to insufficient water reserves in Toktogul reservoir on the Sirdarya River because of the low level of sediment accumulation and an abrupt decline in water inflow.

We were forced to impose restrictions for our population on electricity consumption. The problem was partially solved by increasing power generation at thermal power stations with the help of international organizations and specific arrangements agreed with the Republic of Kazakhstan.

I would like to draw your attention to the fact that there is a great progress towards water issues with Kazakhstan. In particular, we are resolving the issue of mutually beneficial mechanisms for water supply and energy resources with the view of an accumulation of water in winter in the Toktogul reservoir on the Sirdarya, Chu and Talas Rivers.

In order to ensure energy security and way out of the situation, when the Government was compelled to impose blackouts of electricity for households and enterprises in Kyrgyzstan during the winter, Kyrgyzstan intends to continue the construction of hydro-power plants, including Kambarata HPP.

However, Kyrgyz side believes that, in accordance with international law, the layout of mutual notification and environmental assessment should be conducted only on the principle of reciprocity in all Central Asian countries, regardless of location in «upstream» or «downstream» without double standards and selective approach to the issue of water use and energy resources.

Distinguished delegates,

Dear ladies and gentlemen,

I would like to draw your attention to the point that namely energy crisis and increase in electricity tariffs were among the causes of events in Kyrgyzstan on 6 – 8 April, 2010.

With the view to solve the water and energy problems, Kyrgyzstan sees only one way - through multilateral negotiations, compromises and mutual concessions to achieve a comprehensive and mutually beneficial cooperation over the long term.

In our view, it is necessary to create conditions under which there will be an incentive for an accumulation of water in reservoirs during the winter and its delivery for lands irrigation in the summer. Then, the most major Toktogul reservoir which is regulated largest water artery of Central Asia - the Sirdarya River for a long run will have a required volume of water during drought seasons and will be able to provide at least the maintenance of food and energy security of Central Asia. Otherwise, when decisions are made on the basis of short-term gains, there is an emptying of water supplies and loss of regulatory capacity, which will inevitably lead to harmful consequences for the entire region.

In this regard, Kyrgyzstan is committed to hold dialogue and engage in meaningful consultation with the Central Asian states.

It seems that mutually beneficial cooperation is the basis for long-term interstate collaboration in water and energy sector.

Taking this opportunity, I express my gratitude to all international organizations and financial institutions that support national and regional projects on water management in Central Asia.

In conclusion, let me thank you for the warm welcome on Tajik soil and wish all of us a great success and achievement of the lofty goals of the conference.

I thank you for your attention.

**Ms. Galina Saidova,
First Deputy Minister of Economy
of the Republic of Uzbekistan**

Excellency Prime-minister!

Excellency Sha Zukang!

Distinguished delegates!

Ladies and gentlemen!

Allow me at the outset to express my sincere appreciation to the organizers of the conference - the United Nations and the Government of the Republic of Tajikistan for hosting high-level conference and warm hospitality.

Water as oxygen - is the most valuable natural resource and at the same time is a public good, without which human existence would not be conceivable. Modern conditions of climate change and the natural reducing of fresh water resources worldwide, oblige all governments to ensure the rational and efficient use of water resources on priority objectives, which no doubt is to safeguard access to clean drinking water and water resources for agricultural production and food security of the people.

Five years have elapsed since the commencement of the International Decade for Action, declared by the United Nations as «Water for Life» and it is exactly a mid-point of the period when we expect substantial progress in improving access of the world population to water resources, their rational use for food security, increasing incomes and reduce poverty.

The priority of these directions is determined by a simple truth: there is no any alternative of fresh drinking water and food for human existence. Therefore, we believe it is important that the outcome document of the conference should note that the main purpose of water – its use for drinking water-supply and food production. All other uses of water resources have an alternative.

The Uzbek government under the leadership of President Islam Karimov has not just declared, but implements practical steps to carry out program aimed at expanding access to safe drinking water. Over the past 19 years, at the expense of the budget, as well as on the account of loans from the World Bank and Asian Development Bank more than 42 thousand kilometers of water networks are set, including over 21 thousand kilometers have been put in place within last five years.

That step enabled us to increase access to clean drinking water from 64% of the population in 1991 to 82,3% in 2009. Taking into account the population growth, more than 10 million people of the country were given further access to safe drinking water. Currently, 18 investment projects on water supply improvement worth about 1 billion USD are being realized by 2015 only on the account of loans of international financial institutions.

Uzbekistan – is the only country in Central Asia, which does not simply declare a commitment to environmental protection, but implements projects in the sphere of reducing greenhouse gas emissions. There already seven projects are registered and more than 20 are under validation.

Use of water resources assumes ever greater importance for food production and ensuring incomes from agriculture in the oases areas surrounded by deserts and countries that can make agricultural production exclusively or primarily in the terms of irrigation.

Any changes in the volume and usage of river flows in these conditions can lead to food and environmental disaster. A sad example of this trend is a flow regulation of the Central Asian like Amudarya and Sirdarya Rivers, which has already led to an environmental disaster on a vast space of Aral and threatens to be further spread.

During the years of independence, Uzbekistan has radically diversified industrial structure of agriculture. If earlier only 30% of land resources were used for food production and 70% for cotton growing, it is now 70% of land used for food production. Only grain production during this period is increased in the country more than 6 times.

Thereby, we believe that first of all, limited fresh water resources should be used in the areas where water has no alternative in terms of ensuring human existence.

Efficient use of water resources is a crucial issue. Only over the last 10 years under the auspices of the World Bank, Asian Development Bank, Islamic Bank, EXIM Bank of China, OPEC, UN and other donors, over 20 major investment projects, with an aggregate amount of more than 1 billion USD have been implemented aimed at more effective use of water resources. As a result, specific volume of water consumption per 1 ha of irrigated area has declined by 30%.

Uzbekistan actively participates on the international arena in all areas related to the use of water resources. We are the member of such organizations as the World Water Council, the International Commission on Irrigation and Drainage, Global Water Partnership and etc. Uzbekistan has ratified the major conventions on Protection and Use of Transboundary Watercourses and International Lakes (Helsinki, 17 March 1992) and the Convention on the Law of Non-Navigational Uses of International Watercourses (New York, May 21, 1997).

In full accordance with those documents, we believe that the existing international legal framework on the use of international rivers and watercourses must be the ground for building an effective system of sharing water resources of transboundary rivers. We fully share the position expressed in one of the documents of the UN that says «The rivers, lakes and water horizons do not recognize national borders».

At the same time, Uzbekistan has no objection to the use of water resources of transboundary river basins in Central Asia for other purposes, including for energy needs, but with observing the following conditions:

First, given a choiceless value of freshwater resources for drinking and food needs, all international standards for the use of waste transboundary rivers, including the UN Conventions must be fully complied with regardless of whether countries who have not signed those Conventions agree or not.

Second, every major hydropower project should envisage an independent international expertise, which will provide clear and unequivocal assurances that the construction of new hydro facilities will not:

- change the volume and the runoff regime, which was provided a normal water supply to the population of downstream counties for centuries;
- increase a threat to the environment of the region, in other words, will not repeat and aggravate the problem of the Aral Sea disaster;
- impose a threat of man-made disaster with unpredictable consequences for the lives and health of millions of people in downstream countries.

The motto of today's conference «Water for Life» in no way should turn into its opposite «Water against life». Unfortunately, however, recent technological accidents of breakdown in hydro-power stations and hydro-units in some neighboring countries show that at irresponsible human attitude water cannot become a source of life, but it turns into a source of death.

Plans in building giant hydropower projects which were developed during the heyday of the Communist voluntaristic approach in violence against nature are of particular concern.

We understand that upstream countries face shortage of electricity and agree that these challenges must be addressed. Alongside with this, we are convinced that there are projects which are more efficient, less costly and do not pose a threat to the economy and public safety.

We support the proposals made today by the Director of UNDP Regional Bureau for Europe and CIS Ms. Kori Udovicki that a cascade of small hydropower plants, as well as widespread use of solar and wind renewable energy should make an alternative to large hydropower stations.

Position of our country regarding these issues has been clearly outlined in the statement of President of Uzbekistan Islam Karimov at the SCO Summit in Bishkek in 2008.

Uzbekistan's position on these issues is clear, transparent and based on the international law in the use of water resources of transboundary river basins.

We do hope that on the basis of generally accepted international rules and regulations, countries of the region will find mutually acceptable solutions that will solve the energy problems of upstream nations, without posing security risks and threat of enhancing conflict potential with other countries in the region.

We highly appreciate and support the United Nations initiatives aimed at persuading governments around the world to targeted use of water resources to increase access to safe drinking water, addressing food security and creating conditions for population incomes growth, reducing poverty and achieving the Millennium Development Goals.

**Mr. Orman Anarbek Ongarovich,
Head of the Water Resources Committee of the
Ministry of Agriculture of the Republic of Kazakhstan**

Excellency Chairman!

Distinguished participants of the Forum!

Dear colleagues!

First of all, on behalf of the Government of the Republic of Kazakhstan I would like to thank the organizers of the International Conference.

Water is the basis and indispensable prerequisite for the existence of life on Earth. Today we can say without exaggeration that the water is becoming a major tool of international relations and one of the components of the economic security of any state.

In this regard, Kazakhstan is no exception, and our country is among the states, which have limited water resources. An overwhelming majority part of Kazakhstan's territory belongs to the desert and semi-desert dry regions where water supply of economy, population, maintenance of sustainability of water ecosystems is a very acute problem.

According to current estimations of surface water resources of Kazakhstan in the average year make up 100, 5 km³, of which only 56, 5 km³ is formed in the territory of the country. The rest part of 44,0 km³ flows from neighboring states, including from China - 18,9 km³, Uzbekistan - 14,6 km³, Kyrgyz Republic - 3,0 km³, Russia - 7,5 km³.

It is worth noting that over the past 30-35 years the average annual runoff in Kazakhstan has decreased by more than 20%, including local stock by 15% and transboundary by 10%.

The causes of instability of river flow are considered to be global and regional climate change, economic activity in catchments areas and river valleys, including in the territories of neighboring countries.

The issue of sustainable water supply in Kazakhstan is becoming particularly acute in connection with the growing increase in water use of surface water by adjacent states (by the Kyrgyz Republic, Tajikistan, Uzbekistan, China and Russian Federation). These are zone of runoff of the rivers Irtysh, Ili, Ural, Sirdarya, Shu, Talas and some others.

An expansion of economic activity in neighboring countries leads to a reduction in the runoff of water resources into the territory of Kazakhstan. For example, the water of the Black Irtysh River is intensely climbed in China. New irrigated areas

are rapidly developing in the Chinese part of the Ili river basin. This cannot but cause concern, because can lead to significant environmental disasters similar to the problem of the Aral Sea - drying of Balkhash Lake and the desertification of surrounding regions.

Similar challenges exist in the Sirdarya river basin in Kazakhstan. Therefore, Kazakhstan's water supply is largely dependent on water policies of neighboring states.

In this regard, addressing the issues of joint sharing of transboundary rivers is a priority of foreign policy of Kazakhstan.

The complex of challenges of industrial water supply in Kazakhstan is linked and intertwined with irrational use of available volume of water resources, uneven distribution of water resources throughout the country, the low level of groundwater use and re-return water.

It is caused by low level of management, lack of modern environmental consciousness among the population, insufficient use of water-saving technologies and advanced irrigation technologies, poor use of innovations in the field of water use and water accounting.

Currently, several major large-scale projects aimed at addressing abovementioned issues are implemented and some are scheduled to be realized in Kazakhstan.

First, an implementation of Sirdarya River Water Stream Regulation project and the first phase of the Northern Aral Sea project have been completed in 2009, which were co-financed by the Government of the Republic of Kazakhstan and the World Bank. As part of Phase I of this project all major river hydraulic facilities in the Kazakh part of the Sirdarya River were reconstructed, works on increasing the capacity of the riverbed as a result of its rectification at several sites, heightening embankments along its stream and construction of modern bridges were done duly.

The northern part of the sea seceded from the rest of Kokaral coffer dam, that allowed to quickly carry out its significant desalting by Sirdarya river and bring the water area of this part of the sea to 42 m. mark.

In the aftermath of the realization of project on the Small Aral Sea, fish catch has increased by 4 times and reached 1.6 tons. There are 13 species of fish in the sea now. Aklak hydro-system enabled the local population not only engage in fishing, but also significantly increase the number of livestock, as the new waterworks will increase the area of lakes, grasslands and pastures.

At present, Feasibility Study of the 2nd phase of the project is designed and developed which now goes through the process of harmonization. The realization of the project provides:

- creation of 2-tier water area of the Northern Aral Sea with 46 meters mark of the horizon of water overlapping Sarishiganak sea channel. Water line will be in maximum close to Aral'sk city;

- rehabilitation of Aksai-Kuandaryin lake system with the total area of 20 thousand ha. of fish breeding and restoration of fish processing plants and ship-repairing units;

- construction of hydro-power generation with an annual capacity of 23 million kWh, setting safety dams on the Sirdarya River and the rectification of the river stream, two bridges in Kazalinsk and Sirdarya districts of Qyzylorda region.

- carrying out repair-restoration works in the left bank of the canal of the main facility of Qyzylorda hydro-system, due to which water availability of 90 thousand hectares of irrigated land, Raim hydro-system and auxiliary structures will be increased that will allow to provide Akshatau system of lakes with water in the area of more than 21 thousand hectares.

Secondly, we have developed a feasibility study and are working on the launching of the 2nd stage of the project «Improvement of irrigation and drainage systems», which will allow to reconstruct the irrigated lands in the area of 113,0 thousand hectares in the southern regions of the country.

The project's objectives are aimed at improving the technical condition and maintenance of irrigation and drainage systems of agricultural producers with an application of water conservation and soil irrigation technologies. As a result of the Project, efficiency factor of irrigation systems in these irrigated areas can be brought to 0,8-0,85, that will enable to save irrigation water to 25%.

With the view of drinking water supply to entire population of the country, «Drinking water» Program has been implementing in Kazakhstan since 2002. During the years of an implementation of given program, more than 12,0 thousand km. of water networks have been built, water-delivery of 2872 settlements covering 4.65 million people was improved.

In recent years, the irrigated land areas in the country were reduced. Currently, about 1,4 million hectares of irrigated areas of the 2.1 million hectares are used in the country. The main reasons for reducing the use of irrigated land is a deterioration of irrigation and drainage networks, deterioration of reclamation condition of lands, as well as the lack of proper water accounting system and a low level of introduction of advanced irrigation technologies.

In order to solve this problem, the Government of the country has also initiated comprehensive measures to provide state support for investment in the form of large-scale water projects, to subsidize the costs of reclamation activities, provision of soft loans to implement water-saving irrigation technologies, attracting funds from international financial institutions to restore irrigated lands and irrigation systems. Further development of cooperation with neighboring countries in the field of water relations and improvement of interstate treaty-legal base is in the process.

In 2009, we have achieved an agreement with the People's Republic of China on building a joint hydro-power complex on the transboundary river Khorgos. At the present time, preparatory works are under way and the beginning of construction

is tentatively scheduled in August 2010. The project cost of a joint hydro-power complex makes up 9,4 million US dollars. The project will be financed on a 50/50, with each Party providing 4.7 million US dollars.

Kazakhstan, having joined in 2000 the Helsinki Convention on Protection and Use of Transboundary Watercourses and International Lakes, (1992) recognizes the rules of international water law, which are essentially laid at the convention.

In general, we note that currently the Central Asian countries have reached a certain level of development of cooperation. However, there are a number of problems hindering the development of cooperation in this direction:

1. Lack of coordination in the actions of the countries of Central Asian region. It should be emphasized, that the most of the agreements record only general approaches to addressing current water challenges and do not contain detailed procedures for implementing these approaches. Repeated declarations of Heads of States and Governments of Central Asia on intention to enhance mutually beneficial cooperation in the field of use and protection of water resources have not been properly developed.
2. Inefficient work of the Interstate Commission for Water Coordination (ICWC), not recognized standards of approved regulations by some members of ICWC (regarding the rotation of ICWC Research-and-Development Center).
3. Inconsistency between positions of states on the establishment of water-energy consortium. To date, merely a concept of effective use of water and energy resources is developed, which has not yet emerged beyond discussion process.
4. Weak harmonization of existing legal framework with the international legal system.
5. An absence of a common data bank on the regime and status of water facilities in Central Asia.
6. The problem of interstate water apportionment.

Thank you for your attention!

Mr. Jouni Lind
Secretary of State, Ministry of Agriculture
and Forestry of Finland

Mr. Chairman,

Honorable Ministers,

Distinguished Colleagues,

Water is critical for achieving sustainable development. A third of the world's population lives in countries suffering from water shortage. Safe drinking water is a basic human need, and without water there is no food. Water also plays a key role also in economic development.

Adequate water services, in other words, an organized supply of water, sewerage and effective cleaning of wastewater or use of dry toilets, are essential conditions for development. Water supply and sanitation must be considered basic services of general interest. Each country should ensure viable and proper function of both these services. This requires sound legislation, effective administration, good governance and sometimes well directed subsidies.

In many assessments, made for example by the Intergovernmental Panel on Climate Change, it is agreed that the most severe impacts of climate change are essentially due to changes in hydrological cycle and water resources. Water mediated impacts will significantly affect key socio-economic development such as poverty reduction, food security, but also ecosystems and biodiversity in large part of the world. In order to succeed in sustainable adaptation measures integrated approach such as integrated land and water management and ecosystem restoration is required.

A key question is how to prevent unsustainable degradation of biomass coverage of land. For example forests preserve the quantity and quality of waters, and moreover, forests will continue to have a significant role in climate change, its mitigation and adaptation to it. Efforts should be made to maintain and increase permanent forest cover in many areas.

Existing international agreements, programmes and commitments must be put into practice. This will foster particularly equal and fair management of transboundary waters. The solutions adopted must be realistic in terms of resources available to each country, and all actors concerned should be committed to the chosen course of action.

Quantitative targets and timetables are expressed in the millennium development goals and Johannesburg Plan of Implementation. The progress should be followed

up by well-defined monitoring. Both donor and recipient countries must be committed to setting clear national targets and making sure the necessary steps are taken to achieve them. The developing countries have to incorporate the targets to their Poverty Reduction Strategy Plans and Plans for Sustainable Development. The developed countries have to incorporate the targets to their aid programmes.

Finland has committed itself to these targets. Water plays an important role in the achievement of most of the Millennium targets, but especially in achieving food security, reducing child mortality, improving equity and empowerment of women, enabling girls school attendance and sustainable use of natural resources.

Mr. Chairman,

The framework programmed Finland's Development Policy in Eastern Europe, the South Caucasus and Central Asia, The Wider Europe Initiative, raises bilateral cooperation to a new level with increased project funding and a region-specific, thematic focus on sectors where Finland has particular expertise to offer.

One of the flagship programmes under the Wider Europe Initiative (WEI) is the Strategic Cooperation Programme for Finland's Water Sector Support, also known as FinWater WEI. Along with the needs of the partner countries, the strategy is based on Finnish Development Policy Programme, the UNECE legal instruments on water, EU Water Initiative as well as UN Millennium Development Goals on water. This water sector support includes themes such as water and health, transboundary waters, monitoring, reporting and assessment, climate change and dam safety.

The aim of the FinWater WEI is to contribute to reduction of water disputes inside and between the countries, improved water supply and sanitation through improved education, increased investment and better alignment of water management with the UNECE Water Convention and its Protocol on Water and Health.

Finally, Mr. Chairman, I want to thank the Government of the Republic of Tajikistan for organizing this very important midterm conference of the International Decade «Water for Life» in cooperation with the United Nations. I encourage everybody at the conference to contribute and share experiences in order to encourage the achievement of internationally agreed water-related goals.

**Mr. Ali bin Mohammed Al Abri,
Deputy Minister of Regional Municipalities
and Water Resources, Oman**

In the name of Allah, Most Gracious, Most Merciful

Your Excellency, Oqil Oqilov The Prime Minister of the Republic of Tajikistan,

*Your Excellency, Sliia Zukang - United Nations –Under-secretary-General for
Economic and Social Affairs,*

Your excellencies,

Honorable Audience,

Assalamu Alaikum Warahmatullah Wabarakatoh,

The Sultanate of Oman delegation and I are honored to express our appreciation to the Government of the Republic of Tajikistan for its gracious hospitality and warm welcoming and wishing every success for the conference deliberations and outcomes for the benefit of all.

Your Excellency,

Your Excellencies,

Honorable Audience,

The «Johannesburg Summit» formed a springboard to establish the concept of Water Sustainability and present the characteristics of the Integrated Management of Water Resources and its various aspects, which reflect the extent of the awareness of the International community and its comprehensive understanding of water issues and its direct impacts on the life of mankind and development on a wider scope.

The selection of Water Decade 2005-2015- logo to be «Water for Life» is a clear indication of the enormity of water challenges faced by all countries, and the necessity to collaborate efforts to face such challenges to realize the objectives of water resources sustainability and enhance water security for all nations around the world.

This conference, without doubt, will enable us to evaluate the accomplishments made during the mid-decade and the extent of progress achieved to meet the declared international commitments towards water and related issues. This conference will represent a new station to once again build up cooperation and coordination between countries to confront water challenges and its various aspects.

The Arabian Gulf is an arid and semiarid area in general and presently facing great water challenges attributed mainly to scarcity in rainfall and limited water

resources in comparison to the rabid increase in water consumption due to the increase in population and development. Statistics indicate that water share per capita in the Arabian Gulf countries, including Sultanate of Oman, does not exceed 500 sqm per annum, which place these countries below the water deficiency line.

The Sultanate, in recognition of the current water situation and in pursuance of a comprehensive water resources management, established an integral institutional and legislative system, preceded by the Water Wealth Protection Law and the National Water Resources Master Plan (2000-2020), which include the objectives and policies of the national water resources strategy for two decades.

The Sultanate water policy depends, in the first place, on achieving balance between water utilizations and renewable resources and protection of water resources against over consumption and pollution. In addition to working» towards providing the maximum protection for environment components depending on water and provide potable water for citizens. The present percentage of potable water coverage is about 90% in all governorates and areas of the Sultanate, which fall within the framework of ensuring water security requirements during dry periods, raise living standards and improving die quality of life and health conditions for citizens.

The Sultanate water policy, also, depends on reestablishing' the balance between supply and demand through enhancing water resources whether by exploring more water resources whether by enforcing various water establishments such as underground recharge dams and surface dams, which presently exceeds 90 dam, and using unconventional water resources such as desalination and treatment of wastewater or brackish water.

Rationalization and protection of available water resources and reducing water loss is considered to be a pivotal approach in the Sultanate water policy, beside spreading awareness on the importance of water preservation.

Furthermore, die Sultanate pays special attention to wastewater system through construction of wastewater stations and networks in all Wilayats. Such stations and networks considered as a significant factor in protecting public health, reserving underground and surface water resources from pollution and ensure sound and safe environment. Efforts are exerted to promote such system to keep pace with the MDGs.

Your Excellency,

Your Excellencies,

Honorable Audience,

Today the world faces serious water challenges and urgently require enhancement in various cooperation and coordination fields, exchange knowledge and experience between countries and with the international and regional organizations and establish mutual procedures in order to deal with water issues and reduce its negative effects on the development process and its sustainable goals.

In this conjunction, some fields require further efforts and cooperation; such as scientific research, capacity building and utilization of technical assistance and

experiences provided by the international and regional organizations to help main countries in achieving the MDGs and implementing the principles of International Decade.

In addition, it is essential to study and draw regional water strategies in the framework of collaboration and unity to establish an integrated method and united visions to insure water security to all world nations in recognition of the principal of human justice for man's right to accessible potable water and appropriate sanitary services wherever in the world.

In conclusion, I would like to express my great thanks and gratitude to H.E. Emomali Rahman, President of the Republic of Tajikistan for this important conference. I, also, extend my sincere thanks to H.E the United Nations Secretary General for the efforts in promoting partnership principal between world countries and supporting all issues to sustain security, peace and decent life. My thanks, also, is extended to the international and regional organizations and different bodies for their pioneer role in providing technical support and promoting international efforts to achieve the millennium goals for public interest. Finally, I wish every success for the conference proceedings.

Wassalamu Alaikum Warahmatullah Wabarakatoh

**Mr. Owaki Hiroki,
Deputy Director-General, International
Cooperation Bureau, MFA of Japan**

Mr. Chairperson,

Excellencies,

Distinguished Delegates,

Ladies and Gentlemen,

Japan welcomes the convening of this High Level International Conference. I would also like to commend the initiative of the Government of Tajikistan and the efforts made by all those who contributed to the Conference. This year, we stand at the hallway point in the decade of «Water for Life», furthermore, with only five years left until 2015 by to achieve the Millennium Developing Goals (MDGs), the United Nations High Level Plenary Meeting on the MDGs to be held in September will provide a valuable opportunity to discuss water issues.

Challenges in the water sector

Needless to say water is the basis of all life and an indispensable resource that, influences not only human life and health but also all other areas including- the environment and economic activities. To this end, we should take into account, the cross-sectoral nature of water issues.

The international community is promoting efforts towards the achievement of the MDGs. Among others, improving access to basic sanitation, which is lagging behind other MDG targets, is an essential challenge for us. Furthermore, climate change has a serious impact on the sustainability of water resources, it would lead to more water related disasters such as floods and droughts, posing new threats to all of us.

Japan's efforts

Japan has been contributing to the water and sanitation sector as the world's top donor since the 1990s. In 2006, Japan launched the Water and Sanitation Broad Partnership Initiative (WASABI), supporting the self-help efforts developing countries on water and sanitation through comprehensive assistance.

Furthermore, at the Fourth Tokyo International Conference on African Development in 2008, Japan committed itself to providing safe drinking water for 6.5 million people, and training 5 000 people in the water supply sector. Japan will contribute to the development of Africa through the steady implementation of these commitments.

Japan has also supported the activities of the United Nations Secretary Advisory Board Water and Sanitation (UNSGAB). Based on one of the recommendations of the Board, the International Year of Sanitation 2008 (IYS), adopted by the United Nations General Assembly, raised interests and catalyzed a range of actions to achieve better sanitation around the world. To keep the momentum created by the Year, global efforts should be made to realize «Sustainable Sanitation - The 5 Year Drive to 2015», proposed at the Follow-up Conference of the International Year of Sanitation held in Tokyo this year.

Water, which is indispensable for our daily lives, sometimes threatens us in the form of disasters. The efforts to reduce disaster risks including ones caused by water related disasters should be strengthened by the promotion of scientific and technological knowledge. In this regard, the Hyogo Framework for Action 2005-2015 (HFA), adopted at the United Nations World Conference on Disaster Reduction in 2005, provides us with useful guidelines on disaster risk reduction.

In addition, attention should be paid to the appropriate management of groundwater. Japan expects that the Member States will seriously examine the final form 1 hat might, be given to the draft articles on the law of transboundary aquifers, adopted by the United Nations International Law Commission (IUC).

Needs for further action

Mr. Chairperson,

In resolving the issues relating in water, active collaboration among all NGOs, local authorities and communities is essential. Moreover, it is of crucial importance to take comprehensive and multi-sector approaches, with a focus on the empowerment of each and every individual in addition to the protected by the nation. Japan places a great importance on the concept of «human security», which integrates these approaches.

We must continue our effort to address these issues on the basis of the concept of human security. Japan believes that empowerment of all levels of society ranging from the central government to local governments and communities plays a key role. In order to effectively address water issues, I hope that each country will take positive action which the sense of ownership.

Conclusion

With a view to realizing human security, Japan will continue its efforts to improve human security by addressing water related issues in the world. In the Conference, with six round tables discussing important topics, I hope that we will be able to provide suggestions for concrete actions in the coming second half of the Decade.

Thank you.

**Ms. Pauline Maria Hayes,
Deputy Director of Department for Europe, Middle East, America,
East and Central Asia, Department for International Development
(DFID), United Kingdom**

Prime Minister,

Ladies and Gentlemen

I am delighted to be here to represent the new British government at this important event. The UK's vision for development will always be about making life better for the poorest people in the poorest countries. It is as simple as that. Water and sanitation, and not forgetting improved hygienic practice, play a critical role in achieving our vision. I am therefore pleased to have the opportunity to state the British government's commitment to securing access for poor people to clean drinking water and sanitation, and the chance to improve their lives.

We know that 88% of diarrhoea worldwide is due to unsafe water, inadequate sanitation or poor hygiene practices. In other words 4000 people are dying every day because they don't have toilets or clean water, or don't wash their hands at key moments.

Furthermore diarrhoea kills more children under five than AIDS, malaria and measles combined – it's the second leading cause of child death. So, although many children's lives are now being protected through bed nets, vaccinations and medicine, too many of these same children will still die. These deaths can and must be prevented.

But the news is not all negative. Around the world progress is being made. According to the UNICEF/WHO 2010 joint monitoring report there are 1.8 billion more people today who have access to drinking water from improved sources, compared to the situation in 1990. So we are clearly beginning to tackle water and sanitation issues. What we as donors need to do now is deliver effectively, to ensure that we get the very best value for money, and to do so without placing unnecessary burdens on our government partners.

Here in this region the United Kingdom is helping the Kyrgyz Republic to bring water and sanitation to rural communities. This programme also demonstrates our commitment to improving donor co-ordination, and reducing the workload

for partners. UK aid is channelled through the World Bank, which in turn has joined forces with the Asian Development Bank. So instead of having three separate interventions there is only one. This simplifies co-ordination immensely and – most important – will help to make a more rapid impact.

As many have already said, climate change is expected to have a huge impact on water resources. Impacts will be felt through melting glaciers, changes to river flows and rainfall patterns, and increased floods and droughts. We congratulate the government of Tajikistan for the excellent progress it is making as one of the leading countries in the global Pilot Programme for Climate Resilience.

We are also pleased that this event has not confined itself to the Millennium Development Goals alone. We look forward to discussing some more difficult issues such as international water resource management, climate change, and the complex linkages between water, energy, agriculture and security – all of which are critical to the development and prosperity of the Central Asia countries.

Finally, Dushanbe is a very appropriate place to hold this meeting. For Tajikistan water is indeed life. I would like to thank the government of Tajikistan for hosting this event. We see it as an important milestone in the run up to the 2010 Millennium Development Goal Summit in New York in September and wish you every success.

**Ms. Madelyn Spirnak,
Senior Adviser, Bureau for South and Central Asia,
US Department of State**

This past March, on World Water Day, Secretary Clinton said it clearly: «water defines out» planes Its not every day that you find an issue that will allow you to save millions of lives, feed the hungry, empower women, and protect the environment.

We all know the situation, so I won't take time to review the numbers -suffice it to say that the lack of access to safe drinking water, the lack of access to appropriate sanitation, and poor water resources management are becoming an increasing threat to human health, economic growth, and peace and security.

Even in the United States, we are not immune. While nearly everyone enjoys access to safe water and sanitation, we continue to struggle with growing water scarcity, flooding, and disputes over shared waters. We are making progress, however. Today, per capita water consumption in the United States is nearly 30% what it was in 1975. We are producing more goods with less water, and industrial demand is down. Slow steps but progress.

As Secretary Clinton said in her World Water Day speech, the United States is committed to increasing global access to sanitation and achieving water security. People should have the water they need; where they need it; when they need it.

To achieve these goals, on World Water Day our Secretary of State describe five «streams» of activities we are focusing.

First, the United States is working to build capacity at the local, national and regional levels. This includes looking at ways to work with international partners to support the development and implementation of country-led water and sanitation plans.

Second, we are elevating our diplomatic efforts and we need to better coordinate them. We applaud the efforts of Tajikistan to do the same by hosting this conference.

Third we are mobilizing financial support. Managing water issues requires resources. And in some cases, the United States will be able to provide assistance. In FY2008 alone we provided over \$1 billion for water- and sanitation- related activities in developing countries.

Forth, we are harnessing the power of science and technology to improve technologies, from household water treatment to desalinization. We are also working harder to share our knowledge with the rest of the world.

Fifth, we are strengthening our partnerships and developing new ones. The United States cannot address these challenges.

Not only must we work in partnership with other donors, the private sector, and technical experts from all sectors, governments themselves must take responsibility.

Governments must commit to making water a priority - particularly the provision of safe drinking water and sanitation.

Governments must commit themselves to developing national or local plans and strategies that establish a framework for managing water wisely across competing uses. This means integrating the needs and approaches across water, health, education, food security, energy, and other sectors.

Good governance is key to achieving water security. A proper regulatory environment, law enforcement, and transparency are essential to both sound water management and to creating an environment conducive to investment in water infrastructure. The significant funds required to build adequate and appropriate infrastructure will need to come from private as well as public sources. And they will only come if investors feel that the proper institutional and regulatory environment is in place.

I mentioned local. Not all plans are at the national level. National and sub-national governments should help communities develop and manage their plans and strategies, since individuals most often obtain their basic water and sanitation services at the community level.

Finally, countries must work together in a cooperative spirit to get the most out of the little water we have, and to optimize the benefits we can derive from this water at the basin level. This means creating the legal and institutional framework to manage shared water soundly and fairly.

In return, increased coordination among donors will help to build capacity to develop and implement national water and sanitation plans; align assistance to better reflect national priorities; and enhance efforts aimed at mobilizing investment and improving aid effectiveness.

The U.S. Delegation has three goals for this meeting: One that we each gain a greater appreciation of the importance of water and sanitation to human health, economic development, and peace and security.

Two that we each leave this meeting with greater resolve to address these challenges in a cooperative spirit during the second half of the «Water for Life» decade.

And three that this resolve is translated effectively into successful and coordinated actions on-the-ground.

When the conditions are right, we can succeed. Every region of the world has success stories. We need to build on these successes. Working together, as committed partners, we can achieve water security for all.

**Ms. Doris Hertrampf,
Ambassador Extraordinary and Plenipotenciary
of Germany to the Republic of Tajikistan**

Mr. Chairman,

Esteemed Ministers,

Excellencies,

Ladies and Gentlemen,

It is a great honor for me to address this High Level Conference today on a topic as important as water in all its aspects. Allow me first of all to congratulate and commend the Government of the Republic of Tajikistan for its initiative and tenacity to bring this event about. Secondly, I would like to fully support the address given by Spain as Presidency of the European Union and restrict my own remarks to some aspects of our topic which are especially important to Germany.

1. Germany is traditionally strongly engaged in the water and sanitation sector. For many years now, she has ranked among the three largest bilateral donors. Germany's total aid commitments for water supply, sanitation and hygiene more than doubled between 2005 (283 Mio. USD) to 2009 (906 Mio. USD). Today, an estimated 80 million people benefit from ongoing German cooperation.

2. In Africa, Germany is the largest bilateral donor and a major supporter of the initiative «Strengthening of the Africa-G8 Partnership on Water and Sanitation» agreed by African and G8 Heads of States at the G8 L'Aquila summit. Support to Sub-Sahara-Africa doubled from 2008 to 2010. This is further underlined by the commitment to provide at least 30 million people in Sub-Sahara Africa with sustainable access to water and/or sanitation until 2015.

3. Germany participates in political dialogue on water and sanitation in many international for a like the G8, the EU and with regional partners such as the African Union Commission and the African Ministerial Conference on Water (AMCOW). We also support a broad range of international institutions such as the Global Water Partnership (GWP), the UN Water Decade Program on Capacity Development, located in Bonn, and the work of the German Vice Chair of the UN Secretary General's Advisory Board on Water and Sanitation (UNSGAB), Dr. Uschi Eid.

4. Together with Spain, Germany is leading efforts within the UN Human Rights Council for the recognition of the right to safe drinking water and sanitation as a

human right. This work is based on General Comment No 15 of the UN's Committee on Economic, Social and Cultural Rights. As a result of this initiative, the newly-appointed Independent Expert on the Right to Water and Sanitation, Catarina de Albuquerque is conducting system-wide consultations on this matter.

5. Allow me to say a few words on the often neglected issue of sanitation. The sanitation target is one of the most off-track MDG targets and needs special and dedicated focus. The UN International Year of Sanitation 2008 was tremendously successful in generating attention at all levels, including the G8 and the African Union summits of 2008. We must now maintain and expand this momentum. More importantly, we must move to implementation at large scale at the country level, supported by strong regional processes. This must be complemented through global advocacy and action. Sanitation must be a top priority in 2nd half of the International Decade «Water for Life». We need a 5 Year Drive on Sustainable Sanitation till 2015.

As an early champion of the International Year of Sanitation, the German government took advantage of this event to analyse its own activities and strengthen support, particularly for basic sanitation. Germany hosts the Secretariat of the Sustainable Sanitation Alliance (SuSanA).

As UNSGAB, the Advisory Board on Water and Sanitation to the UN Secretary General, rightly stated in its last report, we need to complement improved access to basic sanitation by waste water collection and treatment, in particular in urban areas, with a view to ensuring human health and protection of water ecosystems but also as a prerequisite for water re-use in water scarce regions. For this reason, promoting investments in waste water treatment systems is an important feature of German development cooperation, and approximately 40% of German ODA to the water sector is spent on sanitation.

6. As we have heard already many times today, the management of water, and especially of transboundary waters, entails a great capacity for conflict and dissens. Germany therefore aims to play a leading role in promoting conflict prevention and peace through its support to transboundary cooperation, institutions and initiatives such as the Petersberg and Berlin processes.

7. On 1 April 2008, the German Federal Foreign Office announced the launch of a water initiative for Central Asia at the Berlin water conference under the title «Water unites», together with high ranking representatives of the five Central Asian countries and UNECE. This initiative, known as the «Berlin Process», is an offer by the German Federal Government to the countries of Central Asia to support them in water management and to make water a subject of intensified transboundary cooperation. The primary goal is thereby to set in train a process of closer cooperation in the use of scarce water resources and hopefully could result in joint water and energy management in the long term.

8. The four pillars of the Berlin Process are

- Promotion of transboundary water management
- Expansion of scientific data and knowledge for regional transboundary water management
- Establishing networks of water experts in Germany, the EU and Central Asia

- Establishing a study course in water management at the German-Kazakh University in Almaty, Kazakhstan.

The Berlin process is open to all players. It is also conceived of as an integral component of the EU Strategy for a New Partnership with Central Asia which was adopted during the German EU-presidency in June 2007.

9. As a final point, allow me a few remarks on water in the «Green Economy».

The German Government believes that water is not placed highly enough on the international agenda and that, in particular, its role in the emerging topic of Green Economy should be strengthened. A Green Economy critically depends on water and water management is a key element in the move towards a resource-efficient economy, towards greener investments and for the protection of ecosystems and their services.

Germany therefore intends to emphasize the vital role that water – its protection and efficient use – plays in achieving and sustaining the goals of a Green Economy and to facilitate a substantial input on the role and potential of water in the context of Green Economy into the «UN Conference on Sustainable Development» («Rio +20») in Rio de Janeiro, Brazil, in 2012.

Thank you for your attention

**Mr. Chalernpol Thanchitt,
Ambassador Extraordinary and Plenipotentiary of Thailand
to the Republic of Tajikistan On behalf of Suwit Khunkitti
Minister of Natural Resources and Environment of Thailand**

*His Excellency Mr. Akil Akilov, Prime Minister of the Republic of Tajikistan and the
Chairman of the Organizing Committee,*

Excellencies,

Under Secretary General Sha Zukang of the United Nations,

Distinguished Delegates,

On behalf of the Thai delegation and of H.E. Mr. Suwit Khunkitti, Minister of Natural Resources and Environment of Thailand, I wish to express our great appreciation to the Government and the people of the Republic of Tajikistan for the generous hospitality and warm welcome accorded to the Thai delegation at this Conference.

I also wish to congratulate the Organizing Committee for the excellent preparation for this Conference taking place in Dushanbe only 2 weeks after the successful organization of the 37th Meeting of the Council of Foreign Ministers of the Organization of the Islamic Conference. (OIC).

It is timely to convene this Conference to review the progress made and the challenges faced in pursuit of the International Decade for Action, “Water for Life 2005-2015”

as welcomed by the UNGA resolution 64/198. In particular, this year at the High Level Plenary Meeting of the UNGA 65, Leaders around the world will focus their attentions to the attainment of the MDGs of which water forms integral part.

Water as Thailand's National Agenda

Water has always been of utmost importance to lives and livelihood of Thailand and the Thai people in all aspects as we are agricultural country and our way of life is heavily dependent on and influenced by water.

For Thailand, His Majesty King Bhumibol Adulyadej has taken up the water issue with keen interest several decades ago with an objective to improve lives of his subjects whose living condition in rural areas made it difficult to access water resources. His Majesty's numerous water resources projects have provided solutions to water related problems ranging from water supplies for safe drinking, farming and fisheries, disaster risk reduction to environmental protection. His Majesty is thus with highest respect regarded by the Thai people "Father of Water Resources Management".

In the implementation of national development plans and policies including water resource management projects, the Government has adopted His Majesty's so called "Sufficiency Economy" philosophy to ensure that all market economy activities are human centred and keep balanced development strategies.

Guided by His Majesty's holistic approach in water resource management, the Government of Thailand has placed water management high on its national agenda and since 2002 has embraced in its National Economic and Social Development Plan water strategies aiming at achieving poverty reduction and food security. In the year 2003, the International Year of Freshwater, we announced our national water agenda, raising the importance of water in every aspect. Investment in water sector is thus considerably increased and stakeholders' participation in water resources management has been continuously promoted.

Water as means to achieve the MDGs

In line with the achievement of Goal 7 to ensure environmental sustainability, Thailand has placed safe drinking water among the highest priorities in our water policy. In order to achieve an ultimate goal of a hundred percent access to safe and clean water in 2016, the Government has invested considerable amount of budget in the provision of village water supply, focusing on the remaining 5,058 villages without water supply system. In addition to surface water, groundwater has also been developed as source of safe drinking water for people in the rural area.

On Goal 1 on the reduction of poverty and hunger, more than 80% of water use in Thailand is for agricultural sector relating to production of food and income generating activities. The Government's policy on food security, focusing on water development has long been implemented. However, an involvement with supply side for water resources that was appropriate for the past decade development might not be easily feasible in recent years. As water scarcity is becoming critical, Thailand considers demand side management in water resources as a way to counter such constraint. We place more emphasis on the efficient use and develop multi-purpose usage of water, on the basis of formation based management and people participation.

Water Solutions

Throughout extensive experiences in water resource management, Thailand has scaled up solutions to water-related problems. Allow me to share with you 3 key components of water solutions as follows ;

1. Serviced area enlargement through irrigation in rain-fed areas
2. Increased efficiency in water management (loss reduction)
3. Adaptation and balance of the Supply, Demand and Administrative sides.

The above key components have been incorporated in the Integrated Water Resource Management Project or Water Grid project which has earned overwhelming support from the people in the area as reflected in the ratio of support of more than 96% .

On the Supply side, 12 projects of water trans-boundary systems or routes (both within, between and inter River Basin) will be connected by appropriate channels mainly for the purpose of re-allocation of water or keeping the volume of water in rainy season and periodically releasing water in dry season, which will address the Demand side. On the Administrative side, the adaptation will address each of Water User Group – in terms of increasing potentials, agricultural or productive reformation and mandate in operation & maintenance.

Water and Climate Change

Climate Change is an emerging challenge which manifests itself in the forms of flood and drought, severely impacting several agricultural countries. In our case, Thailand is faced with prolonged dry season, which has caused critical water shortages in many regions at the moment. The total dam's water storage this year drops tremendously to only 20.29 % of total storage capacity. This is the most serious drought ever experienced in Thailand.

In the long run, Thailand has attempted to develop various programmes to minimize the impacts of climate change including transforming our economy into low carbon economy and setting an ambitious target for an increase in forest cover areas from 30 % in 2006 up to 40 % by 2020.

On water resource management, Thailand has developed the hydro-agronomy-economic model for Mekong river basin as a policy tool for adaptation to climate change impacts on hydrological regime, water usage agricultural production and socio-economic condition. The said model has been applied in the cooperation between Thailand and Lao PDR. If proven successful, the said model could be implemented in other Mekong member countries.

In meeting the challenges of climate change, it is necessary that adequate resources and appropriate technology on mitigation and adaptation would be made available for developing countries in order to achieve sustainable solutions to water related climate change impacts.

River Basin Cooperation

In order to ensure the success of water resource management, it is crucial to involve local stakeholders and an institutional arrangement such as River Basin Committee should be put in place to facilitate such cooperation.

At present, Thailand has established 25 River Basin Organizations (RBOs) to manage the main 25 river basins. The cooperation networks among RBOs could facilitate sharing of knowledge and experiences. The innovation and technology derived from developed RBOs should be transferred through a partnership programme, when proven successful and met by economy of scale. Increasing dialogues among RBOs can significantly contribute to better understanding and growing confidence among all stakeholders at all levels.

We believe that the UN and the international community would continue to provide support to promote public –private partnership in sustainable water resource management.

Mr. Chairman,

Excellencies,

Distinguished delegates,

My delegation is fully committed to the objectives of the International Decade for Action, "Water for Life, 2005-2015". We emphasize the strong leadership of Member States, the United Nations system and the international community in promoting global partnership for sustainable water management in achieving the MDGs and pursuing the common good of humankind.

Thank you.

**Mr. Nahla Zaki Aboul-Fotouh,
Deputy Minister of Water Resources (Director, Institute
of Management Research and Irrigation Methods),
Arab Republic of Egypt**

Excellency Mr. President of Tajikistan,

Prime Minister,

Under secretary General,

Distinguish Guests,

On behalf of our Minister Dr. Prof. M. Nasr Allam, Minister of Water Resources and Irrigation (MWRI-Egypt) I would like to thank you very much for your generous invitation to attend the "International High Level Conference on the Midterm Comprehensive Review of the Implementation of the Implementation of the International Decade for action " Water for Life " 2005 – 2015.

It is my pleasure to give me the chance to share with you our current situation and future plans in Egypt As you might know that " Egypt is the gift of the Nile " as declared by Herodotes. So, The Nile is our main source of water as we receive yearly 55.5 bcm3/yr. In Egypt demand increasing rapidly following the rapid population increase (about 30 millions in the last 40 year).

Our possibilities to develop additional new resources are limited. There are small amounts of resources can be developed by rainfall, flash flood harvesting and the use of brackish groundwater. Also, in Egypt using deep groundwater is limited and needs very well planning to be sustained. In spite of all these obstacles, there are a lot of efforts were taken to make better existing of our resources aiming at improving the efficiency of the water resources system.

Let me set some examples of these efforts:-

Excessive recycling of water (drainage water reuse), or treated wastewater to satisfy demand about 20% of our demand is covered by reusing water.

In the agriculture sectors particularly, high return values for water (tons of agr./m³) is one of our target. Since 2005 we are following the National Water Resources plan (NWRP) that has been developed within the framework of the NWRP project, carried out by the Ministry of water resources and irrigation with support of the Government of the Netherlands. The main objective of NWRP is to describe how Egypt will safeguard its water resources in the future, both with respect to quantity and quality and how it will use these resources in the best way from a socio-economic point of view. The planning horizon for the NRP is the year 2017.

NWRP is based on an integrated Water Resources Management (IWRM) approach and considers all components of Egypt's water resources system and all functions and water user sectors.

Ladies & Gentlemen, I would like to mentioned that we have to continue our efforts to face new challenges such as;

- Challenge for sea water rise and delta coast indentation, as all scenarios mention that delta of Egypt is the most area that will be affecting by climate change and sea water rise.
- Tempting to solve rural sanitation problems, in this regards I would like to announce that we are on track of the Mill. Develop Goals. 100% coverage of water supply in urban communities, 90% in rural communities and However, for sanitation, figures which we have indicate that we might not achieve due to rapid population growth affect the implementation process

Finally, I would like to take this opportunities to emphasis that cooperation with riparian countries of the Nile Basin is an essential step that eventually lead to additional inflow into lake Nasser and that should be based to win-win-situation.

Last and not least, many thanks to republic of Tajikistan for hosting this important event and hoping to reach the goal of conference and reach to a concrete measure to move forward.

Thanks.

SECOND PLENARY SESSION

**His Excellency. Dr. Mahmoud Ahmadinejad,
the President of the Islamic Republic of Iran**

In the name of God, the most Beneficent, the most Merciful

Excellency Emomali Rahmon, the President of the Republic of Tajikistan,

Ladies and gentlemen,

At the outset, allow me to thank my brother Excellency Emomali Rahmon - the President of the Republic of Tajikistan for warm welcome and hospitality. I also express profound gratitude and sincere appreciation to the Government and people of Tajikistan for holding this important conference. Today we are in the beautiful country that has abundant resources of water. We are in the ancient land where a lot of life-giving fresh water sources. Tajikistan is largely worthy country to convene this extremely important conference.

I hope this conference can develop follow-up appropriate recommendations on water usage protection of its quality, and addressing problems relating to lack of water and apply proper use of this vital natural recourse.

Excellency President,

Distinguished participants of the Conference,

Water is the source of life. Wherever there is water – there is a life. Water is the basis of life. Therefore, water is a luster of Merciful, and is a gift of Almighty God. Water is a pure, clear and colorless substance that clears all impurity, harmonious in the points of streams and waterfalls. Water is harmonious with all which have unique sounds that fascinate and attract everything and all beings in the world need it. Prosperity and improvement is impossible without water. Prosperity in the world is based on water and all the beauty of gardens and flower gardens, forests, parks and fields depends on water. The purity is compared with water, as well as kindness, delicacy and elegancy are compared with the grace of water. True believers, compassionate and servants of humanity are like a falling drop of water from which all creatures in the world have benefited.

In the entire history of mankind water was and is a source of prosperity, driver of talent and a source of inspiration of writers, poets and amateur of culture. So many poetries and stories are devoted to water.

Almighty reminds of many rivers and streams in the description of paradise. We perceive paradise which is with an abundance of water and a paradise without

water does not have a meaning. The world can also be a heaven as a result of purity and ethical beauty, an abundance of sources of education and of God's grace and mercy.

Today water issue has become an international problem. Lack of sufficient water in some parts of the planet has transformed these regions into areas of crisis and on the basis of predictions we can assume that these relationships may develop into a conflict on a global level. Water problems have different aspects, and I will try to voice some of them:

1. The first reason is water consumption. Water consumption in various sectors is carried out inefficient and beyond universal determined terms. Today water consumption is approximately two times higher than the volume of needs in fact. Generally, agriculture is the major consumer of water and in the countries where the climate is arid or semi-arid consumption of water increases multiply. Irretrievable loss of water is very high in many countries as a result of inefficient use of water in production, transportation or consumption. Whereas, construction of a regular system of technical water delivery network, the reasonable use of irrigation water and the achievements of science and technology in agriculture, agricultural productivity and product quality may be increased multiply and thus the use of water can be controlled.

2. Another important reason in emerge of hardships relating to water is a tangible way of thinking and actions of the governments with imperialistic outlook.

Climate change caused by the dumping of fossil fuel and greenhouse gas emissions has an important role in the emergence of challenges associated with water. All countries in the Copenhagen Conference stated that the increase in the use of fossil fuel is the main cause of global warming, More than 75% of consumption of fossil fuel accounts for the major industrial countries and these countries had not taken any commitments to reduce the share of consumption of fossil fuel. These countries have an abundance of technologies for destruction of industrial gases, but are hesitant to invest on this area. Having a technology to produce nuclear energy, which is the clean energy in the modern world, they refrain from providing this technology to other countries to replace fuel and reduction of greenhouse gass emissions. The result of these actions is a daily increase of the risks arising from global climate change.

Unseasonable heavy rains, mudflows and floods, if on the one hand destroy farm lands, and eliminate crops, on the othe and signify and depletion of water reserves and increase of continuing drought, in the result of abrupt climate change.

Some regions of the Islamic Republic of Iran faced with eight-year continuous drought. Unfortunately, powerful countries, which only protect the interests of companies of wealthy individuals and different political parties, take care of only their own profit and power. They sacrifice the rights and common dignity of other nations and there are no signs of ethics, culture and justice in their actions, plans or intentions which are based on materialist thought.

3. Another reason that creates water shortage or water crisis is the occupation, injustice and non-observance of the rights of other nations. A clear example can be seen in occupied Palestine. Today, many countries neighboring Palestine in aftermath of deviation from the course of joint cross-border rivers, the people are suffering from drought and many of the fertile land have become a drained field.

4. Another reason is an absence and disuse of water recycling that is lost in sewers.

5. Failure to comply with environmental issues and pollution of water sources.

There are other reasons that you know very well.

Excellency President,

Dear friends,

Protecting the source of life on the planet is a divine and human task. Thank God that production, storage, adequate and just consumption of this great and unique good is indeed universal right.

Here are some highlights:

- Based on the divine teachings and thoughts of the Almighty God, created a life on earth and provided all necessary conditions to protect the life. He is the creator of life on earth, including plants, animals and humans, and therefore He is the Almighty who feeds the humanity living on the planet (verse from the Holy Qur'an). He is a creator of life and possessor of staunch and unbreakable might.

In this context, it should be mentioned that there are many water sources in the world and even in the terms of the growth of world population water resources remain inexhaustible. An amount of water in the world is invariable and is constantly running. It is clear that the environment and water are interconnected. In general, there is no such conception as a shortage of water. However, according to the above reason, the flow of water in environment encountered with some challenges. Water which erupts from one source, will need about five hundred years to return to the previous source, and if the rotation of water will be broken, the whole world will be damaged.

Development of science and technology in production of fresh water from the sea enabled overwhelming opportunities of water consumption in agriculture. When this unique divine gift will be at the disposal of all mankind, then selfishness, self-respect and power will be laid aside and many of governments will come to power on the basis of mind, divine thought and humanity.

Certainly, the need to respect the human rights and the universal rights of other nations should be taken into account and thought upon expansion and injustice has to be replaced by benevolence, devotion to people and humanity.

Distinguished participants of the conference,

All the miseries of humanity related to the abdication of people from God and prophets who were god-sent to earth for education and achievement of humanity.

Life beams mean faith to God and humility. If there is no faith, then there will be no beams, and human will walk in the darkness and gloom. This reality can be seen in the actions of arrogant and selfish persons of the world. Faith in God and the prophets is the key to solving the problems - this is an only and the final decision.

Based on the aforesaid, we must recognize the importance of protecting and improving the environment by is a reduction of use of fossil fuel and greenhouse gas emissions and consumption of clean energy, including atomic energy and other energy sources like solar and wind energy. This responsibility lies on industrialized developed countries, which play major role in the pollution of an atmosphere.

Investing into huge sources of water which are of many in the world, however still untapped can solve a part of challenge related to shortage of water

Taking into account the use of a great volume of water in agriculture it is important to note that production, transportation and use of drainage flow for the needs of agriculture should comply with appropriate rules and regulations.

Safe water supply and water delivery for agriculture is the main priority of governments. Safe water gives a healthy life and the world supplied with the safe water will enjoy a healthy life.

In conclusion, I would like to draw your attention to an instructive idea and divine teaching of the Holy Qur'an. If the gates of heaven will be closed and the sweet rain will stop pouring, then that would be a reason of selfishness and violence. However, the road to recovery is open and it is a return way to God. Prophet Noah said:

“Then he said, ask God for forgiveness and mercy. He is gracious and the most merciful and forgives sins. And a lot of rain will pour”.

Allow me once again to thank my brother, His Excellency Emomali Rahmon for cordial welcome and warm hospitality. I extend my sincere appreciation and profound gratitude to the organizers of this Conference.

I wish all participants of today's Conference a great success, fruitful deliberations and every bit of luck in the future.

Salamu aleikum va rahmatullahu va barakatuhu!

**Mr. Mustafa Eldemir,
Deputy Undersecretary, Minister of Environment
and Forestry of the Republic of Turkey**

Your Excellency the President of the Republic of Tajikistan,

Excellencies, Heads of State, Heads of Governments

Honorable Ministers,

Ladies and Gentlemen,

I would like to convey my appreciation to the Republic of Tajikistan and his Excellency the President of the Republic for their invitation to this «International Conference on The Mid-Term Comprehensive Review of The Implementation of the International Decade, Water for Life». It is great honor for me and for Turkish Delegation to participate this valuable Conference.

We all know well, water is essential for human security and one of the engines of sustainable socio-economic development. It is an essential element for eradication of poverty and hunger.

We also well know that this precious resource is gradually getting scarcer with population growth and excessive consumption. More than half of the world population will be living with water shortage within 50 years because of a worldwide water crisis, according to report issued by the United Nations Environment Programme. In other words it is highly unlikely that there is going to be enough water for everybody unless the necessary steps are taken at regional and global level.

Population growth, industrialization, urbanization and rising affluence in the 20th Century has resulted in a substantial increase in water consumption. While the world's population has grown three fold, water use has increased six fold during the same period. The demand on water resources will continue to increase during the next twenty-five years. The problem is further aggravated by the uneven water distribution on earth.

The basic question we should, therefore, ask ourselves today is what governments and international organizations should do to reverse the situation and avert a water crisis at global level. How much water will we need to ensure global food security for over eight billion people? How can we ensure the adequate supply of water for irrigation and agriculture? We must also ask ourselves how we can secure a more efficient water management system so that we could meet the very basic of human needs.

Obviously there are great efforts of the countries and international communities to fulfill the promise of the United Nations Millennium Development Goals for ending poverty and hunger and the recent assessment reports have found that the world is on track to surpass the Millennium Development Goal for drinking water access, but will fall short by one billion people for sanitation if current trends continue,

according to recent report by the World Health Organization and UNICEF So, we need more efforts and progress and we all gathered here to assess and discuss how we can contribute to advance this progress

Honorable Ministers,

Ladies and Gentlemen,

With this thought and opportunity, let me give you some brief information about water resources of my country and cooperation regarding to transboundary waters. With respect to the situation in my country, Turkey is not a water rich country. There are considerable regional and seasonal differences. About 38% of Turkey's water potential is on its transboundary waters. Given the high altitude of Turkey which is 1100 meters on average it has fast running rivers with irregular natural flows. So, rivers should be regulated for their efficient use and flood control.

In my country, General Directorate of State Hydraulic Works (DSI) under the Ministry of Environment and Forestry executes drinking water, irrigation, flood prevention and hydroelectric energy projects and related environmental activities within the framework of water resources development.

With this occasion, I would like to mention herewith about some transboundary cooperation initiatives which we have developed in the recent years in the region.

First of all, I am of the opinion that lasting solutions to transboundary water issues can be reached through confidence building measures and genuine cooperation among riparian States. In this context, tripartite meetings, which started with the initiative of Turkey, have gained a momentum both at ministerial and technical levels between Turkey, Syria and Iraq since 2007. These gatherings are providing the ground for exchanging views, hydrological data and information as well as for discussions of existing and future projects.

Furthermore, last year, in the context of Turkey-Syria High Level Strategic Cooperation Council Meeting, Turkey has signed four memoranda with Syria on water related issues. Similarly, again last year, Turkey, in the context of Turkey-Iraq High Level Strategic Cooperation Council Meeting, has signed a MoU on water with Iraq.

In sum, we believe that transboundary water resources can present a real opportunity for collaboration rather than a source of conflict.

Honorable Ministers,

Ladies and Gentlemen,

The term «water security» primarily implies access to required amount of water at any time. It is for certain that the water which can not be controlled or in other words which can not be managed in a healthy way cannot be designated as 'safe water».

There is a gradual increase in the water demand because of increasing population. Besides, in order to be able to cope with increasing water demand, the countries are forced to find different methods apart from conventionally used ones once they develop economically available water supply. And, this situation increases per capita water consumption costs per unit. The increase in the cost of water supply points out giant economic difficulties for the countries in some areas

The investments necessary to meet with increasing water demand are becoming gradually delayed. The difficulty of finding essential financial resources for investment, the complexity of technology, public awareness and sensibility against the increasing cost of investments in social and environmental fields cause the investments to be made with delay.

The climate change is also a serious problem especially for the scarce water resources in the Middle East and North Africa. A strong impact of climate change is foreseen to result in decrease in water resources, as well as some other new problems.

In the semi arid region, like in Turkey, it is essential to construct storage structures (dams) to access required amount of water at any time, as well as to remedy the periodical flow imbalances resulted in high degree precipitation irregularity. Thus, surface and groundwaters stored during seasons with excess rainfall serve as security elements for periods, in which rainfall doesn't meet the requirement. In this context, dams are also regarded as the most important elements of «water security». To achieve «water security» in this region, the water conservation issue should be made prominent in the planning stage.

Honorable Ministers,

Ladies and Gentlemen,

Before concluding, I would like to remind that water issues are not only of technical nature but also have certain political and social aspects. It follows that among riparian States and their people they can not be resolved without building mutual trust and confidence among riparian States. Confidence building measures should be taken in order to dispel mistrust and create the appropriate environment for meaningful cooperation.

Thank you for your attention.

**Mr. Hwang Woo Yea,
Member of Parliament, National Assembly of Korea**

Honorable Ministers,

Honorable Delegates,

Distinguished Representatives,

and Ladies and Gentlemen,

It is my great honor and privilege to be here today along with world leaders and special guests on the occasion of the High Level International Conference on the Mid-term Comprehensive Review of the Implementation of the International decade, «Water for Life» 2005-2015. First, of all, I would like to express my gratitude to the Government of Republic of Tajikistan for dedicated work and effort to organize this crucial conference.

Honorable Delegates,

Without any doubt, water is absolutely essential for the Nature. This means that not only the preservation of the environment but also the survival of human beings depend on it.

Nonetheless, a large portion of the whole human population on earth does not have access to clean and safe drinking water. Furthermore, millions of people die each year from lack of access to safe drinking water and adequate sanitation. The sadder thing about this is the fact that most of them are children.

According to the 3rd UN-World Water Development Report 2009, analyzing based upon the most recent forecasts, in 2030, 47% of the population will live in water stressed areas, and more than 5 billion people, in other words, 67% of the world population will not have access to sanitation.

Honorable Delegates,

It is evident that climate change and water shortage phenomenon are emerging as one of the most challenging issues to all of us. In the case of the Republic of Korea, the annual precipitation per person in the country is approximately 7 times less than the world's average. At the same time, abnormal climate phenomenon also causes heavy rain in the wet season and severe flood damages.

In addition to the water-related natural disasters, our rivers have experienced serious water pollution which has continuously destroyed our nature, especially aquatic eco-system. Korean government has been making tireless efforts to improve aquatic ecosystem and its biodiversity, but there is still a long way to go.

Against this backdrop, Korean government adopted a green growth initiative in August, 2008 as a core national policy, and consequently, determined to launch the Four Major Rivers Restoration Project in December, 2008 as a domestic adaptation measure to climate change.

Our vision is «Reviving Rivers for a New Korea.» Under this vision, the objectives of this project are to address such water-related problems as recurring floods and droughts caused by climate change and to make a balance between nature and human, re-creation of national land, and harmonize between local development and green growth.

This project is to restore the Han, Nakdong, Guem and Yeongsan Rivers, to provide water security, flood control and ecosystem vitality.

The Four Major River Restoration Project has five key objectives: first, securing abundant water resources against water scarcity; second, implementing comprehensive flood control measures; third, improving water quality and restoring ecosystems; fourth, creation of multipurpose spaces for local residents; and lastly, regional development centered on rivers.

As a result, we are expecting local economy revitalization through this Korean Green New Deal that can generate approximately 34 thousand jobs and 33 billion US dollars.

Honorable Delegates,

Concerning regional and international cooperation in water-related issues, President Lee Myung-bak officially announced launching of a significant regional initiative called «the East Asia Climate Partnership» at the Toyako GS Summit in 2008. In the course of launching this partnership, we reviewed water-related issues in Asia and came to the conclusion that the provision of fresh water and the development

of policies and infrastructure for inundation and disaster prevention are the most pressing issues in hand.

Through the partnership, Korea will contribute 200 million US dollars during the period from 2008 to 2012 to support the adaptation and green growth of developing countries in East Asia. We will support East Asian countries through our policy experiences of improving its integrated water resource management system.

In this regard, the 1st East Asia Climate Forum was successfully held on May 29 last year in Seoul, Republic of Korea. This year, the 2nd East Asia Climate Forum will be held on June 16 in Seoul. With more than 400 participants expected to come, the launching of the Global Green Growth Institute (GGGI) will be officially announced.

Korea also plans to host an International Conference on Water Management for Adaptation to Climate Change and Promotion of Given Growth in the Asia-Pacific Region at Seoul on July 1-2, 2010 in Seoul. The Republic of Korea hopes that this Conference will offer a platform for the region to hold discussions on action-oriented collaboration strategies on water management to address climate change and foster environment-friendly economic growth.

Honorable Delegates,

I think that various problems and issues pertaining to water can no longer be tackled by one single country or one region alone. This is the very reason why we gathered in Dushanbe. In this context, this conference is invaluable to all nations and peoples. Although finding a solution to global water problems is hard and they are huge problems for the international community, I firmly believe that we can overcome this obstacle through working together face to face.

I close my statement on this positive note.

Thank you very much for your attention.

**Mr. Roberto Menia,
Under-Secretary of State, Ministry of the Environment and of
Protection of Land and Sea, Italy**

Good morning Ladies and Gentlemen,

It is an honor for me to have the opportunity to address you at the beginning of this very important Conference on behalf of the Italian government. In this regard I would like to thank you, Mr. Chairman, for the kind invitation to the Italian Prime Minister Mr. Berlusconi, who apologizes for not having been able to attend this conference, and who I represent here.

First of all, being the first time that I visit your country let me say that I am really glad of this opportunity. Tajikistan has traditionally a very good relationship with my country and I am convinced that there will be many possibilities in the future to improve and increase the cooperation between our countries.

I am convinced that the issue of water has no border. Not only it is a basic need for the human being, but it is also a prerequisite for the economic development. Therefore a proper management of water resources is instrumental to achieve all the policy objectives from a social, economic and environmental point of view.

Water issues represent one of the greatest challenges that the global community has to face and we want to do our best to contribute to solve common problems and work together focusing at the regional level both for Europe, Central Asia and other regions of the world.

In the European Union we have developed a legislation which provides us with a framework for the management of water resources, and for assuring safe water supply and adequate sanitation services.

We have also in our part of the world plenty of shared water basins, and we had to tackle the issue on how to manage water resources shared by many countries and used by them for many purposes. In this regard we believe that the UNECE Convention on the Protection and Use of Transboundary Rivers and International Lakes, the «so-called Water Convention, could play a significant role, and Italy is also heavily engaged in it, serving currently in a position of vice-Chair.

The increase of extreme weather events and the overall climate variability and changes are inducing emerging environment and health risk scenarios. There is a need to assess the vulnerabilities of water services under extreme weather events and to include in the adaptation strategies measures aimed at making the water recognition that climate change cannot be regarded nowadays as a separate environmental issue, but has to be embedded in any sectoral policy in order to take into account the background for action; in particular the interrelations between water and climate change are more and more apparent and severe, especially in situation of scarce water resources or inadequate management.

In operational terms, for the water issue we have a working group that coordinates water regional policies and encourage regional cooperation. This working group is already active within the framework of the EU Water Initiative, and will constitute the main tool for the implementation of the Platform between EU and Central Asia as far water is concerned. In this regard the European Union is ready to give all its political and technical support to facilitate the implementation of best practices, the availability of drinking water and sanitation as well as the Increase in the efficiency of water usage in energy and agriculture, while safeguarding the ecological balance in the region.

We also decided to establish a new EU-Central Asia working group on Environmental Governance and Climate change. Climate change is deeply connected to water issues and Central Asia is particularly vulnerable to its effects. This working group will provide guidance on cooperation activities between EU and Central Asia also with the participation of other donors, international organizations, regional bodies, including the Interstate Commission for Sustainable Development in Central Asia, and representatives of civil society, NGOs and private sector.

The next EU - Central Asia High Level Conference, that should be held, according to the Rome agreement, in Bishkek, will be another great opportunity to discuss progress, review cooperation activities and take new decisions about concrete

actions that will strengthen the cooperation between the EU and Central Asia in this crucial sector.

Italy and the EU encourage a regionalization of water policy over all and among Central Asian countries in particular. This is what the EU has been promoting in the past within our region, Europe, and is doing at the moment with the implementation of the «Water Framework Directive».

Italy supports the possible use of this legislative model for Central Asia and other regions of the world, and also supports ratification and implementation of the UNECE Water Convention.

We respect the autonomy of each Central Asian country to use its resources according to its respective economic development model; at the same time we also supply and sanitation services resilient to climate change and in particular to extreme weather events. In this regards Italy is leading a Task Force under the Protocol on Water and Health to the UNECE Water Convention, which is producing a «Guidance to Water Supply and Sanitation under Extreme Weather Events» that will be adopted at the next Meeting of the Parties in November this year.

I would like also to mention the efforts undertaken in the G8 framework, under the 2009 Italian Presidency: in their meeting held in Siracusa in April 2009, G8 Environment Ministers focused on environment and health of children, recognizing the great need to assure, throughout the world, quality and quantity of water for children to help reduce water-borne diseases that still constitute a major threat to their growth, development and health, advocating for further action and international cooperation.

We really believe that an exchange of experience among different areas of the world would greatly benefit to the overall issue of global management of natural resources. We also believe that the issue of managing water resources, in order to be tackled successfully, needs to be treated appropriately at international, regional and local level.

Let me now focus on this region, Central Asia, where the issues that I mentioned are all relevant, and where I think there is a great need to work together to try to identify possible solutions and paths for development in terms of management of water resources, besides assuring sufficient quantity and quality of water.

Since 2008, together with the European Commission, Italy is coordinating the Environment and Water pillar of the EU strategy for Central Asia. In the framework of this Strategy, the EU considers water resources as a key issue for sustainable development and the stability of Central Asia, and it is convinced that a regional cooperation is necessary to guarantee social and political stability in this important area of the world.

At the third High Level Conference on Environment and Water between EU and Central Asia, held in Rome in November 2009, we have managed to get an agreement between EU and the five Central Asian countries on the priority areas for cooperation and on the mechanisms for the implementation of the Strategy in the environment and water sector. This agreement has now the form of a Platform for cooperation and is based on three main areas: water, climate change an environmental governance.

We believe that these issues are all interconnected, as a good governance is necessary to correctly and efficiently manage natural resources, as well as the believe that an integrated water management approach would assure regional security, stability and sustainable development.

It appears clearer if we consider the hydrogeological peculiarity of the Central Asian region, which is connected through transboundary rivers, lakes and seas.

The EU will assist, as an impartial actor, the five Central Asian Countries in its political negotiations in order to facilitate an agreement on regional cooperation and, and taking into account the complexity of water issues, the EU offers all its technical, legal and scientific know-how, gained in the management of multinational European waterways.

A more efficient use of water resources is possible with the improvement of infrastructures in addition to the introduction of new irrigation and energy saving techniques. For this purpose, a system of sharing costs derived from an efficient regulation and management of water flows of the river basins should be elaborated.

I would like to conclude my intervention with a warm thank to the Government of Tajikistan for having promoted and organized this Conference, that I am sure will constitute a milestone in addressing the water issue at global level, but at the same time in fostering steps forward in several regions of the world towards reaching our common goals.

Thank you very much for your kind attention and I wish all of us a very fruitful and concrete output of this Conference.

**Mr. Said Mohammad Khairkhoh,
Ambassador Extraordinary and Plenipotenciary of the Islamic
Republic of Afghanistan on behalf of Muhammad Ismoilkhon,
Minister of Energy and Water Resources**

In the name of God who is kind and merciful

H.E. Mr. President,

H.E. Prime Minister,

H.E. Ministers,

Representative of UN Agencies,

Sister and Brothers

Assalamu Alikum!

It is my pleasure to participate together with you in the High Level International Conference on the Mid-term Comprehensive Review of the Implementation of the International Decade «Water for life»

It is obvious that throughout the history human progress has depended on access to water and on the ability of societies to use this important resource. Access to water for life is a basic human need and a fundamental human right. Yet in the world, more than 1 billion people don't have access, to clean water and more 8.5 billion people live without access to adequate sanitation. Further, there are more than 1 billion hungry people live in the world representing the highest number since 1970. Contemporary data shows that in every 6 second one child dies due to hunger or consequent diseases. Every year some 1.7 million children die as a result of diseases cause by unclean water and sanitation.

While the amount of water in the world has remained reasonably the same for millions of years, the amount of water consumption, especially in the last decades, has, however been rising significantly. This increase in the water consumption resulted from population increased and great change in life style. Consequently, with the ever increasing water demand coupled with shortage of fresh water, it is forecasted that in near future around half world's population will live in countries which suffer from water and scarcity.

In Afghanistan; a combination of recurrent causes, including continued war and destruction, increase in population, especially in the large cities, lack of investment in the Water Resources and Agriculture sector, lack of alternative sectors to absorb rural communities in gainful employment pose considerable development challenge. As a consequence there exists acute lack of reliable, sustainable and adequate irrigation water has resulted in food insecurity in the country.

The Human Development Index ranks Afghanistan at 174 which is considerably lower than our neighboring countries. Life expectancy of Afghanistan is 45-47 year which is 20 years less than the neighboring countries of Pakistan and Iran and 21 years less than the global average of developing countries.

In the recent decade, the negative impact of climate change in the world and especially in our region, has worsened the situation markedly. The negative impact are more visible in arid and semi arid regions causing high water level in the rivers in early spring and water shortage in early summer during which water is highly demanded for agriculture. In addition, the change in the river regime has also a lot to do with the change in patter and volume of flow. These are some of examples of the climate change impacts looming in the region. Now floods and droughts are more frequent and severer. Due to climate Afghanistan is losing its natural resource reserve capacity in the glaciers and snow. Shift of river regime from glaciers to snow regime and from now regime to rainfall regime is visible. This phenomenon forces us to regulate water resources artificially by construction of reservoirs, which demand substantial and sustained investment.

In the are of water development feasibility studies for large size project have been completed. The studies relate to construction of reservoirs to reduce the negative impacts of floods and droughts, improve supply of reliable and adequate water and to reduce the destruction irrigation schemes and and structures due to heavy floods. These projects are ready for implementation and funding. It has to be mentioned that before war, the technical and economical studies for quite large number of projects were completed and implementation of some of them were started but due to new requirement these projects were re-studied and some of them are still under study.

It is worth mentioning that Afghanistan has a potential of 32 thousand MW of hydropower installed capacity and more than 4.5 million ha of new irrigable land. Unfortunately Afghanistan has not yet been able to fund and implement strategic water sector developments, excepts for few. Without developing water sector it will not be possible to achieve the relevant goals set in the Afghanistan National Development Strategy ANDS of Water Sector. These goals are poverty reduction; decrease in the level of unemployment and improvement in social welfare contributing to the MDG and sustainable use of water from quality and quantity perspectives. Lack of investment in development projects, has been mainly influenced by decades of war and insecurity, which continues to exacerbate unemployment, food insecurity at national and household levels and inadequate water for drinking, sanitation and irrigation.

We want equitable and reasonable use of shared water and wide cooperation in the water sector with our neighboring countries in conformity with all accepted International Law and regulations.

In conclusion, I would like to announce my support and good wishes to the success of this conference aiming achievement of MDG and request from all donors communities to extend their focus to the least developed countries such as Afghanistan and Tajikistan and other poor countries to enable us to use our water resource in a sustainable way to improve food security, provide our people with adequate drinking water and sanitation in order to reduce the mortality rate, alleviate poverty and to ensure social welfare to our peoples. Also I request all delegates to take measure for intensifying the effort to reach the MDG goals, promote regional cooperation especially in data and information sharing relating to shared waters, improve our joint effort to increase the quality of water, reducing the negative impact of climate change into water resource, sustainable financing and integrated management of water resources, energy, agriculture and achieving food security through this conference.

With regards

Alhaj Mohammad Ismail

Acting Minister of Energy and Water

**Mr. Vetsop Namgyel,
Ambassador Extraordinary and Plenipotenciary
of the Kingdom of Bhutan to India**

His Excellency Emomaii Rahmon, President of the Republic of Tajikistan,

His Excellency Akilov Akil Gaybullaevich, Prime Minister of the Republic of Tajikistan,

Excellencies, Distinguished Delegates, Ladies and Gentlemen,

I have the honour to convey the warm greetings and good wishes of His Majesty the King, His Excellency the Prime Minister and the people of Bhutan to the Government and people of Tajikistan. I also have the honour to convey their warm greetings to

the distinguished gathering here today and their good wishes for the success of the High Level International Conference on the Mid-term Comprehensive Review of the Implementation of the International Decade for Action, «Water for Life.» On behalf of my delegation, may I also express our deep appreciation to the Government of the Republic of Tajikistan for hosting the Conference and for the warm hospitality accorded to us since our arrival in the beautiful city of Dushanbe.

Excellencies, Distinguished Delegates, Ladies and Gentlemen

The theme «Water for Life» very lucidly reflects the need for all nations to focus sharply on the problem of water issues and implement timely measures to prevent it from becoming a major crisis in the Third Millennium. We all know that 1.2 billion people today live in areas of water scarcity and another 1.6 billion people live in countries that lack the necessary infrastructure to take water from rivers or aquifers. Almost two out of every 10 people do not have access to safe drinking water. Some of the mighty rivers that used to flow magnificently to the oceans have now become trickles during the dry seasons. Underground water tables have been dangerously depleted. The supply of water is limited but the demand keeps growing even as climate change is expected to bring a 20 percent increase in global water scarcity.

In Bhutan, we are fortunate to be blessed with rich water resources and the highest per capita of water availability in our region at 109,000 cubic meters. Even so, localized pollution and sporadic seasonal scarcity of water in some parts of the country is a source of national concern. Our mountain ecosystem is becoming more vulnerable to the mounting threats from climate change. While most people think of low-lying islands sinking under the sea as an impact of climate change, mountainous countries like Bhutan are equally at risk with the effects of climate change already visible to us. Our glaciers, the source of our clean rivers, are melting rapidly and we are deeply concerned over the increasing possibilities of disastrous flash floods downstream. The retreating glaciers will also adversely affect the hydropower projects that presently drive much of the economic growth in our country and provide most of the government revenue for development activities. Winter flows in Bhutan's rivers are already showing a downward trend and affecting the production of electricity.

Excellencies, Distinguished Delegates, Ladies and Gentlemen

We can no longer postpone or delay constructive and collective actions in dealing with the problems of water scarcity and the effects of climate change. Measures must be implemented to enhance water productivity. We must reduce consumption of water wherever possible and increase efficiency in delivery and usage wherever it is necessary. Actions are required at the local, national and international levels. The key to effective action will be a spirit of pragmatism and cooperation within nations and between nations. Indeed, the more severe a problem or a crisis the more necessary it is to resolve them through goodwill, a common sense of purpose and practical cooperation. Above all, our actions must not only benefit the people but also help to preserve the increasingly vulnerable natural environment in all our countries.

In Bhutan, we have followed a development policy that is both sustainable and aimed at promoting the overall well being of the people. Under the visionary leadership of His Majesty the Fourth King, Jigme Singye Wangchuck the concept of «Gross National Happiness» was introduced as the guiding principle behind all development programmes. This development philosophy underscores the need for maintaining the right balance between the pursuit of economic growth and ensuring

the overall happiness of the people. It emphasizes that economic progress should not be pursued at the cost of a nation's culture and identity and, above all, the people's sense of contentment and well being. Accordingly, along with economic growth and development, equal importance is given to the preservation and promotion of our cultural heritage, ensuring good governance and in preserving and making sustainable use of our pristine environment. This has resulted in development works that have improved the quality of life of our people while ensuring the preservation of our natural environment. For example, as early as 1974, Bhutan took a conscious decision to maintain 60 percent of the country under forest cover, a policy that is now enshrined in our Constitution. In actual practice, I am happy to report that 72 percent of our land is under forest cover with 51 percent of it designated as protected areas.

Bhutan achieved one of the targets of the Millennium Development Goals in 2005 when 84 percent of our population was provided access to safe drinking water as compared to 45 percent in 1990. In the urban areas, access to safe drinking water as of 2000 was at 97.5 percent while in the rural areas it was estimated to be 75 percent. By the end of the 10th Five Year Plan in 2013, the Royal Government aims to provide safe and sustainable drinking to the entire population.

Excellencies, Distinguished Delegates, Ladies and Gentlemen

I would like to take this opportunity to inform you that at the regional level, the Sixteenth Summit of the South Asian Association for Regional Cooperation (SAARC) was very recently held in Thimphu under Bhutan's chairmanship. The leaders of South Asia welcomed climate change as the theme for the Summit and reaffirmed their commitment to address this serious challenge facing our world today. The Summit resulted in the adoption of the Thimphu Statement for Climate Change and the signing of the SAARC Convention on Cooperation on Environment which provides a roadmap for regional cooperation on environmental issues.

Before concluding, I would like to express deep gratitude to the Government of the Republic of Tajikistan for bringing all of us together in the beautiful city of Dushanbe and for the excellent manner in which this conference is organized. For my part, I would like to assure the distinguished delegates about Bhutan's whole hearted support for this Conference and the commitments required for ensuring that our planet will always have enough Water for Life.

Thank You and Tashi Delek.

**Mr. Kharaavch Ayurzana,
Ambassador Extraordinary and Plenipotenciary
of the Mongolia to Tajikistan**

Dear Mr. Prime Minister of the Republic of Tajikistan,

Dear delegates,

Ladies and gentlemen!

First of all I would like to express my thanks to the organizers of this important conference – United Nations and the Government of Tajikistan. During two-day conference we discussed essential issues of humanity's life. Today the conference

is successfully finishing. The outcome of this conference is a number of important conclusions and recommendations of Dushanbe Declaration. We completely share those conclusions and proposals in Declaration. Mongolian government supports Dushanbe Declaration.

Water occupies central place in achieving of the Millenium Development Goals. Improvement of complete resources requires the efforts of all countries. In this respect the International Decade for Action "Water for Life" is of great importance. For past 5 years we made great progress in implementation of programs of decade. I believe the following 5 years with efforts of all countries this program will be completely realized.

In recent years there has been serious climate change in the world. This influences the activity and welfare of people of different countries. Mongolia is one of the countries which is affected by climate change. This year alone more than 57 % of shepherds from 18 provinces lost 8 million of livestock because of severe winter. We are very glad that friends of Mongolia and friendly countries rendered great help in elimination of the consequences of disaster. 12 May of this year UN called upon its member states to help Mongolia. I express my gratitude on behalf of the Government of Mongolia for the help rendered by UN.

Mongolia attaches attention on the improvement of water management and water quality and makes different decisions. The Government of Mongolia declared the year 2009 as the year of food security of nations. The government took measures on improving food industry and controlled strictly the import of food.

Mongolia will make efforts in the implementation of program of Decade "Water for Life".

Once more I express my gratitude to the Government of Tajikistan for invitation and hospitality.

Thank you for attention.

**Mr. Ali Ghaleb Abdul Khaeq
Abdul Wahab Al-Hale,
Ministry of Water Resources of Iraq**

Excellencies,

Distinguished Delegates,

Ladies and Gentlemen,

Allow me to express my sincere gratitude and appreciation to the Government of Tajikistan and the Organizers of this conference for extending the invitation to our Ministry to participate in this scientific event and for giving us the opportunity to meet you and this huge crowd of professionals, experts and specialists of water affairs in the world.

Water is an essential element for the existence of life and mankind. It plays an important role in the sustainability of humanitarian civilization and the growth of

organisms. Rivers and water resources were the foundation upon which the first human civilizations, including; Sumerian, Babylon and Assyrian civilizations, established and emerged thousands of years ago. No community or civilization can exist without water.

Focus on water resources has become essential in order to meet all human needs of drinking water, civil uses, and also to secure the requirements of irrigated cultivation and industrial needs, etc. Now, to get benefit of this blessing boon without conflicts, a broad and constructive dialogue must be reached out to reconcile the objectives among various water users, conserve water and orient all funds, scientific knowledge and technology towards finding solutions for water problems.

Ladies and Gentlemen,

I would like to take this opportunity to explain the condition of the Water Resources in Iraq and to give you an idea about the aspiration of Iraq towards integrated water resources planning, not to mention the great efforts done by the Ministry of Water Resources of the Republic of Iraq to face the current water shortage experienced by a large number of Iraqi population whose livelihoods mainly depend on the water of the joint rivers with neighboring countries (Turkey, Syria and Iran).

Iraq is located within a dry and a semi-dry desert belt, its climate is characterized by- generally low and irregular rainfall amounts and exposure to hot and dry desert winds, bearing dust and fine sand. The Tigris, its tributaries and Euphrates rivers represent Iraq's primary source of water. Most of their feeding sources are located outside the country. Approximately 68% of the Tigris and its tributaries waters are formed outside Iraq and 32% inside the country. As for the Euphrates, about 88% of its waters are formed in Turkey, 9% in Syria and only 3% in Iraq.

The water of both Rivers is utilized by the three countries (Turkey, Syria and Iraq). All these countries are planning to increase water exploitation in these fields. Agriculture, irrigation, electricity and others. Each country has its own investment plans in this regard, thus we believe there is a need for coordination conducted between these three countries to specify a fair share of water for each of these countries.

Moreover, Iraq has some joint waters with Iran in a number of the feeders of the Tigris River including: Lower Zab River, Diyala River (Serwan) and the rivers feeding the marshlands located to the east of the Tigris such as: Al-Karkha River and Al-Karoon River which is considered as a core source for desalination of Shatt Al-Arab waters. Additionally, there is a number of water canals extend along the joint borders from the north to the south for about 1200 km distance, most of these rivers flow from the Iranian territories toward Iraq.

The Law of the Ministry of Water Resources which was issued in August 2004 specified the Ministry tasks in the overall planning. Such tasks include the following:

- Investment of surface and groundwater resources
- Use of modern techniques and GIS to develop administration methods administratively, technically and financially.
- Workforce training.
- Maintenance and operation of water resources projects in coordination with the concerned ministries and water consuming sectors

- Preparing plans to avoid Hood hazards.

- Coordination with regional Arab and international organizations and non-governmental organizations specialized in water resources and environment. Also following up the agreements signed with neighboring countries with regard to international watercourses issue to reach a fair share of water in quantity and quality.

- Restoration of marshlands ecosystem and supporting the local dwellers there, is one of the most important activities being conducted in Iraq.

In order to achieve integrated water resources management, the Ministry of Water Resources has adopted a water policy to develop water resources in accordance with the long- term annual plans and this includes:

The implementation of a number of irrigation projects in Kurdistan Region and a number of small storage dams to aggregate springs and rain waters. As well as rehabilitating watercourses and a number of artesian wells in the region. The Ministry has conducted a rehabilitation process over the infrastructure of the control structures, particularly darns, reservoirs, regulators and gates, in addition to the construction of a number of small dams in the western, northern and eastern parts of Iraq.

Due to the prevalence of salinity in the irrigated agricultural lands, development plans have been set tip aiming to implement a number of irrigation and land reclamation projects within both rivers basins so as to increase the agriculture density, upgrade irrigation systems and reduce water losses. Therefore, plans developed to collect draining water in one huge general stream called the Mam Outfall Drain (Tigris - Euphrates) which drains the waters of irrigation projects from an area estimated (1.5 million hectares) away from fresh water rivers and canals in order to avoid water contamination and deterioration.

The Ministry is also implementing maintenance activities on river networks and carrying out cleaning works on irrigation and drainage networks in Iraq which totals about 127 thousands km long. Importantly to mention, the project of marshlands restoration is one of the vital projects in Iraq. Marshes take their water from both rivers» waters. Despite shortage conditions that Iraq presently undergoes, quantities of water have been allocated to cover marshes» need.

The Ministry has conducted studies and researches on groundwater all over Iraq. Plans have been set to invest these water resources in various areas.

The Ministry has adopted an ambitious plan for staff development in various areas, including (engineering, technical, administrative and financial) through the organization of training courses and workshops inside and outside Iraq aiming to develop staff capacity and help the staff to be aware of up to date progress and convey experience to others.

Due to the development of water uses in Turkey, Syria and Iran through the construction of control and storage projects and due to the absence of an agreement that determines shares of each of these countries, Iraq stands in a critical situation for all that have a negative impact on the quantity and quality of water received. This is why the expected water inflows are getting down the normal inflow and docs not cover the desired need amounted 76.59 billion m³ in 2015 for lack of conventions

that determine water shares of each country. In recent years Iraq started to contact neighboring countries (Turkey, Syria and Iran) to open dialogue on shared water to reach an agreement serving the interest of all countries. As a result, a number of meetings, bilateral and trilateral conventions between Iraq, Syria and Turkey were resumed after they have been halted since 1993.

Since 2004 until present, a number of high-level meetings (at ministerial level and technical committee level) have been convened. Some joint meetings were convened between Iraq and Iran aiming at discussing water shortage, water problems, reduction and deterioration of the two rivers' water quality and the impact of Iranian projects established at the transboundary rivers on the inflows received.

The legal situation of Iraq is summarized through considering the Tigris and Euphrates as international Rivers in accordance with the definition of International River, internationally recognized, which is «the watercourse that passes through different countries» Thus, both rivers are subject to the rules of the international law required to protect the river environment and to prevent water contamination in both rivers as a result of the irrigation and agriculture projects established on both Rivers. Iraq view's the concept of optimum use of water thorough development of water resources which aim to ensure the best water investment and distribution. This requires increasing irrigation efficiency and reducing wastage, in addition to protecting these resources from pollution and minimizes its factors through necessary actions taken in this concern

Due to the increasing demand for water resources in the country, as a result of the population growth and competition over water resources for domestic, irrigation and environment purposes than is available, international legal principles needed to be set up 10 govern the uses of the international water resources.

In order to reach an integrated water resources management and achieve a fair allocation of the water of joint rivers in accordance with the regulations of the «Non-Navigational Uses of International Watercourses», ratified by the United Nations in 1997 and to which Iraq has joined in 2001. The following principles were adopted according to this agreement:

- Watercourse States shall in their respective territories utilize an international watercourse in an equitable and reasonable manner.
- Watercourse States shall in utilizing an international watercourse in their territories, take all appropriate measures to prevent the causing of significant harm to other watercourse States.
- Watercourse States shall cooperate on the basis of sovereign equality, territorial integrity, mutual benefit and good faith in order to attain optimal utilization and adequate protection of an international watercourse.
- Watercourse States shall on a regular basis exchange readily available data and information on the condition of the watercourse, in particular that of a hydrological, meteorological, hydrogeological and ecological nature and related to the water quality as well as related forecasts. Watercourse States shall exchange information and consult each other and, if necessary, negotiate on the possible effects of planned measures on the condition of an international watercourse.
- Before a watercourse State implements or permits the implementation of planned measures which have a significant adverse effect upon other watercourse State, it

shall provide those States with timely notification thereof. Such notification shall be accompanied by available technical data and information, including the results of any environmental impact assessment, in order to enable the notified States to evaluate the possible effects of the planned measures.

- Watercourse States shall, individually and, where appropriate, jointly, protect and preserve the ecosystems of international watercourses.

- Watercourse States shall, individually and, where appropriate, jointly, prevent, reduce and control the pollution of an international watercourse that may cause significant harm to other watercourse States or to their environment.

Hence, we urge all the States to accede to the aforementioned Convention to enter into force as slated in its provisions: The present Convention shall enter into force on the ninetieth day follow the date of deposit of the thirty-fifth instrument of ratification, acceptance, approval or accession with the Secretary-General of the United Nations. Eighteen States have ratified this convention until now and they are: Iraq, Syria, Jordan, Lebanon, Libya, Qatar, Germany, Finland, Norway, Hungary, Holland, Sweden, Portugal, Uzbekistan, South Africa, Namibia, Tunisia and Spain. Three years before its ratification five States have signed the Convention but have not ratified it yet and they are: Yemen, Paraguay, Venezuela, Luxembourg and Ivory Coast.

Iraq has commenced a serious development campaign and this requires the support of friend countries in order to achieve sustainable development. This can be done through building capacities of the Ministry staff, experience exchange and keeping up with up to date techniques in water resources field and utilize these resources in a better way.

Once more, I reiterate our appreciation and gratitude to Tajikistan Government and the Organizers of this Forum for extending the invitation to our Ministry. I wish success in this conference to achieve cooperation and integration between and among participating countries to protect and sustain the water resources for future generations.

Mr. Leonidas Pantelides
Director of Diplomatic Bureau of the President of Cyprus

Mr. Chairman,

Thank you for giving me the floor. I would first of all like to thank you on behalf of the Government of Cyprus for your invitation and for the excellent hospitality you are offering to our delegation. We wish you successful deliberations and a fruitful outcome to these important discussions.

Cyprus faces a serious problem with water scarcity. Together with Malta we are the «poor» in terms of water among the countries of Europe, with the lowest water availability per capita.

Like other Mediterranean counties, Cyprus has limited water resources depends mainly on rainfall. However, rainfall in Cyprus is unevenly distributed over the

cycle of seasons and of the years. Water resources are scarce and expensive to exploit and droughts are very frequent.

Climate change is already affecting Cyprus. Statistical analysis reveals a significant drop of precipitation in Cyprus in the early 70's, which continues. Climate models for our region predict a rise in temperature and further increase in the intensity and frequency of extreme droughts. At the same time social and economic developments as well as tourism are raising the demand for water. These two factors together, make the problem of water security very critical. Water rationing is not enough to meet the problem. Cyprus two years ago was forced to import water by boat costing the country 80 million euros.

During the late 1960's the Government of Cyprus embarked on an ambitious program whereby reservoirs were constructed on almost all major watercourses in an attempt to tap the surface waters that used to flow and be lost to the sea. Nevertheless, the dependency on rainfall still continues. The long and frequent periods of drought have proved that storing rainwater in reservoirs only allows short-term planning and is not a sustainable long-term solution.

Cyprus is forced to resort to seawater desalination. Currently one mobile and two permanent desalination plants are in operation and additional units are under construction with the objective to achieve water security so that every person has continuous access to safe drinkable water.

At the same time recycled water for irrigation and replenishment purposes is a growing practice in Cyprus. More and more quantities of treated recycled water are used for the irrigation of agricultural crops and recharge of aquifers, thus releasing an equal amount of good quality water for domestic use.

On the other hand, a fundamental condition for the exercise and application of a sustainable water policy is the management of the demand for water. Management measures such as metering of water consumption, progressively increasing water charges based on higher consumption, reduction of distribution losses, improvement of farm irrigation systems and water rationing during periods of drought, are normal practices in Cyprus.

Mr. Chairman,

Cyprus remains a divided country since 1974. A solution to the problem of the island's division is the best way also to address comprehensively this serious water problem. We have never used water as any kind of weapon. Considering the need for water of all Cypriots the Government of Cyprus has been providing water free of charge to the Turkish Cypriot community.

Our environment has limits. In the future the need for sharing water and for ensuring access to clean water and basic sanitation for all should create conditions of greater cooperation rather than conflict. Water is not a weapon. It should be used as instrument of peace.

Thank you.

**Dr. Mahmoud Abu-Zeid President,
Arab Water Council Honorary President,
World Water Council**

Honorable Ministers, Excellencies,

Distinguished Guests,

Ladies & Gentlemen,

On behalf of the Arab Water Council, I would like to express my appreciation and congratulations to the Republic of Tajikistan and the Tajik people for the extensive effort that has been exerted in organizing this High-Level International Conference in such a beautiful city as Dushanbe.

Bringing this assembly of distinguished participants responsible for water to meet together and discuss the mid-term implementation of the International Decade for Action (2005 - 2015) is truly an integral part of the «Water for Life» concern worldwide.

The water sector in the world is facing some very serious challenges. These challenges are even bigger in the arid and semi-arid regions, a weather condition that characterizes the Arab Region. 80% of the 22 countries in the Arab Region represent the driest areas of the world.

The ever-increasing demand on water resources in every part of the world makes the current challenges of the Arab Region, the future challenges of the rest of the world. So we need to use our collective wisdom today to be prepared for the future.

Excellencies,

Let me share with you some of these common water challenges that are emerging today and that are getting more serious.

At the water resources side, not only that the available renewable water resources are not enough to satisfy the increasing demand, but the uncertainty and variability associated with the climate change impacts on water resources poses an important challenge.

Reduced precipitation in some areas, increased precipitation in others, the shift in floods and droughts timing, the change in their durations, and the extent and frequency of these extreme events, all require that we re-think our water resources planning and management strategies in terms of flood protection, and water storage plans and structures.

The limited renewable water resources in the Arab Region had put pressures on non-renewable water resources such as fossil groundwater. We need to find the best use for the type of water, because if we use it, we will lose it. We need to think of the sustainability of the communities that will have developed and depended on this

water after it would have been gone. We need to think of the future water supply option for these communities, before we embark on an extensive consumptive use of fossil water.

Several countries in the Arab Region are depending mainly on seawater desalination in satisfying their water demands. About 60% of the desalinated water in the world is produced in the Arab Region, and we will see more of this in the coming future. We therefore need to improve desalination technologies to bring the costs down.

On the other hand, at the transboundary, or international or shared-waters level, as some people like to call it, there are still some untapped renewable water resources available. This requires technical, legal and political cooperation to efficiently develop and utilize that water. Sometimes there will be hard decisions to make, and difficult questions to answer. Are these waters the right of today's suffering communities downstream, or the right of the future generations upstream, or is it both? We need to promote winwin solutions to move ahead with planning and management of transboundary waters, especially when we know that 67% of the renewable water resources in the Arab Region come from outside its borders.

At the demand side, with the diversity of consumptive and non-consumptive water uses, including municipal uses, agriculture, industry, hydropower, navigation, and others, and in light of the limited availability of renewable resources, we have to conserve and optimize our water use. In the region there are very good examples of water demand management, recycling, and reuse of treated wastewater in agriculture, that we need to replicate and embrace at the policy level. Treated Wastewater is going to be the Renewable Water Resources of the Future and its best use is for agriculture, especially when the region is a net importer of food. The Arab region is currently importing about 290 billion cubic meters per year of virtual water in food, compared to 210 billion cubic meters of water used in producing food within the region.

Excellencies,

The region is in a «Water Bankruptcy» that is worse than the «financial crisis» that the world is facing today, and it will not be easy for some countries to bail themselves out.

We need to revisit our strategies and plans for the future to be more integrated, involving all water use sectors, and all relevant stakeholders. National Integrated Water Resources Management (IWRM) plans are needed in every country. We need to direct the appropriate water resource to its appropriate use according to the location of use: Desalination for domestic and industrial use in coastal areas, high quality groundwater for domestic uses, non-renewable groundwater for water bottling, marginal groundwater and treated wastewater for agriculture and landscaping. In a region such as the Arab region with very few cultivated areas and limited resources needed to produce some of its increasing food needs, we need to protect every inch of existing agricultural land, and every penny that was spent in installing the associated irrigation systems. The current trends of urban encroachment on the little-left existing agriculture lands is not promising, not only on food security, but also on water-related financial security, where we will need to reinvest larger amounts of money to install new irrigation infrastructure. We need to attract future urbanization and economic activities to the vast available desert

areas, and improve on our land-use planning and integrate it in our water resources planning.

Honorable Ministers, Ladies and Gentlemen,

The world needs to account for every drop of water. What is not measured cannot be managed. We have to work hard on the social, awareness, and educational dimensions of water users to accept the installation of metering devices on their domestic and agriculture uses. Metering has been known to reduce consumption by 20 to 40 percent. We need that for ensuring equity and transparency among users. It also provides a tool for «Volumetric Cost Recovery» of services ensure financial and operational sustainability, and a tool for applying targeted Subsidies for the poor.

There are good examples and experiences in the region and in the world that need to be shared and disseminated. We, at the Arab Water Council hosted in Cairo, and its subsidiary Arab Water Academy hosted in Abu-Dhabi, are working hard on serving this purpose, and would like to extend our arms for cooperation with the rest of the world.

On behalf of the Arab Water Council, I thank the Republic of Tajikistan and the organizers for giving me this opportunity and I wish you very fruitful deliberations.

Mr. Vladimir Rakhmanin
Deputy Secretary-General of the
Energy Charter Secretariat

Your Excellencies,

Distinguished Guests,

Ladies and Gentlemen,

It's a great pleasure to be here in Dushanbe today and to participate in this highly important event dedicated to the International Decade for Action «Water for Life». I would like to express my thanks to the Government of Tajikistan and the organizers of this event for giving the Energy Charter Secretariat the possibility to present its role in addressing issues related to water-energy nexus.

Some of you present today may already know that the Energy-Charter Secretariat does not hold an explicit mandate for addressing issues related to water on its own; however the Treaty extensively covers matters related to energy materials, products and services linked to the hydropower industry. This includes the investment protection for developing hydropower potential, as well as the issues related to the trade and transit of energy materials and products. In addition to this the Treaty provides the potential for resolving wide range of disputes in energy sector.

The rapid changes in the political and regional set up of Central Asian republics during last two decades perhaps had its diverse reflection to the current affair amongst these countries. Seasonal mismatch for water needs between upstream and downstream countries, as well as the turbulent changes in international energy

markets impedes the possibilities of core matters to be resolved amicably. We have seen high and volatile prices for energy, greater state involvement in the operation of the energy sector across the globe, unease about reliability of energy supply, uncertainty over the conditions for new investment in energy production and infrastructure, and widespread concern over the environmental impact of energy use.

In these times addressing the climate change issues became the focus for international community and therefore increased attention is paid to the renewable and cleaner sources of energy worldwide. It is no surprise that these issues get higher pertinence to the energy sector of this region.

In the Energy Charter Treaty, the international community has an enforceable way to demonstrate its commitment to some key principles: sanctity of property and of contract, reliable energy supply and energy transit, transparency, national sovereignty over energy resources, sustainable development. I strongly believe that these are the right principles on which to base international energy cooperation. Transparency, debate and awareness are therefore vital to the long-term credibility of the Energy Charter Treaty.

In this respect I would like to highlight the work carried out by the Task Force on Regional Electricity Cooperation, established under the Bishkek Declaration in 2007 by the Energy Charter Secretariat in close cooperation with the governments of the Central Asian and selected South Asian countries. To date the Task Force had five regional conferences, including one here in Dushanbe, conducted in April 2008 back to back with the OSCH event of the water sharing issues. For all these gatherings the Task Force on Regional Electricity Cooperation kept its threefold agenda: first) transparency initiative, under which the member states furnish the forum with the information on latest developments in their respective countries energy sectors; second) bring the best practice examples from the other parts of the Energy Charter Constituency, as a knowledge sharing exercise: and third) maximise the use of the legally binding rules of the Energy Charter Treaty to enhance the closer cooperation. I am proud to stress that the Model Electricity Agreements for a cross-border electricity infrastructure development, prepared under this forum is a solid achievement, usefulness of which stretches far beyond this region.

This is where I see the value and importance of expanding the work of the Task Force as a neutral, multilateral and transparent forum to achieve the mutual cooperation, which I will be discussing in more details during the course of this Conference.

The objective in all our work is to sustain the long-term credibility and effectiveness of the Treaty, and to make a tangible contribution to a secure and sustainable energy future.

Before concluding I would like to wish to the participants of this important forum a success. On that note, it remains only for me to thank you again for having us here, and to look forward to the further deliberation of the role of the Secretariat to the subsequent sessions.

Thank you for your attention.

Mr. Mohamad Asruchin
Ambassador Extraordinary and Plenipotenciary of the
Indonesia to the Republic of Tajikistan

Excellencies,

Distinguished Delegates,

Ladies and Gentlemen,

First of all, I would like to convey my appreciation to the Government of the Republic of Tajikistan for the hospitality extended to the Indonesian Delegation and for the excellent arrangements to host this Conference at the historic city of Dushanbe.

It is timely that we should start focusing seriously on water, since water is not only a basic human need but an important pillar of development as acknowledged in the Millennium Development Goals.

With the General Assembly's resolution proclaiming the International Decade for Action, «Water for Life» 2005-2015, states, that the international community must make every effort to maximize the progress being made to achieve the goals of the «Water for Life» Decade.

As the Secretary-General's report «Keeping the Promise», as well as UNDP's «Beyond the Midpoint» highlight, targets to reduce by half the proportion of the global population without access to safe and sustainable drinking water sources and basic sanitation are still out of reach for many developing countries.

Unwisely managed, this invaluable resource would only become a source of fundamental problems on many levels. Those consequences will manifest themselves as water-borne diseases, conflict, hunger, drought, desertification and other difficulties correlated with inadequate water supplies. Therefore the sustainability of water supplies is vital.

In this regard, several points related to water are important to note, as follows:

First, significant improvement in research, development of science and technological innovations to manage and conserve water resources has proven important to increase the efficiency of water management. This not only promotes effective water management but also serves to develop a system that ensures the sustainability of clean water in the future.

Second, with the world's inhabitants expected to reach 9.2 billion people in 2050, water will continue to be a vital source for life, this underlines the critical importance of water management. Therefore an accurate and precise inventory of water supplies will be crucial. In this regard, the development of remote sensing technology to trace the source of clean water is imperative.

Third, global partnership in this regard is very essential. Effective water resource management water conservation and control ever water resource-related damages require adequate funding and innovative technology, which developing countries tack for the most part

Fourth, in order to have a successful plan for and effective management of water resources, we need to ensure that all part of society including women's participation is seriously considered and well reflected in the decision-making process in water practice and water management.

Excellencies,

Distinguished Delegates.

Ladies and Gentlemen,

During the High-Level Interactive Dialogue on Water convened at the United Nations recently, countries were of the view that water-related climate change impacts have already become evident. Severe and frequent drought and flood conditions have been experienced. And as many experts have stated that water related disasters are expected to increase as climate change continues to unfold. Therefore, improving water resource management systems will help countries to adapt to the challenges of climate change.

To prepare for climate change related disasters, including water disasters, we need a balance between effective leadership and appropriate technical solutions. The continued engagement of leaders is of crucial importance. Leaders in the water domain and beyond the water decision making circle must work together.

It is also important that leaders should continue to identify and establish new financing mechanisms for adaptation so that vulnerable communities, especially in developing countries, will have the resources and support they need to protect themselves from the worst impacts of climate change.

Together they must craft adaptation measures, particularly those that put more resilient water management systems in place and minimize risks caused by water disasters. At the same time, it is important to recognize that every country has a right to safe drinking water and use of water resources for its economic development purposes. This is a prerequisite for any water related cooperation.

In this regard, leaders and decision makers must be kept in the loop about activities by the water community so that national, regional and local budgets can be adequately apportioned to address not only water for development but water related disasters, particularly capacity building for water disasters.

Excellencies,

Distinguished Delegates.

Ladies and Gentlemen,

Although Indonesia is blessed with abundant of water resources, water shortages during dry season and floods during rainy season have already been experienced in different areas Being an archipelagic country, Indonesia needs-access to affordable desalinization technology as well as potable water and sanitation services in order to achieve the MDGs target to provide clean water for half of the population

Indonesia is also extremely vulnerable to negative impacts by climate change. Frequent heavy rains have caused floods. It is also expected that sea level rises will result in the submerging of coastal lowlands in various parts of the country, including the agricultural areas. This will impact negatively on our activities in the

areas of agriculture, fishery and forestry, thus threatening the overall food security and sources of livelihood of communities.

In addressing this issue, the Government of the Republic of Indonesia has implemented policies and strategies for water resources management during the period of 2009 - 2025. These policies encompass integrated management of water resources; policies and strategies on conservation of water resources, on effective and efficient utilization of water resources, and on enhancement of the roles of communities, business and the government.

With regard to the negative impact of climate change, the Government of Indonesia has taken measures to improve the reliability of the irrigation water supply as well as to develop adaptation efforts for water users.

Excellencies,

Distinguished Delegates,

Ladies and Gentlemen,

Let me conclude by saying that, as our development process deepens, the demand for water will increase. This demand will be exacerbated by the unpredictable changing of climate and the occurrence of disasters. Therefore, it is important that the international community enhance its international cooperation so that this pivotal issue can be addressed.

Thank you.

**Ms. Fernanda Guerrieri,
Assistant Director General (ADG)
for Europe and Central Asia, FAO**

Excellencies,

Since 2007 the world has been severely hit by a rapid succession of 3 major crises, food, energy and finance, hitting particularly the most vulnerable populations. Today the number of malnourished people has risen above 1 billion.

It is not only a setback in absolute number but also in the proportion of undernourished in developing countries. Our projections dating only a few years ago have failed. Until recently we were registering a slow but constant decline in the total number of undernourished people in the world. However, the crises that we have experienced the last few years has taken us off track as we registered a record number of undernourished people in the world: 1.02 billion fellow human beings were suffering of it at the end of 2009, more than at any time since 1970, when for the first time the comparative analysis of the global food supply statistic data was launched. The urgency to step up our efforts to combat it cannot be overstressed.

Hunger and malnutrition, which are closely linked to poverty, have an adverse effect on almost all other Millennium Development Goals and therefore it is crucial to address it as a priority.

Food security is multidimensional and is defined by criteria such as Availability, Access, Utilization and a key element of food security is the Stability affecting those criteria. The recent crises are also a wake up call for us to anticipate the acceleration of global changes if we want to prevent future and more severe shocks. We know that the world is facing rapid and unprecedented global changes, including population growth, migration, urbanization, climate change, desertification, drought, land degradation and major shifts in dietary preferences. Agriculture's mission today is therefore two fold. It has to close the gap between supply and demand, both in the short and in the long term, but it also has to work to prevent shocks, increase resilience of the most vulnerable and mitigate environmental impacts.

Needless to say, there is no agriculture without water. Still today, agriculture is the dominant water user and as such has a prime responsibility in meeting human demand for food but also managing the environmental impacts of agricultural production.

On average human beings need to drink between 2 and 4 litres of fluids a day but consume 2,000 to 5,000 litres through the water used in producing their food. If the diet is meat-based this figure can be much higher. The future of water therefore lies in large parts in a more water productive agriculture. That is more responsive to change through investments in improved rainfed agriculture, modernization of irrigation systems, and enhancing the capacity of management and users' institutions. The future of water is in a more productive agriculture and this is where the good news lies: 1% of water productivity gain in agriculture means 10% increase of availability for other uses. The millions of farmers around the world who provide us with the food we eat are at the centre of any process of change. They need to be encouraged and guided to produce more with less water. This requires well targeted investment, incentives, and the right policy environment.

«Water for Food» is a well accepted concept: no one contest that we need water to produce our food in rainfed and irrigated agriculture and obviously we need more agriculture water to cope the increasing demand for food products in the decades to come. «Food for water» is a less known concept but not less important. It simply expresses that key productivity gains along the whole food chain are able to release enormous amount of water for other uses. Therefore solving food crisis and food insecurity is a prerequisite to solve water for all and all uses.

How to achieve this? Experience shows that sectoral approaches have severe limits and that only when we approach water management in an integrated manner properly considering its importance for food security, energy production, domestic and industrial use and the environment, only then we are able to find appropriate answers to boost sustainable development. This is tie concept of Integrated Water Resources Management that despite being internationally accepted as the model to follow is facing slow progress in its planning and implementation. FAO also advocated this principle and works with other partner organizations through the UN-Water mechanism. A report by this UN mechanism on the subject found that only 38% of the 53 developing countries sampled have completed the planning stage or are implementing Integrated Water Resources Management plans. This is slow progress if we consider that the international commitment agreed upon in 2002 at the Johannesburg World Summit on Sustainable Development, was to have all these plans ready by 2005.

Multiple Uses of Water Services is a local practice of integration that FAO promotes through its outreach programme. This is how FAO thinks «water for food and food for water» can be turned into operational plans.

The world needs to solve food insecurity not only for its own value BUT also for all the generated effects on the Millennium Development Goals, and in particular on water for other uses. That is the reason why FAO is voicing Water for Food & Food for Water.

Excellency, ladies and gentlemen, we are looking forward for the outcomes of this conference to boost appropriate water development and management in all its dimensions.

Thank you very much.

**Mr. Marc Baltes,
Deputy Coordinator of OSCE Economic and
Environment Dimension on behalf of
Marc Perrin de Brichambaut, OSCE Secretary General**

President Rakhmon,

Prime Minister Akilov,

Ministers,

Your Excellencies,

Ladies and Gentlemen,

It is a great honour to address you today on behalf of the OSCE Secretary General, Marc Perrin de Brichambaut, on the Mid-term review of the International Decade for Action: «Water for life, 2005 - 2015». This International Conference is testament to the engagement of the Republic of Tajikistan and its leadership, and of President Rakhmon personally, to promoting international co-operation on this question of vital importance.

In the OSCE, we recognize that the challenges which States and societies are facing in the 21 century are highly complex, multi-dimensional and, given the future implications of climate change, will require unprecedented efforts to find solutions. We see our commitments to sustainable development and progress confronted with serious obstacles and we will only be able to overcome these obstacles with renewed and enhanced international co-operation. Agenda 21, the Johannesburg Plan of Implementation and the Millennium Development Goals clearly set the targets which we will have to meet.

The OSCE, as a political security organization, is very much committed to join the international efforts towards achieving these goals because we believe that they have security implications.

As an example, let me mention the quality of water, which has a direct impact on the health of population. A healthy population can remain productive and is therefore more capable to develop and prosper economically. Without safe access to clean

water we may find ourselves competing for this vital resource, which might lead to tensions, both nationally and internationally.

The first line of response remains within the responsibility of States. However, responding at the national level is not enough. The challenges of the 21st century require States to co-operate in innovative ways with each other as well as with other important actors.

The OSCE can serve as a prime platform in this respect and play a strong role in fostering the co-operative networks which are necessary to meet these challenges.

The OSCE brings together 56 participating States around a dynamic concept that security means connecting States with each other, connecting the human dimension with the economic and the political – military dimensions, and connecting the many different actors, whose interaction determines the overall environment in which we live. This comprehensive approach also provides the OSCE with a basis to act as a platform for innovative co-operation, on which national-level actions are linked to regional and international levels.

In 2007, in the Madrid Ministerial Meeting, the OSCE foreign ministers adopted two decisions of relevance to our discussions today. The first one is a declaration on «Environment and Security», where the 56 States accepted explicitly the link between environmental degradation and security, and reaffirmed their commitment to improve environmental governance, inter alia, by strengthen the sustainable management of natural resources, especially water, soil, forest and biodiversity.

The OSCE; participating States also took a decision on «Water Management», which has provide the OSCE with a mandate to act as a framework for the further development of water management networks between States and relevant international actors. Our ultimate objective is to ensure that even single drop of water counts and is used for the good of all.

These are important steps and I am convinced that the international community, including the 56 OSCE participating States, can do more.

In this respect, I am pleased to draw your attention to a successful project facilitated by the OSCE and the UNECE – «Support for the Creation of a Transboundary Water Commission on the Chu and Talas Rivers between Kazakhstan and Kyrgyzstan» The OSCE will continue to support the Commission in deepening its co-operation and in widening its spectrum of activities.

Here in Tajikistan the OSCE has established a Unit specifically dedicated to water management issues and it will continue to support the Government in its strategic long-term vision of introducing Integrated Water Resources Management in Tajikistan.

Your Excellencies,

Ladies and Gentlemen,

Let me thank once again President Rahmon and the Tajik Government for their leadership and for maintaining the momentum of the «Water for life» Process. Such leadership vision are vital step for taking stock on our commitments and in order to make sure that we will progress in our common effort so that future generation will have access to the most precious resource we have on our planet: WATER!

**Mr. Razley bin Mohd Nordin,
Director General of the Science and Technology Department,
OIC, on behalf of H.E. Prof. Dr. Ekmeleddin Ihsanoglu,
Secretary-general Organization of the Islamic Conference (OIC)**

H.E. Mr. Emomali Rahmon

President of the Republic of Tajikistan

H.E. Mr. Sha Zukang

Under Secretary-General for Economic and Social Affairs

United Nations

H.E. Mr Akil Akilov

Prime Minister of the Republic of Tajikistan

*Chairman of the Organizing Committee of
the High-Level International Conference*

Distinguished Ministers and Participants

Ladies and Gentlemen,

It is an honour and a privilege to have the opportunity to deliver the message from His Excellency the Secretary General of the Organization of the Islamic Conference (OIC) to the High-level International Conference on the Midterm Comprehensive Review of the Implementation of the International Decade for Action «Water for Life, 2005 - 2015». Let me begin by conveying to you the greetings and best wishes from His Excellency Prof. Dr. Ekmeleddin Ihsanoglu. He expressed his profound regret for not being able to attend and participate personally in this auspicious and important occasion.

Please allow me, on behalf of the Organization of the Islamic Conference to congratulate the Republic of Tajikistan and its people for hosting the Mid-term Comprehensive Review of the Implementation International Decade «Water for life, 2005 - 2015» in this historical city of Dushanbe. We would like also to thank sincerely the Government of the Republic of Tajikistan for the invitation extended to the OIC to participate in the Conference.

Excellencies,

Ladies and Gentlemen,

The Organization of the Islamic Conference (OIC) is a multilateral organization with 57 Members comprises countries from the Arab, African and Asian regions. The Head of States of the member countries meet every 3 years, Council of Foreign Ministers meets annually while sectoral ministers meet periodically or as necessitate. Indeed, the 37th Session of Council of Foreign Ministers held on 18 - 21 May 2010 in this historical city of Dushanbe adopted a resolution related to management of water resources.

The role and crucial importance of the water sector for socio-economic development and wellbeing of the OIC Member States has been the subject of discussion at many OIC's fora and events. This has been reflected directly or indirectly in various documents including the main one -the OIC Ten-Year Programme of Action adopted by the 3rd Extraordinary session of the Islamic Summit Conference held in December 2005 in Makkah Al Mukarramah. The Ten-Year Programme of Action recommends that priority be given to alleviation of poverty in the OIC Member States and water issue is considered as one of important element of poverty alleviation.

During the 5ll: World Water Forum held in Istanbul, Republic of Turkey on 20 March 2009, Ministers responsible for water from the OIC member states met. The meeting discussed Joint Islamic Action and Islamic Solidarity toward increasing access to safe water and basic sanitation and improving water resources management within the context of sustainable development. The Ministers pledged to increase their efforts, on the basis of shared values, to reach the Millennium Development Goals and the OIC Ten Year Programme of Action.

Subsequently, an Advisory Panel of Experts on Water comprising experts from member states in the three OIC regions was established to advise preparation of an OIC Water Vision for year 2025. There was a broad consensus that the OIC Water Vision ought to address, but not exclusively, the plight of low-income countries by focusing on poverty issues. The Panel proposed to focus on several but important areas such as capacity development including higher education, knowledge-sharing, technology transfer and strengthening the link between science and policy/decision-making, climate change adaptation including increased water storage, non-conventional water resources and disaster risk reduction and management, water governance and institutional reform. The Vision is expected to be finalized by late 2011 or early 2012.

Excellencies,

Ladies and Gentlemen,

Almost all the OIC member countries are facing the challenges of greater and more complex none other than achieving water security in this century. It is estimated that a third of the total population of the OIC Member States still lack sustainable access to safe drinking water, while almost half of the population lack access to adequate sanitation. Population growth, urbanization and declining water quality are putting unprecedented pressure on water resources in the OIC Member States, most of which are located in arid and semi-arid regions. Furthermore, as we have heard, climate change, food security concerns and the global economic crisis are further undermining the prospects of meeting the Millennium Development Goals water and sanitation targets by 2015.

The importance of water to the peace and security of OIC Member States cannot be overstated. Water could become, and is becoming in some cases, a source of regional tension and even conflict - a case in point is the situation in Palestine, where water is one of the major obstacles to peace. Conversely, water may be an effective instrument for promoting regional peace and cooperation.

Indeed, water by its very nature, cuts across many development themes and sectors from poverty reduction to economic development, to health, to climate change, to human development, to agricultural development to energy security, to infrastructure development to private sector participation, to disaster risk reduction and to science and technology, to name a few.

Problems of poverty are inextricably linked with those of water - its availability, its proximity, its quantity and its quality. Improving the access of poor people to water has the potential to make a major contribution towards poverty eradication.

In matter of fact, having access to safe and sufficient water and sanitation are now recognized as basic human rights.

The recent World Health Organization (WHO) reports drawn our attention to the impact of diarrheal disease on children is greater than the combined impact of human immuno deficiency virus/acquired immuno deficiency syndrome (HIV/AIDS), tuberculosis and malaria; we also know that the provision of improved sanitation and drinking-water could reduce diarrhoeal diseases by nearly 90%. Latest estimates indicated that improvements in sanitation and drinking-water could reduce the number of children who die each year by 2.2 million.

In this regard, we are confidence that this Conference will successful review the Implementation of International Decade, Water for Life, 2005 -2015, taking stock on the progress achieved in the implementation of internationally-agreed water-related goals and prospects for the fulfillment of the internationally commitments on water and water related issues by 2015. The Organization of the Islamic Conference stands ready to join hand in discussing and developing measures to accelerate efforts towards timely and fully achieving the goals.

Excellencies,

Ladies and Gentlemen,

Finally, let me once more commend the Government of the Republic of Tajikistan for hosting the Conference to review the Implementation of International Decade, Water for Life, 2005 - 2015 and looking forward for the results of deliberations and discussions to compliment the effort of preparation of an OIC Water Vision document.

I would like to conclude the message by conveying the best wishes of H.E. the Secretary General for the success of this Conference. I also would like to reiterate our thanks and gratitude to the Government of the Republic of Tajikistan for the invitation to participate experts in this important gathering.

I wish you good luck, May God bless all of us. Thank you.

Mr. Fatih Unlu
Deputy Secretary General,
the Economic Cooperation Organization (ECO)

Honorable Ministers,

Excellencies,

Distinguished Delegates,

Ladies and Gentleman,

On behalf of the Secretary General of ECO, it gives me immense pleasure to participate in this important conference on the Midterm Comprehensive Review of the Implementation of the International Decade for Action "Water for Life", 2005-2015. Please allow me to express my profound thanks to the Tajik authorities for excellent arrangements and hospitality. I would also like to thank H.E. Mr. Hamrokhon Zarifi, Minister of Foreign Affairs of the Republic of Tajikistan for his kind invitation extended to us.

Excellencies,

Distinguished delegates,

ECO region comprises 10 countries with an area of 8 million square kilometers and a population of more than 400 million people. The region is very rich in variety of soil, environmental and climatic conditions and has a wide range of agro-ecological zones, suitable for crop and livestock diversification. Availability of water sources in the region varies dramatically from country to country even within the country.

Agriculture has a significant share in GDP of our countries in the region on average slightly more than 20 percent. The share varies from over 50 percent for Afghanistan, less than 10 percent for some countries including Turkey. Agriculture employs nearly 40 percent of the economically active population of our region. Given this importance of agriculture for us, we are attaching a special importance to efficient use of water in agriculture.

In the ECO region, agriculture uses 70 to 90 % of available water supply with very low water use efficiency, as 60 to 70% is lost through leakage. In some regions, excessive application of water to irrigated lands has led to water logging and salinity and in other regions groundwater depletion is serious problem. In Central Asia, following the collapse of the Soviet Union, both government budgets and farm incomes have fallen dramatically, water management institutions have weakened and infrastructure maintenance has in many places come to a standstill, Irrigation and Drainage (I&D) infrastructure is beginning to fall apart.

As the possibility of water supply enhancement is limited, the available future options are improving productive and allocative efficiencies of water use under the overall approach of demand management. The major challenge in the next century is that around 90% of the water is consumed by the agriculture sector, with lowest value added per cubic meter of water compared to other sectors.

Excellencies,

Distinguished Delegates,

ECO has a three pronged approach for helping its members in relation to water issues.

1. In order to assess water demand management policies and actions that are to be taken at regional level and improve water use and allocative efficiency in the ECO region, an ECO Center for Efficient Utilization of Water would be operational soon. The Center will help member countries in designing efficient national policies in water and try to mobilize international support for modernizing irrigation systems in the region. Working Group Meeting on the Establishment of the Centre for Efficient Utilization of Water will be held on August 02-04, 2010 in Islamabad, Pakistan with the assistance of Islamic Development Bank (IDB).

2. ECO also has a Regional Center for Risk Management (ECO-RCRM) established in 2007 in Mashhad, I.R. of Iran. The Center's area of competence is the climatic aspect of drought and drought preparedness.

3. ECO has also established ECO Seed Association (ECOSA) for enhancing seed trade and seed productivity in the region including introduction of seeds of low water consuming and high yielding varieties.

Excellencies,

While expressing our confidence for the positive outcome to be reached during the august event, I wish every success in our deliberations to interest and socio-economic betterment of our countries.

Thank you.

**Mr. Ibatulin Saghit,
Chairman of the Executive Committee of
the International Fund for Saving the Aral Sea (IFAS)**

Your Excellency Prime Minister,

Dear Mr. Chairman,

Allow me on behalf of the Executive Committee of International Fund for Saving the Aral Sea to express gratitude for warm welcome and splendid organization of the conference and also the opportunity to participate for the Executive Committee not only as the guests, but also as co-organizers of such an important forum as the High-Level International Conference on Comprehensive Review of Decade for Action "Water for Life".

It gives me immense pleasure, dear Mr. Chairman, to inform you that the delegation of International Fund for Saving the Aral Sea is the biggest after Iran's delegation that underlines what importance we attach to this conference and its future decisions.

Today Executive Committee and units of IFAS work on the implementation of tasks set by the presidents of Central Asian countries in the summit which took place last year in city of Almaty under chairmanship of the President of Fund N.A. Nazarbayev.

In this council the leaders of countries confirmed their interest in development of mutually acceptable mechanisms on integrated water resources management and environmental protection with consideration of interests of all countries of the region.

At present IFAS directed its efforts in solution of problems related to improvement of socio-economic and ecological situation in the basin of Aral Sea in accordance with the Millennium Development Goals, boosting readiness of countries to new threats, including climate change impact, adaptation to them with the aim of improvement of water resources management.

Currently EC works on the development of program ASBP-3 and finishing of program ASBP-2 commenced here under presidency of Mr. Emomali Rahmon. The plan also includes creation and strengthening of mechanism of coordination of countries and donor organizations as well as UN structures. During recent visit of the UN Secretary General Mr. Ban Ki-moon to the region of Central Asia was expressed world support to the activity and structures of IFAS as the unique political platform where are represented all five countries of Central Asia.

Development of balanced policy in the basin of Aral Sea may be based with consideration of difference of interests and realities of local, regional and global scale.

Dear colleagues,

Formula – “Water for Life” – formula of this forum declared in due time by the President of Tajikistan Mr. Emomali Rahmon is universal. The marked goals of Decade for Action “Water for Life” 2005-2015 are tightly connected and correspond well with the aims and tasks of the abovementioned program ASBP-3 for 2011-2015 which we were charged to develop by the presidents of our countries. They include, in particular, preservation of natural ecosystems, ensuring water security, transition to integrated water resources management and other tasks.

Yesterday in his speech His Excellency Mr. President of Tajikistan said that the program “Water for Life” must pass into concrete actions during the remained five years. We support this statement and, taking into account that directions of ASBP-3 goals and tasks, included into program of projects in whole agree with the goals and tasks of program “Water for Life”, we offer to establish the coordinating group for cooperation of experts working on the mentioned programs.

Dear Mr. Chairman,

Dear participants of the conference,

The high level of our forum, composition of participants allows, as expected, to develop fruitful ideas, effective measures on improvement of regional cooperation with consideration of interests of all countries of the region.

**Dr. Zamba BATJARGAL,
WMO Representative to the United Nations,
WMO Liaison Office in New York**

Ladies and gentlemen

It is an honor and pleasure to address this High Level Conference on behalf of the World Meteorological Organization. I would like to bring you warm greetings from our Secretary General, Dr. Michel Jarraud who although wanted to be present, could not be with us here today, as you may know, the Executive Council of WMO is currently taking place in Geneva. Dr. Jarraud asked me to convey his personal acknowledgement to the Government of Tajikistan for the important initiative leading to the organization of this conference.

Due to increased demographic pressures and the development needs, water stress is already being experienced, particularly in many developing countries. Climate change through more severe and frequent droughts and floods is exacerbating these stresses and it is likely to cause delays on the achievements of a number of Millennium Development Goals. Improved water management is critical to ensure sustainable development. While some progress has been made in Integrated Water Resources Management, it has been far from satisfactory.

As water resources management affects almost all aspects of the economy, in particular health, food production and security; domestic water supply and sanitation; energy and industry; and environmental sustainability, the centrality of the improved management of water resources for adaptation should be recognized in adaptation to climate change. Greater emphasis needs to be placed on improved water management through better governance, building long-term resilience, stronger water institutions, as well as improved and shared knowledge and information on climate and adaptation measures, technology transfer and investments in data collection, infrastructure, cost-effective and adaptive water management. Additional resources should be dedicated for water resources management. The present mid-term review, therefore, should take into account the new challenges of climate change.

WMO has been supporting the implementation of the International Decade for Action «Water for Life» since its very inception in 2005, through its active participation in the activities undertaken by UN-Water, thereby responding to the call of UNGA Resolution 58/217 addressed to the United Nations system to deliver a coordinated response, in order to make «Water for Life» a decade for action. I will not enter in details here, as there will be other occasions during this conference to highlight the achievements of UN-Water in the first half of the decade, it will be sufficient to say that from the point of view of the WMO we have the feeling that, in recent years water is one of the areas where UN can be really said to be delivering a consistent

and coherent message, and we will continue to do our part in ensuring that this continues to be so.

The other part of WMO contribution to the achievements of the objectives of the decade is delivered through various technical and scientific programmes of WMO. In view of the limited time available, I will concentrate on what we strongly believe is an initiative which, if successful, could radically and positively transform the efforts of countries in adapting to climate change. I refer here to the Global Framework for Climate Services, a proposal of the Third World Climate Conference (WCC-3), held in September 2009, through which the developers and providers of climate information, predictions and services, and the climate-sensitive sectors around the world, will work together, to help the global community better adapt to the challenges of climate variability and change.

Ladies and gentlemen,

I am delighted to say that the delegation of Tajikistan was actively participating in the WCC-3 and personal attendance of H.E. Mr. President Emomali Sharipovich Rakhmonov together with other heads of state and government was a great encouragement for participants.

Adaptation to climate variability and change represents an important challenge for the sustainable development of society. To be effective, adaptation requires a policy framework, technology and practices to adjust to expected changes, supported by relevant climate information and tools. The Framework is designed to mainstream climate science into decision-making at all levels and help ensure that every country and every climate-sensitive sector of society is well equipped to access and apply the relevant climate information. The overarching goal of the Framework is: «To enable better management of the risks of climate variability and change at all levels, through development and incorporation of science-based climate information and prediction services into planning, policy and practice».

In order to make the detailed design as participatory as possible, WCC-3 decided that a task force, consisting of high-level independent advisors, set up through an intergovernmental process, would recommend the proposed elements of the Framework and propose the next steps for-developing and implementing the Framework. The High-level Taskforce composed of 14 high ranking members has initiated its work with great enthusiasm and is expected to present its final report by January 2011.

Distinguished Participants

WMO' national counterparts are typically the National Meteorological and Hydrological Services, that is, highly operational organizations. Their staff is working in the field 24/7 in order to provide first hand information and essential data on climate conditions, weather events and water issues. Therefore, you can rest assured that WMO will continue to do whatever is in its power to ensure the 2005-2015 decade will be remembered in the future as a period filled with positive and sustainable actions related to water.

Thank you for your kind attention.

**Dr. Saniino Severoni,
Resident Representative of World
Health Organisation in Tajikistan**

Excellencies,

Ladies and Gentlemen

At this mid-point of the Water for Life Decade, it is indeed appropriate that the international community take stock or where we stand with regard to the implementation of the commitments taken five years ago. At this midpoint evaluation, we can look back with some satisfaction on the result already achieved, but soberly need to remind ourselves of the challenges ahead. This is especially so when considering the Millennium Development Goals, the quality of drinking-water, the burden of water-related diseases, and the issue of climate change.

1. Millennium Development Goals

The 2010 UNICEF / WHO Joint Monitoring Programme showed that the world is generally on track for access to water, but is off track for access to sanitation . In general, the rate of increase in the use of piped water on premises has been faster than the rate of progress in the use of other improved drinking-water sources, except for a number of countries including countries from the Commonwealth of Independent States.

There are however significant discrepancies between urban and rural areas, both in access to safe water and in access to adequate sanitation. Both the size of the water supply and sanitation services in these areas, and the technical skills of their operators, make that the challenges of such systems are significantly different from those of major reticulated urban systems.

Targeted action needs to be developed to address the issue of small scale water supply and sanitation systems, and the improvement in their operation could play in protecting human health.

Working with the German Federal Environment Agency and other partners in the framework of the Protocol on Water and Health, WHO will focus its attention on the issue of small scale water supply and sanitation systems, particularly those located in rural areas. Our attention will be devoted to the development of appropriate policy and guidance documents for the management of such systems, particularly the implementation of water safety plans; the improvement of the evidence base on the burden of water-related diseases in populations served by small systems; the development of water safety plans for schools; and the sharing of experiences across the European region.

2. Drinking water quality

Regarding the quality of drinking-water, several points can be made:

It is not enough to have access to water, the water itself must be clean enough to drink safely at the point of consumption; access by itself does not necessarily guarantee good quality.

Water supply and sanitation operating under the principle of full cost recovery can create undue hardship, especially to the socio-economically disadvantaged

parts of the population. Appropriate measures to guarantee sustainable economic accessibility to safe water is therefore one of the preconditions for the realization of the basic human right to water.

While many of the «classic» water-related diseases (issues as cholera, typhoid fever etc.) slowly fade in the mist of time, new and emerging diseases often exceed the surveillance capacity of national health systems. Assessment and strengthening of national surveillance systems is already mandatory under the implementation of the International Health Regulations IHR(2005), but much additional work remains to be done for the adequate surveillance of new microbial pathogens, and for coping with low-level but persistent and bio-active contaminants.

Working with Switzerland and other Parties to the Protocol on Water and Health, WHO will work on the development of harmonized monitoring, data collection and information management. Together with our colleagues at UNECE, France, Belgium and Switzerland we will explore the effect of full cost-recovery water pricing schemes on the economic barriers to universal access to water and sanitation, and we expect to jointly publish a best practice guide by the time of the World Water Forum in March 2012. With Italy and other countries, we will work on the assessment and strengthening of national capacities for water-related disease surveillance, including outbreak detection and contingency planning. We will support the implementation of the Parma Declaration on Environment and Health, and address emerging issues including the health impact of bio-active and accumulating chemicals such as endocrine disruptors and agrochemicals.

3. Drinking-water and Climate Change

Water is, perhaps, the one common but puzzling fact in natural disasters: while on the one hand disasters are frequently characterized by too much water, leading to floods, typhoons, tropical storms and hurricanes in some parts of the world, others disasters are characterized by serious droughts extending over considerable periods of time. Changes in climate will impact the quantity and quality of the resources, especially in periods of extended drought. Special attention will need to be given to newly emerging diseases and to the penetration of invading pathogens in new areas. Changing distribution in space and time of disease carrying vectors will undoubtedly also become a new area of interest to the public health sector.

The Water-for-Life process creates a unique opportunity to recognize and underscore the connection between water, climate change, and disaster risk management, and to develop a proactive engagement of all stakeholders to cope with these challenges.

WHO will focus on the assessment of the resilience of water supply, drainage and sanitation systems against extreme weather events, and the inclusion of such risk factors in water safety plans.

Excellency's,

Ladies and Gentlemen

The Water for Life Decade is a forceful programme for action in water and health. The programmes developed by WHO in co-operation with the Parties to the Protocol on Water and Health are proven, successful tools to address many of the remaining challenges till the end of the Water for Life decade. I therefore look forward to the guidance that will result from your deliberations and to a fruitful collaboration till the end of the decade and beyond.

Mr. Margareta Wahlstrom
United Nations Assistant Secretary General for
Disaster Risk Reduction

Your Excellency President Rahmon,

Excellencies, distinguished participants of the High-level International Conference on the Midterm Comprehensive Review of the Implementation of the International Decade for Action "Water for Life", Ladies and Gentlemen,

It is a great honour to address this distinguished audience and to have this opportunity to share some thoughts from a United Nations perspective on the challenges facing nations and communities in planning for and responding to water-related disasters and development.

Before addressing the many complexities of the issue, let me start by commending the visionary initiative of His Excellency President Emomali Rahmon and the Republic of Tajikistan in launching the International Decade of Action "Water for Life, 2005-2015" supported by the UN General Assembly Resolution in December 2003. May I also applaud the expanding and leading role undertaken by Tajikistan in engaging with the multilateral system to jointly enhance awareness on the risks involving the safety and security of vulnerable populations around the globe. The Conference we are attending here today is a shining example of the region's commitment to the necessity of reducing the impact of disasters through preventive measures and at the same time to maintain excellent capacity for disaster preparedness and response..

Water threats have been increasing with climate change and human activities. Urgent attention is needed to reduce the risks of water-related disasters as they already threaten the achievement of the Millennium Development Goals and are likely to increase as a result of climate change. A considerable incentive for rethinking disaster risk, and in particular water-related disaster risks, as an integral part of development comes from the aim of achieving the Millennium Development Goals. The Millennium Development Goals form a road map including eight concrete goals to be achieved by 2015. Strong linkages exist between water-related disaster risks and the individual Millennium Development Goals, such as the reduction of poverty through the implementation of water-related disaster risk reduction into national policies and plans, or, vice versa, the effects of reduced poverty on peoples' capacity to deal with water-related hazards. However, the fact that water-related disaster risks are not directly addressed by the Millennium Development Goals adds to the challenge to achieve these goals 2015.

Strong focus should be placed on the integration of disaster risk reduction measures into national planning processes such as national development plans, the Poverty Reduction Strategy Papers (PRSP) and Integrated Water Risk Management (IWRM) plans, taking into account experiences and lessons learned from the past, such as the dangers of building cities in disaster prone areas exposed to flooding, earthquakes and high winds.

Primary responsibility to achieve the Millennium Development Goals and to implement effective measures to reduce water-related risks lies with individual countries. However, given the transboundary nature of most disasters and hazards

and many waters, only together can we achieve significant progress on resilience and development goals. The implementation process for the Millennium Development Goals has been challenging, and frequent disasters seriously undermine the progress further.

With regard to water-related risk reduction, increased awareness raising activities are needed by the international community to create the necessary national political will to integrate water-related disaster risk reduction into national policies, strategies and legislation, as well as to allocate sufficient funds for prevention measures. An important point for consideration and further assessment by international, but in particular national and local authorities, is the question of investment in, and cost-effectiveness of, disaster risk reduction measures.

Now, a few words about the context and international momentum that has developed around the problem of disasters and how this directly impacts on people and communities at risk from disasters and climate change: everyone on Earth in fact.

We are fortunate in having a clear internationally-agreed guide on what needs to be done – the Hyogo Framework for Action, a 10-year agenda, set in place in 2005 and a comprehensive and powerful tool for Governments and major UN and civil society organisations to guide the myriad strands of action that are needed. During this year, we are undertaking the Mid Term Review of the Hyogo Framework for action 2005-2015 through a highly interactive process in which we hope you will all engage. We already have some very inspiring and thoughtful ideas emerging from the elements of the process under way. This is very significant for the focus and work to be done during the next 5 years until 2015.

The special role that the UNISDR plays is in mobilising, catalysing and guiding action worldwide among Governments, UN agencies, international and non-governmental organizations and private sector partners – to deliver effective policies and effective actions which really reduce disaster risks, at all levels – global, regional, national and local.

Our primary task is to promote the implementation of the Hyogo Framework for Action. To do this we focus on advocacy, partnership and network building, and the development of supporting policy-related information.

We need to be very clear that disaster losses can be reduced. We need to be very clear also that it is in our power to control many of the factors that lead to disasters – not, of course, the hazard events themselves – but certainly the human elements, such as how we manage our lands, where we develop our cities, and how we build our houses. The evidence we have in hand strongly suggests that rapid urbanisation and population growth and environmental degradation are amplifying the levels of vulnerability to disaster risk in many areas of the world – including Central Asia.

A particularly important task is to advocate for disaster risk reduction, to ensure that the root causes of disasters are properly addressed. Take the Hyogo Framework and use it to guide your policies and actions. Make disaster risk reduction a core element of your strategic plan.

I challenge you to take up these ideas, to become in your own way, a champion for a safer, more sustainable world.

Thank you.

**Round Table 1. Accelerating Progress Towards
Water-related Internationally Agreed Development Goals (IADG),
Including the Millennium Development Goals and
Ensuring the Involvement of Women**

Co-Chair:

Mr. Rahmat Bobokalonov, Minister of Melioration and Water Resources of the Republic of Tajikistan

Co-Chair:

Mr. Jean – Chrysostome Mekrondongo, Minister of Energy and Hydraulic of the Central African Republic

Secretary:

Mr. Nikhil Chandavarkar, Chief, Communication and Outreach Branch Division for Sustainable Development, UNDESA

Rapporteur:

Mr. Jan Sand Sorensen, Regional Representative UNFPA

Penalists:

Yordan Uzunov, Member of the UN Secretary-General's Advisory Board on Water and Sanitation (UNSGAB), Professor of the Bulgarian Academy of Sciences

Ms. Sascha Gabizon, Executive Director of "Women in Europe for Common Future network"

Ms. Alice M. Bouman-Dentener, President of Women for Water Partnership

Mr. Ti Le-Huu, Chief of Sustainable Development and Water Resources Section, UNESCAP

Mr. Ian Ball, Dean of the Graduate School of Natural Resources Law, Policy and Management, University of Dundee, Scotland

Ms. Inmaculada Paniagua Brieva, Spanish Agency for Development Cooperation

Mr. Yordan Uzunov, UNSGAB Presentation

I would like to thank the Government of the Republic of Tajikistan and the United Nations for organizing this important conference. Too often, the international community establishes international decades or international years to promote action on critical issues without ensuring that the commitments are followed-up or monitored. And so, it is most encouraging to see Tajikistan take the lead in this effort to review, reflect and re-focus attention on the Water for Life Decade. I hope this conference will result in a set of forward looking commitments that will ensure the Water for Life Decade achieves, and even exceeds, its objectives.

I am here today representing the UN Secretary-General's Advisory Board on Water and Sanitation. Since I'm sure many of you are not familiar with the Board, I will take a few minutes to explain who we are and how we work. We are an independent body established in March 2004 by former United Nations Secretary-General, Mr. Kofi Annan, to give him advice as well as to galvanize action on water and sanitation issues. The current Secretary-General, Mr. Ban Ki Moon requested the Board to continue its mandate under his lead.

Our Chair is His Royal Highness the Prince of the Netherlands. Our Honorary President is His Imperial Highness, the Crown Prince of Japan. The Board is composed of a wide range of dignitaries, technical experts, and individuals with proven experience in providing inspiration, moving the machinery of government, as well as working with the media, the private sector and civil society.

UNSGAB does not implement or fund projects. Instead, the Board plays a critical catalytic role to coordinate implementing actors to advance the water and sanitation coverage in developing countries. UNSGAB has convening power and we advocate for sanitation and water at the political level.

Allow me to share one example, in Africa, members met in a regional dialogue with Ministers in late 2006 where the need for political will at the highest level was stressed. UNSGAB members then worked closely with the African Union, the African Ministers Council on Water, the African Development Bank and donor countries to promote an AU Summit on water and sanitation which took place in June 2008. During this Summit leaders agreed on the Sharm el-Sheikh Declaration on Water and Sanitation and they made a commitment to act. And now Africans have an important tool to hold their leaders accountable which has led to powerful and consistent pressure to realize the Sharm el-Sheikh commitments in the cities, towns and villages across the continent.

We recently updated our central mandate called the Hashimoto Action Plan II. The Hashimoto Action Plan II outlines our strategy and objectives through 2010 and identifies objectives in five key areas Financing, Sanitation, Monitoring and Reporting, Integrated Water Resources Management, and Water and Disaster. It is our belief that by focusing on objectives outlined in the Hashimoto Action Plan II that we can make a worthy contribution towards meeting the Millennium Development

Goal targets for water and sanitation. And, by doing so, contribute to meeting all of the other MDGs.

Ladies and Gentlemen,

Alone among the many hundreds of international agreements, declarations and treaties, the Millennium Development Goals have grabbed the world's attention. The MDGs live in newspapers, national policies, town councils, village meetings, and development strategies across the world. We have something very precious in our hands. If this effort fails, it will be difficult to recapture the momentum generated by the MDGs. The MDG target for water is to cut in half by 2015 the number of people globally who do not enjoy sustainable access to safe drinking water.

According to the Joint Monitoring Programme, the UN group which tracks progress, the world will reach that target. It estimates that no fewer than 810 million people, including 120 million people living in sub-Saharan Africa, have gained access to drinking water from an improved source since the MDG targets were formulated in 2000. Of course, progress is not even among regions or among urban and rural populations and we still live in a world where 883 million people do not use improved sources of drinking water. Still, the progress for water noted in the Joint Monitoring Programme's report released just last week is encouraging news!

Yet, we must remember that although this group does a commendable job of tracking coverage trends for access to improved drinking water, it does not monitor the quality of that same water. And so, while we basically know how many people have access to drinking water, we do not know if that water is actually safe to drink. In fact, a recent study, the Rapid Assessment of Drinking Water Quality, determined that an alarming quantity of the improved drinking water tracked by the Joint Monitoring Programme is not safe for human consumption. It carries unsafe levels of microbes and chemicals. Rather than sustaining life, this water is making people sick. Drinking contaminated water sets up a vicious cycle of ill health and further impoverishment that has severe personal and financial costs while threatening health and development.

When leaders gather this September in New York for the 2010 Millennium Summit to assess progress on the MDGs, they will be congratulated for progress that will actually exceed the MDG water target. And rightly so. But we should not be lulled into a false sense of complacency, since we know that despite the increased access to improved sources of water, millions of these people are not yet enjoying the health benefits that come with a reliable supply of safe water for drinking, cooking, and for personal hygiene.

Regarding sanitation, sadly the picture is very bleak. According to current trends the MDG sanitation target to half the number of people living without safe sanitation by the year 2015 will be missed by 13 percentage points. We believe there is a strong moral obligation to do all we can to ensure that every person enjoys the benefits of safe sanitation. Efforts such as the International Year of Sanitation in 2008 have generated political will and public awareness. And we are hopeful that the next JMP report on progress between 2008 – 2010 will show increases in improved sanitation facilities. In this region of the Commonwealth of Independent States, 20 million people continue to use unimproved sanitation facilities. It is urgent that we put

sanitation and hygiene even higher on the political agenda immediately, since a lack of political will to deal with sanitation at the global, regional, and national level is a key barrier to further improvement.

That is why our Board called for the 2008 International Year for Sanitation which helped to put the over-looked sanitation crisis onto the agendas of government leaders, the donor community, and civil society. Around the world sanitation was discussed more openly, the human cost and challenges became more evident and most importantly political impetus for change was generated at the international as well as the regional and national level. We need to capture and heighten the momentum created by the International Year of Sanitation which is why our Board is sending out a rallying cry for the “Sustainable Sanitation Half Decade – the 5 Year Drive to 2015.”

The Drive aims to invigorate, galvanize and re-focus international, regional and national activities in the field of sanitation and maintain the momentum through raising awareness and facilitating action. Only through combining all efforts of those who are working on the problem and winning new supporters as well as a clear endorsement by the UN, will there be hope that we can achieve an improvement within the next five years. We are very encouraged that the Sustainable Sanitation Half Decade is reflected in the Dushanbe Declaration – this will send a strong message that the Water for Life Decade incorporates a strong push for sanitation, since as we so often see, when water and sanitation issues are coupled, sanitation receives less attention and focus than the issue deserves.

As we approach the MDG Summit this September in New York, the Board is reaching out to member states to make the case prioritizing sanitation in global, national and municipal financing and planning will lead to progress not only for these two fundamental services, but for all the MDGs. We have prepared and shared a draft document to back up this assertion. I have brought several copies with me and you can also find this document on the homepage of our website. While sanitation is our focus for the MDG Summit later this year, we are actively promoting a strong emphasis on water issues during Rio + 20 conference which will take place in 2012 in Brazil. We have to strengthen the case for investments and policy interventions for sanitation and water. By clearly making the linkages among water, sanitation and development goals, leaders and ministers of finance will listen to our arguments.

Since this Round Table has a focus on women, allow me to make some obvious linkages between the empowerment of women and water and sanitation. Reducing the time, health, and care-giving burdens which result from improved water services give women more time for productive endeavors, such as adult education, empowerment activities, and leisure. In addition, community-based organizations for water management can improve social capital of women through leadership, networking opportunities and solidarity building. In the case of girls and young women, providing safe sanitation services in schools keeps boys, and especially girls in school particularly when they reach adolescence.

Ladies and Gentlemen,

On behalf of UNSGAB, I would like to thank once more the Government of the Republic of Tajikistan and the United Nations. This country and this region are

emerging as global leaders for water which is most encouraging. We urge Central Asian countries to strengthen regional cooperation mechanisms for managing water resources as huge political and economic benefits result from regional water diplomacy. Improving water management now is critical for Central Asia particularly given that climate change will have a big impact on the hydrological cycle here and globally.

I could certainly speak longer, however given that this is a forum for dialogue I will end my comments here.

Thank you for your kind attention.

Summary of Presentation on Water, Sanitation, the MDGs & Gender.

Ms. Sascha Gabizon, Executive Director of “Women in Europe for Common Future network”

The organization is aimed to provide healthy environment for all. The goals of the organization complies with the MDGs

WECF introduction

Goal: a healthy environment for all

Health and Environment	Safe Chemicals <small>for All</small>	Gender	Poverty and Sustainable Development	Public Participation and Environmental Rights
	Safe Water and Sanitation <small>for All</small>			
	Safe Energy <small>for All</small>			
	Safe Food production <small>and rural development for All</small>			

Child Mortality (MDG 4) & Sanitation (MDG 7)

- Epidemiological study WHO collaborative center Bonn (Aral Sea Region)
- “Children under 2 years of age had the highest diarrheal disease burden with 8.4 episodes per year”.
- Main reasons “contamination of drinking water and direct living surroundings with human faecal bacteria”

One recent epidemiological study just published, carried out by Bonn University during 12 months in Koreshm district, Ubekistan, shows that, “Children under 2 years of age had the highest diarrheal disease burden with 8.4 episodes per year”. The reason “contamination of the drinking water with human faecal bacteria”. The study was too small to generalize data on mortality of children linked to these diarrheal diseases, but local medical professionals indicate it is one of the main reasons.



Link between Millennium Development Goals

- * Goal 1: Eradicate extreme poverty and hunger
- * Goal 2: Achieve universal primary education
- * Goal 3: Promote gender equality and empower women
- * Goal 4: Reduce child mortality
- * Goal 5: Improve maternal health
- * Goal 6: Combat HIV/AIDS, malaria and other diseases
- * Goal 7: Ensure environmental sustainability

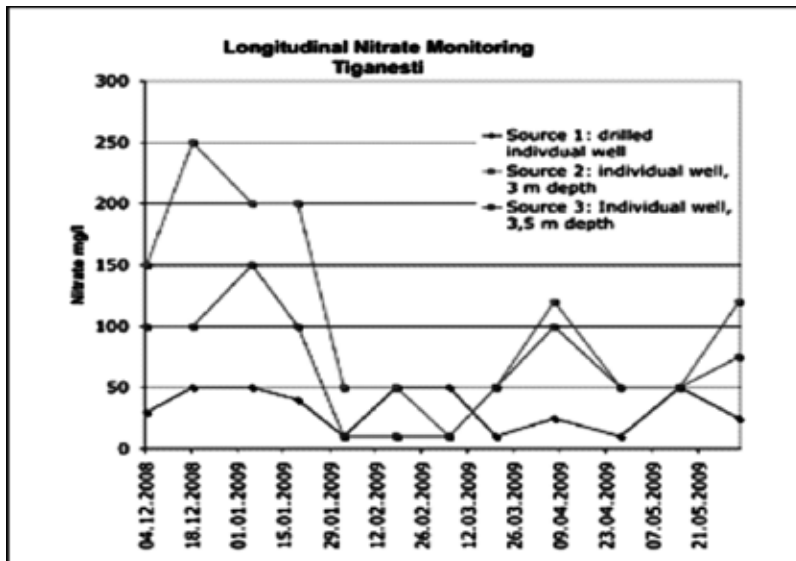
Halving population without access to water and sanitation

- * Goal 8: Develop a Global Partnership for Development

Gender (MDG3) & sanitation

- Lack of privacy
- No facilities girls/women
- No toilet use during day
- Infections
- School absence girls
- Less productive time

Water Quality Monitoring, Independent nitrate testing by local citizens
 Water Safety Plans with Schools
 Water quality indicator for drinking water wells



Awareness raising on the link between water quality and health

Interviews doctors:

- Blue baby disease
- Giardia Lambia
- Urinary Lithiasis
- Thyroid disfunction

WECF independent

information on water quality

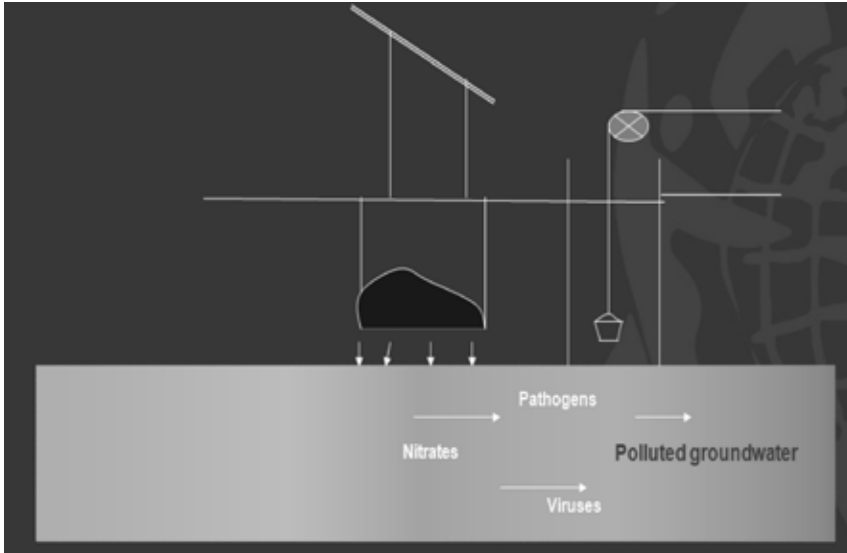
WECF | Women in Europe for a Common Future

ToNi-Finder
 WECF's Way for Sustainable School Toilets and establishing Nitrate levels in Ground, Surface and Drinking Water

€1.000.000 | WECF Campaign

Countries:	Partner:
Belgium, Bulgaria, Czech Republic, Denmark, France, Germany, Greece, Hungary, Italy, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, United Kingdom, Ukraine, and others.	European Commission, UN Environment, World Health Organization, and others.

**WECF also issue brochures on Water Safety Plans and Water Supply Projects
Achieving the Sanitation target by polluting drinking water?**



Household dry urine diverting toilet Uzbekistan , developed by WECF

- no smell
- less flies
- easy to clean
- nutrient re-use

Indoor HH UDDT Moldova

Protecting ground water and improving sanitation and hygiene in schools

- Privacy
- 4x more toilets girls
- cleaning brush, waste basket

Creating sanitation sustainability

- Local production of UDD tools
- Use of local materials, labour, expertise
- Adaptation local conditions

Local production of Urine Diverting seats from Concrete or Ceramic Affordable!

Urine excellent fertilizer, increase yields

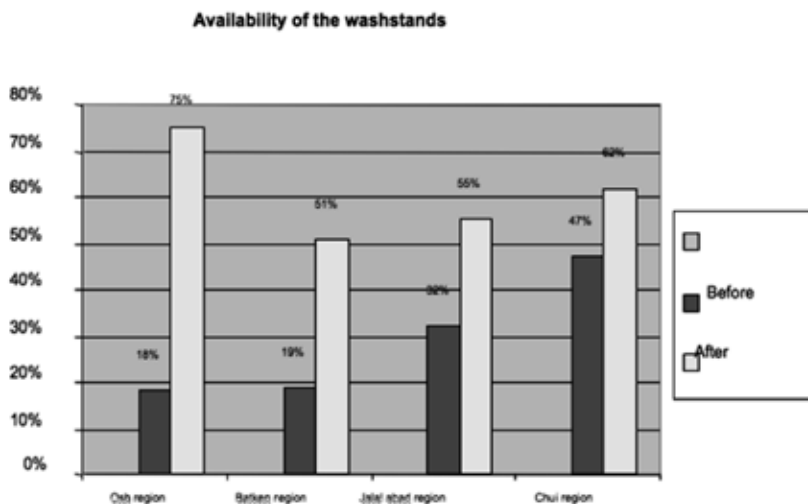
Testing positive impact on tomatoes and flowers in Kyrgyz laboratory

Education and awareness on hygiene, water, sanitation

CAAW Central Asia; hygiene education

* **315 local facilitators trained** (project with ADB)

PHAST Impact: Facilities Increased



Some benefits from improved sanitation in our projects

- Reduction of children with helminths
- Less bladder infections of girls
- Increased girls' school attendance
- Local employment, especially women
- Increased awareness hygiene, water protection
- Increased understanding value water (willingness to pay)

How accelerate MDG achievement?

It is also set forth in the Dushanbe draft declaration (pg1, para2)

It is necessary to bring the Legislation in compliance with the/conventions which are related to MDGs :

- Linking MDG4 and 7:
 - UNECE Water & Health protocol - global level?
 - Linking MDG1 and MDG4: constituting the right to water for all in country constitution/legislation

Dushanbe draft declaration (pg1, para2)

Beyond MDGs/Lessons Learned :

- Include Shared facilities in JMP monitoring
- Public services - schools, hospitals - currently excluded, is key task of government
- More integrated, less technical, more process indicators

Should Menstrual hygiene be an accelerated area of investment for girls education?
World Water Week, Stockholm 19th August 2008 Therese Dooley unir.fif

Dushanbe draft declaration (page 3, para 8)

Hydro power:

- MDG 1 not helped by large hydro
- MDG 1 needs small hydro, small biogas, integrated village grids
- Add: “ in particular smaller scale hydro projects can simultaneously achieve poverty reduction (MDG1) and environmental sustainability (MDG7)

Dushanbe draft declaration (pg4, para 1, 2)

Protect water quality, prevent pollution at source:

- Polluter pays legislation
- Waste water treatment obligation
- Incentives for nutrients and water re-use

Dushanbe draft declaration (pg4, para 4)

Financing MDG7:

- Make global funds accessible for local communities/women groups/households (earmarked, independent)
- Finance local job creation vs imports
- Extend housing loans to include sanitation installation (not micro credit)
- Financial Transaction Tax needed

Dushanbe draft declaration (pg4, para 5)

More Public Participation, Legislation, Accountability:

- UNECE Aarhus Convention as a best practice to create access to public participation, information and justice
- Corporate Accountability Global Agreement in Rio+20 (oil spills, mining, chemicals..)

Dushanbe draft declaration (pg4, para 6)

Boost women’s involvement:

- Adopt Major Group system in policy processes
- Support community-run water committees for small scale water supply and sanitation systems
- Support women’s economic and social development
- Gender mainstream MDG implementation (example water pumps)

Summary of Presentation on Women's contribution to accelerating progress towards water related IADG

Ms. Alice M. Bouman-Dentener, President of Women for Water Partnership

Dublin principles for Integrated Water Resources Management

2. Development & management of water should be based on a participatory approach, involving users, planners and policy makers at the lowest appropriate level.
3. Women play a central role in the supply, management and safeguarding of water.

Women as an organized segment in society:

- (inter)national umbrella organizations
- business women
- professional networks
- women water professionals
- service clubs
- lobby & advocacy groups
- ethnic groups
- gender specialists
- grassroots
- face and interest groups
- rural women

Working at 3 levels simultaneously

1. Institutional level:
 - a. developing legal and policy frameworks
 - b. develop institutional mechanisms
 2. Activate civil society to amend socio-cultural norms and lift taboos:
 - a. Create awareness
 - b. create an enabling environment for change
 3. Concrete projects on the ground:
 - a. Identify and address the most pressing needs of the community
 - b. Implement demand driven projects
1. Institutional level
 2. Socio-cultural level:
 - Building awareness
 - Getting women involved
 - Create an enabling environment for Change
 3. Concrete projects addressing immediate needs
 - Women as equal partners in their own development:
 - One does not develop people People develop themselves
 - Involvement of the Major Group Women cuts across sectoral boundaries

Summary of Presentation on Experiences in the Implementation of Water-related IADG, including the MDG, and Perspectives in Asia-Pacific

Mr. Ti Le-Huu and Ermina Sokou Water Security Section ESCAP

Points of discussion

Progress in Asia-Pacific

- MDGs
- Institutional achievements (Sanitation)
- Household Water Security Framework

Challenges:

- Socio-economic concerns
- Hotspots

Plan for action:

- Sanitation as Wastewater Revolution
- Watsan for Quality of Life

MDG Target 7c

- Progress since 1990:
 - 1.2 billion additional people have gained access to improved water
 - 0.8 billion have gained access to improved sanitation facilities
- In 2015:
 - Early achievement of MDG 7c for Water
 - Needs much more efforts for 7c on Sanitation

ESCAP survey on institutional changes for sanitation

- Most countries have created *national coordination mechanism* for sanitation (9/13)
- Most important driver for change in sanitation is civil *society mobilization* (13/15)
- Local governments need to be trusted not only with decision-making authority, but also with financial resources, rewards and incentives (all)

Types of institutional changes in 22 reported cases

Types of changes	No.	%
Policy & planning	6	27
Coordination	10	45
Decentralization	4	18
Financing	4	18
Technology	2	9
Public awareness promotion	4	18

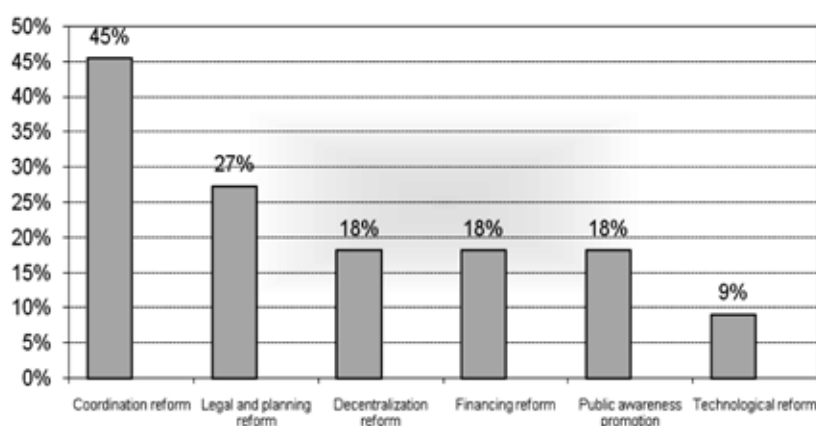
Source: ESCAP Publication on *Institutional Changes for Sanitation* – March 2010

Major achievements and successes

- Awareness campaigns (all)
- Sanitation through curriculum (THA, BAN)
- CLTS (CAM, BAN, INA, NEP)
- Sustainability – ECOSAN (NEP, SRI)
- Awards & incentives for local leadership (THA, BAN)
- Decentralization with funds (BAN, INA, THA)

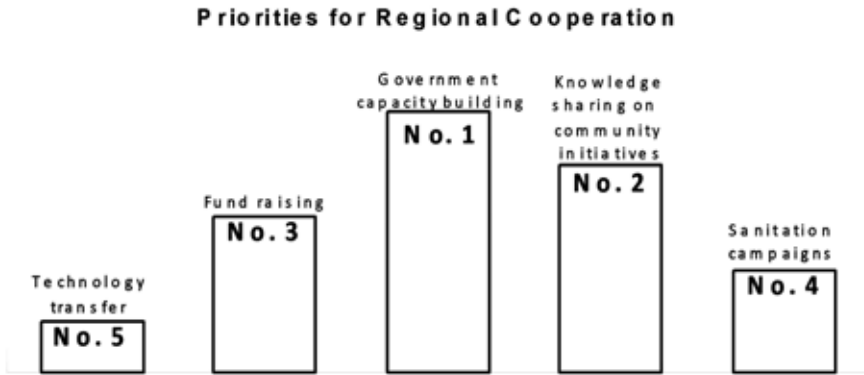
*Survey undertaken in 13 countries from South and South-East Asia

Most common institutional changes since 2003



Source: ESCAP Publication on *Institutional Changes for Sanitation* – March 2010

Perception of priorities in regional cooperation



Source: ESCAP Publication on *Institutional Changes for Sanitation* – March 2010

☉ Challenges

- Sustainability of WATSAN systems
- limited human resource capacity
- limited cost recovery
- Inequalities:

- Socio-economic
- Geographic

☉ Inequalities in access

Water

- ☉ Highest wealth quintile: better access to water than lowest quintiles
- ☉ Greatest difference between the ‘rich’ and ‘poor’ Lao PDR, Nepal and Cambodia, Mongolia, Azerbaijan and Armenia

Sanitation

- ☉ Greatest in Nepal, Cambodia, India and Pakistan, particularly in smaller towns and cities
- ☉ Highest wealth quintiles: almost universal access, whereas the poorest quintile is only marginally served by infrastructure.
- ☉ Challenges (cont’d)
- ☉ Sanitation lagging behind:
 - the absolute number without access increased globally by 200 million (44 million in Asian-Pacific Region)
- ☉ Piped water infrastructure:
 - Myanmar & Afghanistan have less than 20%
 - Bangladesh and Timor-Leste less than 30%
- ☉ High costs to meet the MDGs:

– In AP: \$59 billion for water, \$71 billion for basic sanitation

◎ Household Water Security

- Beyond Water Supply and Sanitation
- Water access for health, productivity, small businesses opportunities
- Sanitation access for human & environmental health
- Protection from natural disasters
- Sustainability of achievements over time

Key Outcomes	Measured through	Capacity required for sustainable outcomes	Long-term Impacts
Access to water	<ul style="list-style-type: none"> ▪ MDG Target 7c ▪ Diarrhoea DALYs 	<ul style="list-style-type: none"> ▪ Affordability of access (e.g. price) ▪ Reliability of access (eg. availability of resource, reliable supply) ▪ Convenience of access (e.g. time spent collecting water) ▪ Empowering institutions (e.g. governance and education) ▪ Other socio-economic conditions (e.g. equality, poverty) 	<ul style="list-style-type: none"> ▪ Healthy people ▪ Poverty reduction ▪ Healthy eco-systems ▪ Adequate water allocation
Access to sanitation	<ul style="list-style-type: none"> • MDG Target 7c 		
Additional Outcomes	Measured through		
Resilience to drought, storms, floods	<i>Requires research for indicator development</i>		
Environmental health of water points	<ul style="list-style-type: none"> • Diarrhoea DALYs 		
Water to enable livelihood creation	<ul style="list-style-type: none"> • GDP per capita <i>Requires further research</i>		

◎ ESCAP study to review sustainability of systems (5 pilot countries*):

- performance of public utilities tended to be poor (poor functioning, financing and demand responsiveness)
- community-run systems also exhibited some problems with sustainability (low capacity for repairs, awareness of benefits)
- privately built systems were the most sustainable (out-of-pocket expenditures)

◎ Types of Hotspots due to Water Insecurity identified by ESCAP

1. Increasing water scarcity
2. High water utilization
3. Poor water quality & low water endowment
4. Deteriorating water quality
5. Flood-prone
6. Cyclone-prone
7. Drought-prone
8. Ecosystem/ Climate change

9. Inequality (Virtual Water)
 10. Physical water (Virtual Water)
 11. Access to sanitation
 12. Access to water
- ☉ Hotspots for Decade for Action «Water for Life»



- ☉ Challenges (cont'd)
- Water pollution in Asia-Pacific:
 - 150 ☉ to 250 million cubic meters of wastewater
 - 85% ☉ of urban wastewater remains untreated
 - 88% ☉ of diarrhea incidents due to dirty water
 - ☉ waterborne diseases cause the death of more than 1.5 million children
 - Between 150 and 750 billion US\$ is needed to treat the produced wastewater
 - ☉ Water for Quality of Life: Priority Activities taken by ESCAP
 - Eco-efficient water infrastructure development and support UNSGAB Wastewater Revolution
 - ☉ Recognize savings and gains in wastewater management
 - ☉ **“Guidelines for Establishment of the National Strategies for Eco-Efficient Water Infrastructure Development”**
 - ☉ Detailed studies on **eco-efficient water infrastructure for urban development** for Malaysia and Singapore.
 - ☉ **“Guidelines on Sustainable Rehabilitation of Small Urban Water Bodies”**
 - Redefine Household Water Security

- ⊙ Demand responsiveness
- ⊙ Public Participation
- ⊙ Recognize benefits and savings for economy
- ⊙ Conclusions and Recommendations
- IYS has increased interest to meet sanitation MDG
- Trends have moved sanitation actions beyond toilets to life quality
- Household Water Security provides a firm basis to translate water for quality of life into IWRM
- Integrated sanitation programs and wastewater revolution would contribute effectively to sustainable economic growth
- Effective eco-efficient water infrastructure development needs to be developed through programmes, such as eco-city and rurbanization

Thank You.

Summary of Presentation on The global water challenge “ Water for Life”

**Mr. Ian Ball, Dean of the Graduate School of
Natural Resources Law, Policy and Management,
University of Dundee, Scotland**

The global water challenge

- 250 major international rivers
- 1.2 billion without drinking water
- 2.4 billion without sanitation

Challenges for Water for Life

- Increasing competition for scarce water
- Different:
 - Economies
 - Policies
 - Perspectives & Imperatives
 - Resources

Solutions for Water for Life

- Common goals:
 - UNU Millennium Development Goals
 - UN Watercourses Convention

- Interstate Regional Collaboration
- Willingness to Compromise
- Win-Win Outcomes
- Leadership
- International Law
- Hydro-diplomacy
- Cooperation not Conflict

Common Goals

... support and implement actions for concrete contribution to achieve the Millennium Development Goals... mediators to follow our obligations and from 2005 year to start:

... Improving management of the transboundary water resources [...] by strengthening existing agreements and by signing and implementing effective intergovernmental bilateral and multilateral agreements...

2005 Dushanbe Water Conference Recommendations

Leadership

“Strong leadership is critical for ensuring water security and water governance in the Asia and Pacific.”

Haruhiko Kuroda, President of Asian Development Bank

at the 1st Asia-Pacific Water Summit in Beppu, Japan, 3-4 December 2007

“Solutions can be found [through] the political leadership of Central Asia.”

Ban Ki Moon, 4 April 2010, Nukus (Uzbekistan)

International Law

“...international law provides the only available framework for order and stability.”

Sir Arthur Watts KCMG QC, 2000

‘...international law is an assumption, a foundation, a framework for all relations between nations.’

Louis Henkin *How Nations Behave*: 1968

Hydro-diplomacy: working together :

- The art of the possible
- Not a zero-sum game
- Win-win outcomes
- Synergies
- Clear communication
- Policy
- Stakeholders

Cooperation not Conflict:

- Transboundary Cooperation

- Promoting regional peace and security
- UN Watercourses Convention
- Enhanced local capacity on international law

University of Dundee's Water Mission:

- Water Law Water Leaders
- Interlocutors
- Empowerment
- Local conversations, regional solutions
- Local capacity building through in-country delivery and working in partnership with key stakeholders
- Building confidence, creating momentum

In this room, we have the:

- Intelligence
- Power
- Resources
- Will

We have the solutions...

- Right Here
- Right Now

Thank you

**Ms. Inmaculada Paniagua Brieva,
Spanish Agency for Development Cooperation**

Summary

1. Conceptual framework: principles and goals of the Spanish Cooperation in water and sanitation. Third Master Plan 2009-2012 of the Spanish Cooperation. Human Right to Water.
2. Overall of the Spanish ODA in water and sanitation.
3. The water and sanitation cooperation fund: accelerating progress towards water related MDG

1. Conceptual framework: III Master Plan 2009-2012

- ☉ Overall goal of the Spanish cooperation: fights against poverty and promotion of sustainable human development.
- ☉ The main principles:
 - human rights approach,
 - environmental sustainability (also taking into account climate change),
 - fully accomplishment of Millenium Developments Goals,
 - Paris/Accra declaration objectives.

Mission of the Spanish Cooperation

The specific mission of the different stakeholders of the Spanish Cooperation is supporting development processes of individuals, communities and societies to reach the full exercise of their human rights. For that aim, the Spanish cooperator builds partnerships with both local and international stakeholders in order to jointly combat poverty in a coherent, effective and Holistic manner by transforming the international order and promoting an inclusive global governance.

Impact of the III Master Plan

The Spanish Cooperation has contributed to the sustainable progress in human development, the eradication of poverty and the full exercise of human rights.

Expected Outcomes of the Master Plan by 2012

The likelihood of reaching the MDG's on time has remarkably increased since 2008 due to an important contribution of development policies supported by the Spanish Cooperation.

A more effective, comprehensive and coherent development policy, has been approved by 2012 and reflects the diverse views of all development stakeholders of the Spanish Cooperation, including the support of the citizenship.

1. Conceptual framework: MDGs.

©The water and the MDGs (specific goal):

Target 7.C: Halve, by 2015, the proportion of the population without sustainable access to safe drinking water and basic sanitation.

Relation with other MDGs (I):

MILLENNIUM GOALS	DIRECT RELATION TO WATER	INDIRECT RELATION TO WATER
ERADICATION OF EXTREME POVERTY AND HUNGER	Water is a factor that is present in a great many production activities (such as agriculture, livestock farming, and family industries). Sustainable fishing, forestry and production of other foods, grouped in shared resources.	Reduced degradation of ecosystems improves sustainable development on a local level. Reduction of hunger in cities by bringing down food prices, thanks to more reliable water supply.
ACHIEVEMENT OF UNIVERSAL PRIMARY EDUCATION		Improved school attendance, thanks to improved health and a reduction of the burden of carrying water, especially in the case of girls.

Relation with other MDGs (II)

MILLENNIUM GOALS	DIRECT RELATION TO WATER	INDIRECT RELATION TO WATER
PROMOTION OF GENDER EQUALITY AND WOMEN'S EMPOWERMENT	Development of gender-sensitive water management programmes.	Less time-wasting and less burden on the healthcare system thanks to improved water services, which would leave more time for obtaining income and for better balance between gender roles
GOALS RELATED TO HUMAN HEALTH	Improved access to safe drinking water in a more adequate quantity and of better quality, and improved sanitation, in order to reduce the principal factors of child morbidity and mortality. Greater access to water and sanitation helps households affected by HIV/AIDS, and could improve the impact of healthcare programmes. Better water management reduces the habitat of mosquitoes and the risk of malaria transmission.	

Relation with other MDGs (III)

MILLENNIUM GOALS	DIRECT RELATION TO WATER	INDIRECT RELATION TO WATER
ENVIRONMENTAL SUSTAINABILITY	Improved water management reduces water consumption and recycles nutrients and organic substances. Initiatives that ensure access to better—and, possibly, productive—eco-sanitation in poor households. Initiatives that improve water supply and sanitation systems in poor communities. Initiatives that reduce the volume of wastewater and improve environmental health in shanty towns.	Development of a system for operation, maintenance and cost recovery, ensuring the sustainability of the provision of services.

Water and sanitation in the III Master Plan.

- ⊗ The Third Master Plan 2009-2012 identifies promoting greater access to water and sanitation as one of its 12 sectoral priorities.
- ⊗ General objective for the sector: “promoting the Human Right to Water and improving and extending coverage of and access to safe drinking water and basic sanitation, ensuring sustainability through the integrated management of the water cycle”, on the basis of three specific goals:
 - ⊗ Supporting public policies that are based on the integrated management of water resources, which ensure the right to water supply and to sanitation, and which preserve the water cycle.
 - ⊗ Improving water and sanitation services, as they are elements of basic living conditions, paying special attention to vulnerable groups and to hygiene policies.
 - ⊗ Capacity-building of institutions and local communities, for their effective participation in water and sanitation services.

The Human Right to Water and Sanitation

- ⊗ The Right to Water and Sanitation as a basic fundamental universal human right (GO N.15: Committee on Economic, Social and Cultural Rights).
- ⊗ Spain promotes the legally-binding recognition of the right to water on an international scale
- ⊗ To this purpose, Spain, together with Germany, sponsored an initiative concerning human rights obligations related to access to safe drinking water and sanitation. Resolution 7/22, adopted by consensus and with the co-sponsorship of 46 countries in the Human Rights Council in March 2008, established a new special procedure for this issue.

Projects with Human Rights-Based Approach. Criteria:

- ⊗ Availability: beyond the WHO recommendations: 50 liters inhabitant/day.
- ⊗ Quality-safety: water chlorination, sanitation systems in all the interventions and quality control plans.
- ⊗ Accessibility: intermediate and optimal access.
- ⊗ Affordability: adequate tariff system, assuring the sustainability of projects with in the poor population.
- ⊗ Acceptability: cultural approach and previous identification of the peculiarities in the managing of the water resource in the communities.

Environmental sustainability in the context of Spanish Cooperation.

⊗ Sustainable Development Approach:

- ⊗ Environment as the basis of development and as one of the axes of the fight against poverty.
- ⊗ Relationship between poverty and environmental degradation.
- ⊗ Specific approach for projects: river basin and environmental protection, *integrated water resources management, relationship between climatic change and water resources management.*

The water sector in the III Master Plan: summary.

- ⊙ The right to water and sanitation as fundamental and universal human right.
- ⊙ Basin Sustainability under integral management criteria.
- ⊙ Sustainable development: relationship between environment degradation and poverty (lack of sanitation, pollution as source of illnesses).
- ⊙ Water governance: the basis to strengthen institutional capacities.
- ⊙ Transparent and participative public management .
- ⊙ Use of technology for human development.
- ⊙ The Paris Declaration to increase efficiency in the sector.

III Master Plan. Geographical priorities.

- ⊙ Three categories of countries are fixed for action:

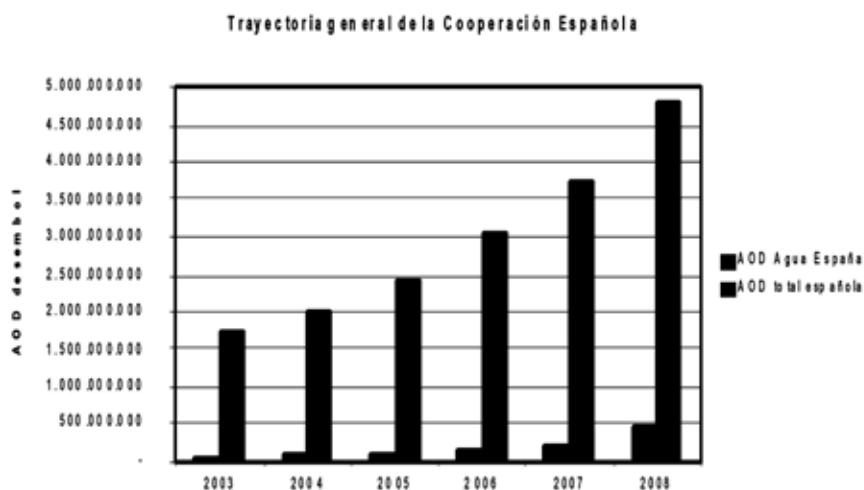
⊙ **Group A** (broad association): holistic approach, several sectors and instruments. Long-term cooperation framework. Big volumes of ODA (*Honduras, Nicaragua, El Salvador, Guatemala, Haiti, Paraguay, Bolivia, Peru, Ecuador, Dominican Republic, Morocco, Mauritania, Algeria, Palestinian Territories, Saharawi population, Ethiopia, Mali, Mozambique, Senegal, Cabo Verde, Niger, Filipinas, Vietnam*).

⊙ **Group B**: association focused on key sectors (Colombia, Iraq, Lebanon, Equatorial Guinea, Sudan, Guinea Bissau, Gambia, Angola, Democratic Republic of the Congo, Guinea Conakry, Timor Oriental, Afghanistan, Camboya, Bangladesh).

⊙ **Group C** (consolidation of development): democratic governance, public participation and institutional development. Global Public Goods (GPG). Promotion of south-south and triangular cooperation (Costa Rica, Brazil, Mexico, Venezuela, Panama, Argentina, Uruguay, Cuba, Siria, Tunisia, Egypt, Jordanian, Namibia).

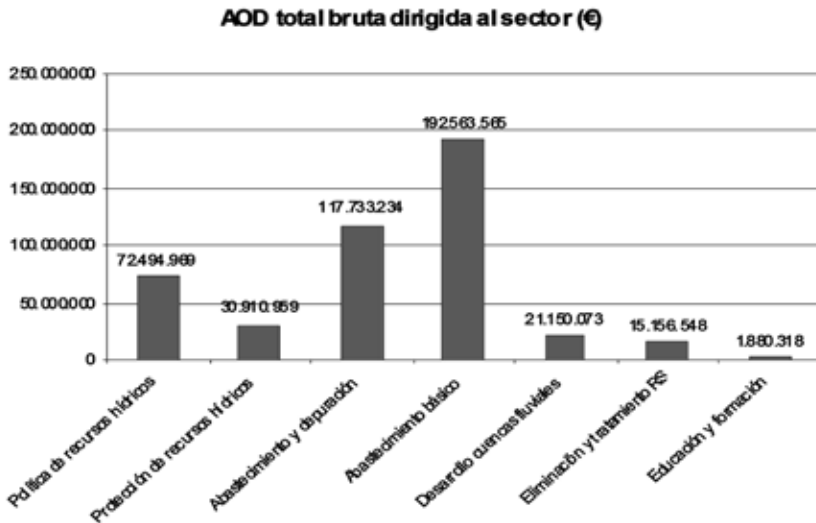
2. Overall of the Spanish ODA in Water and Sanitation

ODA Evolution 2003-2008 in Water and sanitation sector



Projects 2008 in water and sanitation sector

(Total ODA in the sector 471.889.666€; it represents the 13,11% of the total Spanish ODA distributed by sectors).



Geographic distribution projects in water and sanitation sector 2008 (bilateral ODA)

Latin America	86%
Africa	7%
Asia	5%
Europe	1%
Undisclosed	1%

Water and Sanitation Cooperation Fund

Implementation of the right to water and sanitation.

Background

* At the 17th Ibero-American Summit, in November, 2007, the President of the Spanish Government announced the creation of a Fund for cooperation in the field of water and sanitation.

* Budget of 1.500 million dollars for a period of four years.

* In June, 2008, the Office for the Water and Sanitation Cooperation Fund was created

Goal

* Implement the human right to water with the purpose of contributing to the achievement of target 7.c of the MDG's:

“Halve, by 2015, the proportion of population without sustainable access to safe drinking water and basic sanitation”.

Purposes

- * Extend sustainable access to drinking water and to basic sanitation services.
- * Favor public, comprehensive and participative management of the water resource.
- * Reinforce countries institutional system for a suitable sector management.
- * Contribution to the establishment of sustainable systems of water and sanitation services.

Action Lines

- * Sustainable access to drinking water.
- * Sustainable access to basic sanitation services, included solid waste management.
- * Strengthening of policies and institutional frames of water management.
- * Strengthening of comprehensive water resources management.
- * Establishment of sustainable public services systems for supply of water and sanitation.

Financing Criteria

- * Mainly non-refundable funds, grants
- * Beneficiaries: public administrations and civil society organizations.
- * Focused in Latin America: 85% of the resources directed to priority countries.
- * Co-financing requirements according to development level and sector needs.

Principles

- * Poverty reduction as a priority: the Fund is focused on urban peripheral and rural areas.
- * The right to water as a fundamental and universal human right: available, healthy, acceptable, accessible and affordable water for personal and domestic use.
- * Recognition of the diversity and heterogeneity of the territories: inclusion of marginal population.
- * Bottom-up process: participative management.

Principles of the Fund

- * Environmental sustainability and environmental governance.
- * Peacebuilding through social and economic development.
- * Transparent and participative public management with efficient policies in the field.
- * Emphasis on the hygiene and health education.

* Alignment with the Paris Declaration principles in order to increase aid effectiveness.

Monitoring

* General Plan of monitoring and evaluation of the Fund underway.

* Implements the normative content of the right to water, according to General Comment No.15 (CESCR).

Experience

* 46 projects (2009): 782 million dollars.

* 375 m. bilateral and 407 m. multilateral (IADB).

* Preference for national programs: governments, departments and regional and local administration.

* Open national programmes approved that allow flexibility: earthquake in Haiti and Chile

* Leverages new resources: 1.7 billion \$ in total.

* Promotes national plans in water and sanitation policies.

* 90% of the interventions include institutional strengthening and community development, assuring sustainability.

Thank you very much for your attention.

Round Table II. Transboundary Water Cooperation and International Law

Co-Chair:

Dr. Veysel Eroglu, Minister of Environment and Forests of Turkey

Co-Chair:

Dr. Mahmoud Abu-Zeid, President of Arab Water Council, Honorary President of World Water Council

Secretary:

Mr. Alexei Tikhomirov, Chief Transition Economics Unit, Development Planning and Policies, UNDESA

Rapporteur:

Mr. Cedric Charpentier, VAM Officer, World Food Programme

Penalists:

Mr. Joao Gomes Cravinho, Portuguese Secretary of State for Foreign Affairs and Cooperation

Ms. Marta Moren Abat, Director General for Water,
Ministry for Environment, Rural and Marine Affairs

Mr. Saghit Ibatulin, Chairman of the Executive Committee of the International Fund for Saving the Aral Sea (IFAS)

Mr. Miroslav Jenca, Director of the UN Regional Centre for Central Asia (UNRCCA)

Ms. Sibylle Vermont, Chairperson of the Meeting of the Parties to the Convention on the Protection and Use of Transboundary Watercourses and International Lakes of the United Nations Economic Commission for Europe, Swiss Federal Office for the Environment

**Mr. Joao Gomes Cravinho, Portuguese
Secretary of State for Foreign Affairs and Cooperation**

I would like to start by greeting co-chairs of this round table, and to thank once more the Government of Tajikistan and the United Nations for their kind invitation to participate in this panel, where I have the honor to be accompanied by renowned specialists on a topic of such importance.

Let me briefly start by making some general remarks on the subject of today's roundtable. It is interesting to note that unlike other forms of cooperation - in the political arena or in human relations - the need for cooperation over transboundary waters is dictated entirely by nature. Nature ignores human-defined political and administrative boundaries and created an opportunity, that can either be properly seized, or can be the source of great difficulties and tensions. The relative scarcity of water and the absolutely vital need for it, means that cooperation among nations over transboundary waters is at the end of the day inevitable, and should be regarded as a positive factory with great political in reshaping relations between countries. Historically, we can find many examples of situations in which even the bitterest rivals have been able to solve their tensions diplomatically where water is concerned

Several examples show how nations have had to learn how to share, like the Permanent Indus Water Commission, which remained in place despite two major wars between India and Pakistan, or the informal cooperation among Arab countries and Israel, which survived through several wars. The case of Portugal and Spain, though not involving wars, is also an example of resilience of water management institutions and international cooperation, throughout a period of nearly 150 years where, not so rarely, tensions and conflicts emerged.

But if the past half century shows us that conflicts between nations have been outnumbered by international treaties and cooperative events, water management remains a source of dispute worldwide and increased international cooperation for the sharing of water resources is needed. In fact, at the same time that we make some progress, new challenges emerge and I would like to mention just a few of them.

Firstly, our growing understanding of the effects of climate change. By 2025, 1800 million people will be living in countries or regions with absolute water scarcity, and according to the FAO two-thirds of the world population could be living under stress conditions as regards water. Furthermore, it is important to bear in mind that populations in developing countries are those most vulnerable and already being affected by the consequences of climate change, from desertification to natural disasters, with direct results regarding the access to clean water.

Secondly, we must remain aware of the fact that transboundary water cooperation often remains hostage to security issues and to concerns over the securitization of water resources. The point I wish to make is that securitization does not usually result in sustainable solutions but tends to maintain the established water regime and its intrinsic tensions. And security perspectives tend to reduce the possibilities for good management of water resources; indeed, too often, what lays behind official statements of water emergency and security threats is, simply, poor water management and bad governance.

So what we need to do is to look at water and international water management from a different perspective - a perspective that privileges the human security dimension and deals with water management primarily as an element of conflict prevention, against an international framework that recognizes access to water as a human right.

Indeed, if water can constitute an obstacle or a challenge to conflict resolution, it is equally the case that international water management is always a fundamental element for peacebuilding. Moreover, cooperation on water management may serve as a catalyst for integration in other areas and this is the case of a number of countries where water has become a foreign policy issue on its own.

Thirdly, as a vital resource as well as a social value, access to water should be treated as a human right. And understanding water and sanitation as human rights brings a specific spotlight to these issues which require priority attention. In the case of transboundary water management, the crucial difference that emerges when we talk of human rights is that we establish clearly that the human dimension must have primacy over the political instrumentalisation of shared water resources.

Under this perspective that I have just described, transboundary water management cannot be detached from broader international development goals, like the MDG regarding sustainable access to safe drinking water and basic sanitation, and indeed it is fundamental for progress in a number of the other MDGs as well.

In my opinion, international agreements on river basins, even the most technical, can and should serve as foundations for us, who have political responsibility, to identify shared objectives for human development in terms of wealth and job creation, thus preventing the public bads that normally flow from mismanagement, like environmental refugees or poverty.

All this comes as a strong argument for increasing financial assistance to water management programs in developing countries. In fact, according to the UN, of a total of about \$3.5 billion spending on development assistance on water and sanitation, less than \$350 million, or 10%, is allocated for transboundary water management. In my view, this is a number that is worth revisiting in this Midterm exercise that we are carrying out here

These thoughts may come across as mere abstractions in the context of a discussion of very concrete issues and problems and therefore I would like to share with you the Portuguese experience of the management of water basins with our neighbor Spain, as an example of a longstanding practice of negotiation and cooperation. We believe that there may be some interesting insights that could be of relevance for other similar situations.

In the Iberian Peninsula, Spain and Portugal share a significant amount of its hydric resources, especially the Minho, Lima, Douro, Tejo and Guadiana river basins.

Portugal and Spain benefit from an important comparative advantage: the Portuguese borders are the oldest in Europe, as the result of a number of treaties negotiated in the XII and XIII centuries. And apart from having been technically settled, the border has also been physically marked out with no room for reinterpretation. In 1864, and then again in 1926 for the Southern region, most of the border with Spain was marked out in great detail, thus leaving very little room for border disputes.

It was the 1864 Lisbon Treaty on the Portuguese-Spanish border that for the first time presented the management of frontier rivers as a shared responsibility of the two peoples; this treaty goes on to add that «those rivers should be subject to the permanent vigilance of local authorities». In other words, the recognition of joint responsibility goes back almost a century and a half, and I should add, for those that are not familiar with the history of my part of the world, that this took place against a backdrop of longstanding and traditional suspicions between the two neighbours, perhaps like neighbours almost anywhere in the world.

During the XX century a number of efforts contributed to defining the terms of that joint management. It was not an easy task and tensions emerged on a number of occasions, related to circumstances that go beyond merely political relations between countries, such as economic opportunities, environmental sustainability or simple misperceptions based on poor information. Finally, in the 1960s, a bilateral agreement was the first step to solve important issues such as the guarantee of minimum flows during drought, fish conservation and matters associated with the development of hydropower. For several decades this was the central basis for joint water management, and above all we gained an appreciation of the benefits to working together but over time the bilateral agreement became less capable of dealing with the issues that were emerging.

The accession to the European Communities of both countries, Portugal and Spain, in 1986, acted as an important catalyst for further developments in water management cooperation, especially during the 1990s. By this time both countries had undergone far-reaching internal political, economic and social changes, leading to an increase in water use, with the consequent modifications to the life of rivers, and a progressive deterioration of water quality. Water quality also decreased as a result of intensive agriculture practices and the release of domestic and industrial wastewater without adequate treatment. In other words economic progress led to new realities, and the old paradigm was no longer capable of producing an adequate response to the needs on both sides of the border.

Long negotiations took place in the search for an updated agreement, until finally in 1998 the two countries signed the Albufeira Convention. Indeed, its additional Protocol came into force just last year, so we are talking of very recent developments indeed. The new Convention essentially represents an attempt to deal with this trend of water deterioration, through the deepening of a common approach regarding the management of shared water resources. These new legal instruments also address persisting gaps, such as the need for more transparent channels of information sharing, or the difficulties in defining ecologically sustainable water flows throughout the year. So one of the things that we have learnt over the years, together with Spain, is that agreements need to be updated every now and then, and this is particularly true in situations of rapid social and economic change.

The advantages of diplomatic agreement and common management over persistent tensions and unilateralism are obvious, but it is also the case that arriving at such a point is not usually a simple matter. But it is certainly a desirable and achievable objective. And if I can summarize the lessons that we have learned from our own experience, I would refer to the simultaneous fulfillment of several sensitive conditions:

1. First, it is essential to build a shared long-term vision of common goals and benefits, based on common basic values, such as human security as a fundamental element of national security in the management of shared waters; this is not done from one moment to the next, but I do not believe that there are any circumstances where this is not possible, and therefore diplomatic persistence is always important.

2. Second, there is a need for a definition of a global strategy for the good management of water resources, ensuring fair and responsible access to them, in such a way that it responds to present water needs while maintaining its availability for future generations; if agreements do not take care of the intergenerational aspects of the management of water resources, they will simply solve the problems of today at the expense of greater problems tomorrow.

3. Third, there is a need for a permanent effort of surveillance and control on both sides, through joint bilateral structures, so this means that attention also needs to be dedicated to institutional capacity building. We all know that old diplomatic piece of wisdom that it is good to trust but it is better to verify, and indeed it is easier to create a strong sense of trust if there are appropriate mechanisms for verification. In our own case, the surveillance functions of the joint commission were, very recently, crucial in limiting the effects of flooding as a result of record levels of rain this Winter;

4. Fourth, we have benefitted greatly from the active involvement of citizens in the process; a participatory approach with the involvement of all relevant stakeholders has proved to be highly useful for the success of our transboundary water management strategy, and we know that this has also been the case in many other contexts. The website of our Bilateral Commission, where useful information on its activities is readily available, together with contributions from NGOs and other civil society actors, is a good example of this participatory approach.

The Portuguese-Spanish experience of cooperation on water resources that I have just described is more than a tool for conflict prevention; it has been, and still is, a strong basis for extending cooperation to related areas.

Crossborder cooperation is now very much part of the contemporary reality between Portugal and Spain, with the involvement of regional and local authorities and covering a wide range of domains, from technology to cultural heritage. There is a clear trend towards coordinated and sustainable regional development, which provides an example of how we moved from conflict prevention to peacebuilding, and now to what we could call «community building», in the sense that one's interests are, increasingly, shared with the other.

Ladies and gentlemen,

Two major challenges face water management strategies in this early XXI century. The first is to go beyond national policies and unilateral action towards the adoption of shared strategies and multilateral cooperation. The second is to put human development at the center of transboundary water governance. If water management can be still, these days, a pretext for war or for peace, it is up to us all to make sure that the latter becomes the only option.

Thank you.

Summary of Presentation on Views of Spain on Transboundary Water cooperation

**Ms. Marta Moren Abat, Director General for Water, Ministry for
Environment, Rural and Marine Affairs**

Lines of action of the Ministry for Environment, Rural and Marine Affairs of Spain

Driven by EU Legislation the implementation of Water Framework Directive

1) Water governance

- Management at river basin scale level
- International agreements
- Environmental requirements, economical and social considerations and possible administrative constraints
- The need of coordination
- Transparency, information and public involvement

2) Planning Process: implementation of WFD

- The need to adapt requirements of WFD
- River Basin Management Plans
- Unity of management and hydrological boundaries
- Transboundary coordination
- Sustainable use of water

3) Conciliation between water uses and Good Ecological Status

- Water uses
- Ecological status of ecosystems and water bodies
- The right balance: To find progressive adaptation between the needs and the requirements of WFD. Use of programs of measures and opportunities that WFD offers.

4) Management of extreme events

Floods:

- Implementation of flood risk directive

Droughts:

- Relevant experience: several episodes, last one 2004-2005.
- Drought management plans

Conclusions

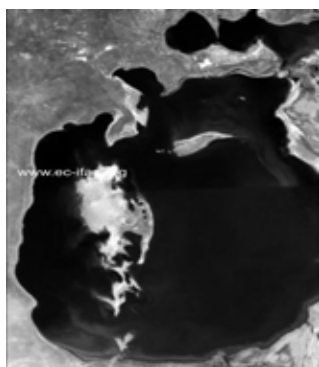


**Mr. Saghit Ibattulin,
Chairman of the Executive Committee of the
International Fund for Saving the Aral Sea (IFAS)**

IFAS AS A BASIS FOR REGIONAL COOPERATION IN CENTRAL ASIA

The satellite image of the water area of the Aral Sea

September 1989



August 2009



1. History of the Aral Sea tragedy

The Aral Sea is located in arid northern part of Central Asia within the area of Kazakhstan and Uzbekistan. The Aral Sea basin incorporates two major river basins of Amudarya and Syrdarya rivers. These rivers are the main transboundary water arteries flowing through 6 countries: Kyrgyzstan, Tajikistan, Uzbekistan, Kazakhstan, Turkmenistan and Afghanistan.

The total average annual runoff of all rivers of the Aral Sea basin is 115.6 cubic kilometers (including 78.4 from Amudarya and 37.14 from Syrdarya, Table 1).

Table 1 - Water and land resources of the region

Country	Runoff, km ³ /year		Irrigated lands		Population
	Syrdarya	Amudarya	Total	thous. ha	mln. ppl
Kazakhstan	4.5	-	4.5	786	3.1*
Kyrgyzstan	27.4	1.9	29.3	415	5.3
Tajikistan	1.1	62.9	64.0	719	7.0
Turkmenistan	-	2.27	2.78	1714	6.7
Uzbekistan	4.14	4.7	8.84	4259	26.4
Afghanistan	-	6.18	6.18	-	-
Total	37.14	78.46	115.6	7893	48.5

* Proportion of population in the Aral Sea basin.

The main flow of Amudarya (L=2540 km, S=309th. km²) is formed in Tajikistan - 80% (12% - in Afghanistan, 6% - in Uzbekistan, and 3.5% - in Turkmenistan).

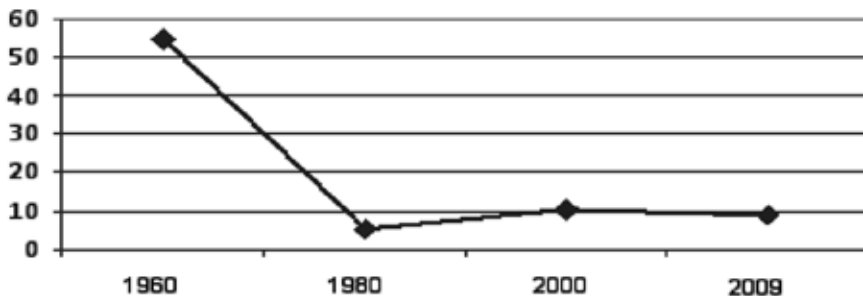
The main flow of Syrdarya (L=3019 km, S=219th. km²) is formed in Kyrgyzstan - 74.2% (11.1% - in Uzbekistan, 12.1% - in Kazakhstan, and 1.1% - in Tajikistan).

Thus, there is considerable disparity in the distribution of flow between countries and shares of countries in irrigated lands of the region.

Rapid expansion of irrigated lands in the region took place in 1965-1990 when the centralized government of the country (USSR) made decisions, without regard of environmental requirements, to increase the production of cotton and other crops. This predestined the future collapse of the Aral Sea, since the total runoff to the sea was reduced from 55.0 km³ in 1961 to 8-10 km³ by 1990 (Table 2).

Table 2 - Key indicators of the use of water and land resources in the Aral Sea basin

Indicators	Measurement unit	1960	2007-2009
Population	mln.	14,1	48,5
Irrigated agricultural lands	thousand hectares	4510	7893
Irrigated land per capita	hectares/person	0,32	0,16
Total water withdrawal	km ³ /year	60,61	105,0
Total runoff to Aral Sea	km ³ /year	54,99	10,6

Total runoff to the Aral Sea, km³

These data (Table 2) clearly demonstrate what has, in fact, become the main cause of the Aral Sea drying out and of related environmental tragedy for a vast region. After 1961, there was a significant increase of water withdrawal for irrigation of up to 105.0 km³.

This led to a catastrophic decrease in the volume of water in the Aral Sea.

Before 1961, the average water surface of Aral Sea was 67.8 thousand km², and the volume of water in the sea comprised 1064.0 km³.

Currently, the water area of the Aral Sea is only 13.0 thousand km² or 17% of the original and the volume of water comprises 90 km³ or 9% of the volume of 1961.

In the northern part of the Aral Sea (Kazakhstan), the volume of water is 27.4 km³ and the mineral content is 6.0 to 17 g/liter. There is only about 60 km³ of water left in the southern part of the Aral Sea, and the mineral content there is 90-120 g/liter.

Besides the shrinking of the Aral Sea, the region faced new social and environmental issues.

Political changes breached the former, rather stable pattern of water and energy exchange between the countries of the region, having them face a threat to national food and energy security.

The main problem in the use of water resources of the Aral Sea basin is the contradiction between the irrigation regime of water use by the downstream countries (Uzbekistan, Kazakhstan, Turkmenistan) and the energy-production regime of use of the rivers by the upstream countries (Tajikistan, Kyrgyzstan).

Prior to 1991, in the context of a single state (USSR) and planned economy, the inter-republican system of water distribution and exchange of electricity generated by upstream countries - Tajikistan and Kyrgyzstan - had functioned rather effectively. The reservoir hydropower systems built in the Soviet period mainly operated in irrigation mode, accumulating water in the autumn and winter period and emptying the reservoirs in summer for irrigation in downstream countries of Kazakhstan, Uzbekistan and Turkmenistan.

On the other hand, the deficiency in electricity was replenished with energy supplies (coal, gas, oil) from the hydrocarbon-rich countries in the lower reaches of the rivers (Turkmenistan, Uzbekistan, Kazakhstan).

With the collapse of the Soviet Union and its centralized management of water and energy resources, this balanced scheme has been broken.

If before 1991, 70% of river runoff was accumulated in the reservoirs of the upstream countries and discharged downstream in the crop season, in subsequent years the situation has radically changed. Upstream countries with large hydropower potential were forced to discharge 70% of river runoff in winter to generate additional power due to the shortage of hydrocarbons supply.

This led to disastrous flooding of downstream areas in winter, destruction of settlements and communications, and to summer droughts in the lower reaches of rivers, threatening the food security of downstream countries. Differences in the seasonal water needs had formed the basic contradiction between the two groups of countries with respect to the use of transboundary rivers.

This is an issue of fundamental importance for the countries of Central Asia. In future, we can foresee an increased competition for water between countries in the region and aggravation of interstate relations on water-related matters.

Factors determining changes in usage of water resources in Central Asia:

- Population growth, at a level no lower than 1.5% per year, resulting in an annual population increases by half a million people, that even at the minimum rate of water spray equal 1200 m³/year/per capita requires about 700 million m³ of additional water resources in year;
- Climate change and its associated general lack of flow on the one hand and the growing demand for irrigation water on the other hand, and the increased frequency of extremely critical of floods and droughts;
- The growth of urban population and expansion of urban areas at the expense of irrigated land creates the need for additional water resources and, at the same time, the need to replace them with new irrigated lands;
- Increase in irrigated areas and changes in cropping pattern in connection with the restructuring of large farms, the development of farming and the tendency to obtain secondary crop yields and production of high-value crops;
- Physical and moral worn out of reclamation systems, the low efficiency of some irrigation systems which leads to unproductive water losses;
- Lack of coordinated mechanism of integrated use of water and related resources;
- Possible increase in water intake from the Amudarya from Afghanistan after the stabilization of political situation in that country;
- Reducing the accuracy of cost accounting of water, resulting in the loss of water in the riverbed. The level of unaccounted losses has been increased nearly up to two folds.

2. Establishment of IFAS

Understanding these post-Soviet realities, the presidents of the 5 Central Asian States decided to establish the International Fund for Saving the Aral Sea in 1993. The main objective of the Fund is to finance practical joint activities, programs and projects aimed at environmental rehabilitation of the Aral Sea basin, as well as at improvement of the socio-economic situation in the region.

Over the years, IFAS and its organization have become a platform for negotiations between countries and development of bilateral and multilateral instruments.

A number of treaties and agreements on cooperation in water sharing, joint management, use and protection of water resources in the region were adopted, and two ASBP programs have been implemented to date.

In December 2008, the IFAS was granted a UN observer status.

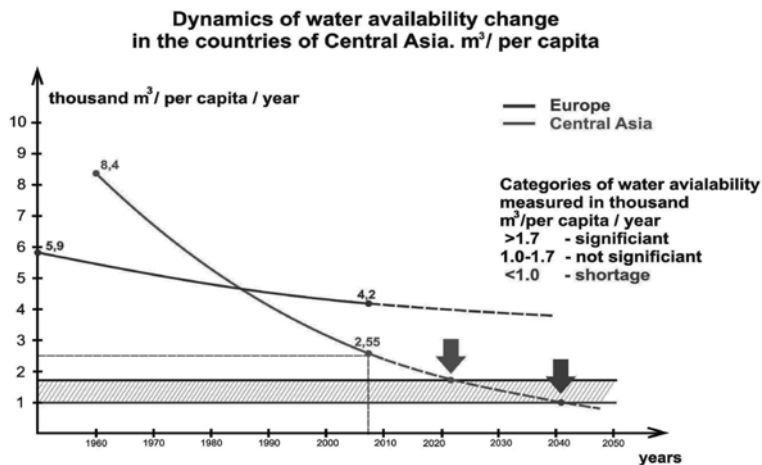
This year the Secretary General UN has visited the Region and stated about support to the IFAS in its further initiatives and activities.

Increasing scarcity of water resources and expected increase of water demand require strengthening of international cooperation and legislative mechanism on joint use of water resources. Development of legislative mechanism of joint management of water resources taking into account international experience is the base for solving numerous contradictions relating to water resources both on regional and national levels.

Today number of population living in the Aral Sea basin makes more than 48 million people with the annual growth for 1.5% it may reach 75 million people.

As it known countries or regions having less than 1 thousand cubic meters of water per capita belong to the category of the countries with shortage of water resources; between 1 thousand and 1.7 thousand cubic meters considered as the countries

with the lack of water resources; and more than 1.7 thousand cubic meters are characterized as the countries with enough water resources. If in Europe problems of water security practically do not exist, in Central Asia decreasing of water consumption are characterized as catastrophic situation (see below picture). Impact of climate change on water resources in the region adds to the problem and makes the situation more severe.



As it can be seen from the picture during the last 50 years water availability for population decreased approximately for 3.5 folds and maybe before 2025 water availability will reach the critical point of 1.7 thousand cubic meters per capita per year.

That is why water security of the region became an issue of the social security level, which in its turn may cause humanitarian catastrophe in the region. Thus it is necessary to note that 60% of the population lives in the rural areas and practice irrigated farming, which is directly linked to water resources as the major factor of sustainable development of livelihoods.

Countries of Central Asia despite of achieved progress in development of new social and economic system with the market principles of development still face number of problems and difficulties that constrain development not only certain countries but the whole region.

Negative tendencies caused by exhaustion and contamination of water resources may have irreversible consequences for social and economic development and overall environmental situation if appropriate measures will not be undertaken. Availability of water resources and their security are the major condition for functioning of all sectors of economy. That is why effective regulation of joint water resources use, first of all for agricultural purposes and hydroenergy, are on of the most important areas of intergovernmental cooperation in Central Asia and factor ensuring security in the Region.

In these conditions role of the International Fund for saving the Aral Sea is growing because this is the only political arena bringing together all the countries of Central Asia. And as it was said in the joint Statement of the Heads of the IFAS member-countries "Parties emphasizing positive role of the IFAS, activities of which allow coordinate and solve principal issues of cooperation on crisis consequences in the

Aral Sea basin will facilitate strengthening works and development of cooperation with UN organizations including UN Regional Center for Preventive Diplomacy for Central Asia and other international organizations”.

Major areas of activities of the Fund:

- financing and crediting of joint interstate ecological and scientific-practical programmes and projects aimed at saving the Aral Sea and recovery of ecological situation in the regions subject to the Aral Sea disaster, and also addressing general socio-ecological problems of the region;
- financing of joint fundamental and applied research, scientific-technical developments for rehabilitation of ecological balance, rational natural resources use and environmental protection;
- creating and maintaining functioning of interstate ecological monitoring system, databases and other systems aimed to observe conditions of the Aral Sea environment;
- raising funds for joint measures for protection of air basin, water and land resources, flora and fauna;
- financing of joint scientific-technical projects and developments in trans boundary water resources management;
- participating in implementation of international programmes and projects aimed for ecological recovery of the Aral Sea Basin.

The political and organizational basis for the IFAS Activities

The political basis and mandate of the IFAS for carrying out its activities is provided by the established global Action programmes, including the UN Millennium Development Goals, UN International Decade for Action “Water for Life” and other international conventions on the environmental resources use and protection, and regional documents on cooperation, mainly – the Joint Statement of the Heads of five Central Asian States – IFAS founders, from April 2009.

The IFAS structure includes regional and national bodies, where all five countries are equally represented.

IFAS governance is carried out by the Heads of the states-founders IFAS on rotational basis. The Fund supreme authority is the Council of the Heads of states with regard to the Aral Sea problems. The Fund’s structural bodies include IFAS Board, Inspection Committee, Executive Committee with its branches around Central Asia, Regional Hydrological centre, Interstate Commission for Water Coordination with its Scientific Research Centre, Secretariat, Coordinative Metrological Centre, Basin Water Organizations and Interstate Commission for Sustainable Development with its Scientific Research Centre and Secretariat.

IFAS Board represented by Deputy Prime Ministers of five Central Asian States is the highest political level of decision-making and decisions preparation for approval by heads of states.

IFAS Board’s functions are related to preparing drafts of political solutions. Prepared drafts regarding the most important problems are then considered by heads of states and forwarded to the Executive Committee for implementation.

Executive Committee of the Fund (EC IFAS) is a permanent administrative working body established for coordination of activities of the Fund. The Committee includes two representatives from each state and carries out all works related to implementation of decisions adopted by IFAS Board, and through IFAS national departments. In addition, on Board's behalf EC IFAS can establish agencies for different projects implementation (international or donor projects).

Major mission of the EC IFAS up to the year of 2011:

– Preparation, development and ensuring successful implementation of the ASBP-3 for the period of 2011-2015;

Organizational basis:

– High administrative resource of the EC IFAS (ability to attract for the work any organization in the Region);

– High potential of the research capacity of the organizations in the Region: RC ICCWM, RHC EC (including hydro meteorological centers of the countries), RC ICSD, branches of the EC in the region, Research Institutes, Universities, and others.

Main activities of Executive Committee IFAS:

- ensuring realization of decisions made by heads of states in relation to the Aral Sea problems through relevant programmes and projects implementation ;
- coordinating performance of IFAS branches located in the countries-founders;
- facilitating in work of ICWC (Interstate Commission for Water Coordination) and ICSD (Interstate Commission for Sustainable Development);
- strengthening cooperation between state bodies, public, ecological and other organizations of Central Asian states in addressing problems of the Aral Sea Basin;
- increasing partnership with international organizations, countries-donors and other organizations;
- accumulating of financial means and their allocation according to type of work
- preparing documents and organizing meetings of the Fund Board and Heads of states.

IFAS Strategy and Action Plan

– Plan of activities following the aims and objectives set in the Joint Statement of the Heads of the IFAS member-States from April 28, 2009.

On the basis of the overall situation analysis in the Aral sea basin and also functioning of the IFAS and its structural branches number of problems related to water resources management can be outlined which needs to be solved in accordance with the Resolution accepted by the Heads of the IFAS member-countries, commission of the President of the Republic of Kazakhstan – N.A. Nazarbayev, proposals of the Presidents of the IFAS member-countries stated during the meeting in April 28, 2009 in Almaty.

These problems include four major areas of identified problems and development directions:

1. Enhancement of activities and development of collaboration with the UN institutions including the UN Regional Center on preventive diplomacy for the Central Asian countries and other international organizations.

2. Further improvement of organizational and legislative basis of the IFAS seeking to increase efficiency of its activities and better interrelationship with financial institutions and donor organizations for implementation of projects and programmes aimed to address the Aral Sea basin issues.
3. Development of mutually acceptable mechanism on the integrated use of water resources and environmental protection in Central Asia with consideration of interests of all states of the Region.
4. Development of Action Programme on providing assistance to the countries of the Aral Sea basin for the period of 2011-2015 (the Aral Sea Basin Programme - 3) for further consideration and approval by the states-founders of IFAS.

Objective of the ASBP-3:

The objective of the ASBP-3 is to implement joint activities and programmes in order to address the Aral Sea crisis, and to strengthen cooperation by focused actions at national, regional and international levels aiming improvement of environmental, social and economic situation, sustainable development and well-being of the people in the Aral Sea Basin.

The following overall tasks should guide the development of projects within the ASBP-3 framework:

- Improving socio-economic and environmental situation in the Aral Sea basin by taking measures, relevant to the concept and principles of sustainable development and the Millennium Development Goals;
- Facilitating in coordinated actions taken by the countries of the region to effectively protect the environment and improve the management of water and water-related resources;
- Improving preparedness of the countries of the region in addressing new challenges, including the climate change impacts and water use structure, and strengthening capacity to take joint adaptation actions;
- Facilitating in strengthening of institutional and legal frameworks for integrated water resources management at national, river-basin and regional levels.
- Facilitating in development and implementation of relevant international legal instruments in Central Asia;
- Strengthening coordination and cooperation with the donor community in the achievement of these overall tasks.

Major directions of the ASBP-3

- Integrated use of water resources taking into account interests of all states in the region
- Ecological direction
- Socio-economic direction
- Improvement of institutional and legislative mechanisms

**Mr. Miroslav Jenca,
Director of the UN Regional Centre for Central Asia (UNRCCA)**

Dear Mr. Chairman,

Dear participants of the Conference,

Excellencies, Ladies and Gentlemen,

I'm happy to participate in this distinguished Forum which is reviewing mid-term results of the International Decade for Action «Water for Life». We all know that water means life in every corner of our planet. Rational use and appropriate management of water became an imperative for sustainable development of individual states and whole regions. History has shown that a wise and balanced approach to the treatment of water resources was rewarded by multiple benefits and contributed to promoting peace, stability and prosperity.

The initiative of the International Decade for Action, promoted by Tajikistan, was supported by many countries in the world and the wide representation at today's Conference is a clear evidence of that, from the outset, after the adoption of the UN General Assembly Resolution, the United Nations, through its specialized Agencies and Funds, was actively engaged in facilitating «real Action» within the program, launched in 2005.

The major focus of our session today is trans-boundary water cooperation. You may recall that the final document of the first Dushanbe Conference in 2005 called upon governments and international organizations «to work towards building confidence and fostering trust in the interrelation between riparian countries sharing trans-boundary river basins» and «encourage the regular exchange of best practices in trans-boundary river basins». One of the specific recommendations of that Conference emphasized the need to «prevent any dispute and elaborate peaceful measures to resolve conflict situations, if any, by emphasizing on regional cooperation».

These principles are at the heart of the UNRCCA activities. I would like to reiterate that the UN Regional Centre was established in December 2007 at the initiative of the five Central Asian states to assist them in addressing existing threats and emerging challenges. We are the Centre of Preventive Diplomacy, which means that our major goal is to use all available diplomatic tools and capacities of the UN system to prevent a potential escalation of tensions into open conflicts and to facilitate solutions that would take into consideration the interests of all the states in the region. One of the priority areas of the Centre's Program of Action, endorsed by all Central Asian countries, is to support their efforts in achieving durable solutions for the management of water resources in the region. While understanding that at the end

of the day a solution will be found by the countries themselves, we believe our role should be in creating conditions conducive for enhanced dialogue and improved regional cooperation through the use of our convening powers and organization of relevant events. This approach has been reconfirmed during the recent visit of the UN Secretary-General to the region and his meetings with the leaders of all the five Central Asian states. The Secretary-General invited them to make full use of the Regional Centre's platform in developing multi-lateral and bi-lateral dialogue.

In our practical work we have pursued four key objectives in facilitating the resolution of trans-boundary problems related to water/energy nexus. Firstly, we supported a dialogue building on trans-boundary water issues. The Centre organized two major conferences — on international legal instruments and the negotiation of mutually beneficial water agreements, as well as on opportunities for a mutual gain through regional cooperation in water dependant sectors of economy. Secondly, we assisted in building of capacity among the countries for mutual understanding and dialogue on water issues. With this in mind, the UNRCCA has carried out bilateral consultations with senior national representatives on trans-boundary water related issues and possible solutions. Thirdly, we supported the implementation of international donor initiatives, particularly in connection with the implementation of the IFAS Summit conclusions. The Centre organized a donor coordination meeting as a follow up to the IFAS Summit in Almaty (April 2009) and participated in key donor project activities. On 3 March 2010 we signed a MoU with the EC IFAS and prepared a «road map» for our future cooperation. On 20 July this year we plan to convene a dialogue meeting in Ashgabat to support, inter alia, the finalization and subsequent implementation of the Aral Sea Basin Program-3 (2011-2015). And, finally, we support the development of positive relations between Afghanistan and Central Asia with respect to trans-boundary water issues. To facilitate this process the Centre sponsored participation of representatives of the Afghan Government, as observers, in events convened by the UNRCCA and coordinated closely with UNAMA on trans-boundary water issues involving Afghanistan and Central Asian countries.

In implementing these objectives the Centre has built close partnerships with the Governments of Central Asian states, UN agencies, international and regional organizations operating in the region. Some of them, like UNECE and FAO, acted as co-sponsors of events organized by the Regional Centre.

We all know that cooperation on trans-boundary water issues in Central Asia faces significant challenges and many problems are still awaiting adequate solutions. Serious efforts will have to be made to improve mutual confidence and trust, restructure existing regional institutions, modernize legal frameworks, etc. Based on its political mandate, the UN Regional Centre will continue working in cooperation with national governments and partner organizations to achieve these goals and thus contribute to a safer, more stable and prosperous Central Asia.

Thank you, Mr. Chairman.

**Ms. Sibylle Vermont,
Chairperson of the Meeting of the Parties to the Convention on the
Protection and Use of Transboundary Watercourses and International
Lakes of the United Nations Economic Commission for Europe, Swiss
Federal Office for the Environment**

The program mentions, water convention: the Convention on the Protection and Use of Transboundary Watercourses and International lakes of the United Nations Economic Commission for Europe

But, at first, it is necessary to understand the meaning of “transboundary”:

I would like you to look at the part “bound” from the verb to bind, but also to commit.

Indeed, water is the resource that binds us all: any living creature is made out of water and any of our goods is produced with it, even our computers.

Shared rivers, groundwaters, and lakes are binding people together, not just for now but they also bind the present and future generations.

Water cooperation, is not a short or medium term binding affair but a long term one that needs to be stable and sustained in the future to be fruitful.

Before the bell climate change was ringing and taken seriously, water management was already much of a challenge but now climate change makes it much worse to apprehend and implement.

Secondly it is also necessary to think about the meaning of “trans” in “transboundary”: across, beyond: beyond water into other sectors.

How can a water convention bind people around transboundary water cooperation? Does it go beyond water?

I will present you the Convention on the Protection and Use of Transboundary Watercourses and International Lakes of the United Nations Economic Commission for Europe. As the title is bit of a mouthful, let me refer to the convention as the UNECE Water Convention. Nevertheless, you will see the full long title does credit to its large multipurpose spectrum.

The UNECE Water Convention is a one of the major tools for transboundary water management in the UN system. Which are its basic principles and added value?

Looking at the water data in the region of the United Nations Economic Commission for Europe, we have a multitude of transboundary water bodies: some 150 major rivers, some 50 large lakes and over 170 aquifers.

- One third of Europe population lives in a region under water stress. And 1 person out of 7 in the region does not have access to safe drinking water.
- A stable, reliable and lasting bilateral and multilateral cooperation needs a sound legal framework.
- The UNECE Water Convention provides a unique, comprehensive legal ground

and a continuously self-maturing framework for transboundary water management (<http://www.unece.org/env/water/welcome.html>).

- The Convention was adopted in Helsinki in 1992 and entered into force in 1996. To date it has been ratified by 36 UNECE countries and the European Community.

- It has 2 protocols:

- ◉ The 1999 Protocol on Water and Health (into force)

- ◉ The 2003 Protocol on Civil Liability and Compensation for Damages caused by the Transboundary Effects of Industrial Accidents on Transboundary Waters.

- The Convention deals with 2 “Qs” of water: Quality and Quantity of both. surface water and groundwater, even linking to recipient seas

- There are two most important dimensions in the Convention.

- Cooperation on the basis of equality and reciprocity

- Cooperation at basin/watershed level

- The Convention is an excellent tool to implement all internationally agreed goals and targets. It is fully in line with goal 7 of the Millennium Development Goals (MDGs) “ensure environmental sustainability”¹ and with the Johannesburg Plan of Implementation (JPOI)².

- The UNECE Water Convention envisages two major categories of obligations:

I: The first are general obligations applying to all Parties.

II: The second are more specific and MUST be implemented by Parties sharing transboundary waters.

The more general obligations are the following:

- All Parties are obliged to take all appropriate measures to:

- Prevent, control and reduce any transboundary impact, i.e. adverse effects on the environment. These effects being on human health and safety, flora, fauna, soil, air, water, climate, landscape and historical monuments and other physical structures.

- Manage shared waters in a reasonable and equitable manner using the ecosystem approach and guided by 2 principles: the precautionary principle and the polluter pays principle.

- Preserve and restore ecosystems.

- Carry out Environmental impact assessments (EIA), to draw up contingency plans.

With its holistic approach, the Convention looks far beyond water

And with such obligations you are obliged to do take measures at the national level to be able to enact the transboundary dimension.

Target 1: Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources

Target 2: Reduce biodiversity loss, achieving, by 2010, a significant reduction in the rate of loss

Target 3: Halve, by 2015, the proportion of the population without sustainable access to safe drinking water and basic sanitation

Target 4: By 2020, to have achieved a significant improvement in the lives of at least 100 million slum dwellers

Para 26: Develop integrated water resources management and water efficiency plans by 2005, with support to developing countries, through actions at all levels to:

(a) Develop and implement national/regional strategies, plans and programmes with regard to integrated river basin, watershed and groundwater management and introduce measures to improve the efficiency of water infrastructure to reduce losses and increase recycling of water;

The specific obligations set the difference between the UNECE Water Convention and the 1997 Convention on the Law of the non-navigational uses of international watercourses which has yet to enter into force. The UNECE Water Convention completes the one of 1997:

- For Parties sharing transboundary waters, i.e. riparian States, the Convention requests its Parties to enter into bilateral or multilateral river/lake/groundwater agreements, thus giving a framework for action specific to individual transboundary basins.
- The Convention also lays the responsibility for setting up joint bodies by the Parties that are riparian to the same transboundary waters.
- Such bodies can be bilateral or multilateral commissions. Or meetings of plenipotentiaries
- Tasks of joint bodies: Coordination and Advice (joint programmes - IWRM and water efficiency plans, information, joint monitoring programs/assessment); executive function; and control of implementation and Dispute Settlement Function.
- Joint bodies are accompanied by decision-making body/ies, executive bodies and working or subsidiary bodies. Working bodies are important to follow work between Meetings of the Parties.
- A permanent secretariat to the joint body is an asset.
- The UNECE Water Convention is the only legally binding agreement of this kind currently in force. Its value is recognized in the whole region, even by those countries which have not (yet) ratified it as non-Parties are actively participating in its activities
- Through the adoption of an amendment in 2003, it has been opened for ratification from countries outside the UNECE. While waiting for the amendment to enter into force, any UN Member State is invited to join the work of the Convention. Neighbouring countries sharing water with UNECE countries are China, Iran, Afghanistan and Mongolia.

Advantages of such a Convention within the UN system

- All countries can participate and cooperate, in a transparent, cooperative, neutral and predictable framework.
- It offers a strong institutional framework with meetings of the Parties every 3 years, a bureau with a regional representation, subsidiary bodies, a common programme of work, and a very efficient secretariat.
- Through UN-Water, the Convention's ties with the UN family allow it to benefit from the expertise of and cooperation with other important UN organizations (such as WMO, UNESCO, WHO, UNEP, UNDP, etc.), while at the same time, other organizations both international and non-governmental (e.g. RECs, GWP) and regions benefit from the work under the Convention Thanks to them for this excellent cooperation.
- One cooperation example: thanks to a leverage effect of the Convention through enhanced cooperation between UNECE, UNESCAP and OSCE, a transboundary water commission on Chu and Talas Rivers between Kazakhstan and Kyrgyzstan was created. With such a bilateral agreement, not only do they share water, but Kazakhstan share the Kyrgyzstan's expenses for operating and maintaining dams and reservoirs which both countries depend upon and benefit from.

The 16 year-experience of cooperation under the UNECE Water Convention has produced achievements and shown challenges that lie ahead

Achievements and strengths of the Convention

- Parties have a strong ownership of the Convention. The main added value compared to other similar conventions or international rules is that it has been negotiated by Governments. The process of negotiation has directly influenced and continues to influence the policies of the UNECE countries.
- The Convention has strongly influenced transboundary water cooperation arrangements in the region. Almost all transboundary waters in the region are covered by transboundary water agreement based or influenced by the Convention. A first example was the Danube River Protection Convention in 1994 (14 Parties and the European Community). Other examples are the agreements on the rivers Sava, Bug, Meuse, and Scheldt, on Lake Peipsi, as well as on Kazakh-Russian and Russian-Ukrainian transboundary waters. Recent examples include the 1999 Rhine Convention and the 2002 Sava Agreement. Also the European Union Water Framework Directive is based on the Convention. By these agreements, the countries are able to reduce their vulnerability and uncertainty on the water 2 "Qs".

As it can be seen, the Convention did not stay a nice paper. It does bring together framework and action as a true cooperation catalyst.

- Other important achievement is that even those countries that are not Parties to the Convention are participating in sometimes highly political exercises under the Convention's framework (the establishment in July 2006 of the Chu Talas Commission between Kyrgyzstan and Kazakhstan is a remarkable example).
- The link between the Convention and the "reality" (i.e. countries needs) is maintained through the Meeting of the Parties and its work programme and the bodies it establishes (working group, task forces, etc.) which continues to develop tools and activities to support the Convention's implementation.
- With all its regular meetings and seminars, workshops, capacity-building exercises, the Convention provides an enabling environment for a wide exchange of experiences and good practice, delivering expertise and advice on strategic and technical issues.
- It provides assistance and guidance on the drafting of new agreements, establishing joint bodies, looking into dam safety, flood management.
- It monitors and overviews the implementation of the Convention and integrates new concepts and ideas to its work such as payments for ecosystem services in IWRM or adaptation to climate change.
- It has produced a whole set of publications such as guidance documents, guidelines, recommendations, reports of seminars. These publications although originated from a region have a global status and can be used in other regions. So please take a look at them and use them!
- It also facilitates financial assistance, especially through pilot projects that are now implementing the various guidance of the Convention.
- It has also a wide monitoring activity: With the second Assessment of Transboundary Rivers, Lakes and Groundwaters in the UNECE region (<http://www.unece.org/env/water/publications/pub76.htm>), it is also serving larger processes, such as the process "Environment for Europe", which next Ministerial Conference of the Environment Ministers will take place in Astana in September 2011.

OPENING CEREMONY OF THE INTERNATIONAL CONFERENCE

Kokhi Borbad, 8 June 2010





President of the Republic of Tajikistan Emomali Rahmon and Heads of delegations of the High Level International Conference on the Midterm Comprehensive Review of the Implementation of the International Decade for Action «Water for Life» 2005-2015 pose at the photo session, Kokhi Borbad, 8 June 2010.



President of the Republic of Tajikistan Emomali Rahmon during introduction to the exhibition in the framework of the Conference. Kokhi Borbad, 8 June.



President of the Republic of Tajikistan Emomali Rahmon and President of the Islamic Republic of Iran Mahmoud Ahmadinejad attending International Exhibition devoted to Conference theme. Kokhi Somon, 9 June.



PLENARY SESSION

Kokhi Borbad, 8 June 2010



Water for Life 2005-2015



**Under-Secretary-General for
Economic and Social Affairs
Mr. Sha Zukang**



**Mr. Tair Mansurov,
Secretary-General of
EurAsEC**



Ms. Kori Udovički, United Nations Assistant Secretary General UNDP Assistant Administrator Director, UNDP Regional Bureau for Europe and the CIS



Mr. Aymeri de Montesquiou, Senator for the Gers, special representative of the President of the Republic



Mr. João Gomes Cravinho, Portuguese Secretary of State for Foreign Affairs and Cooperation



Dr. Tarek Mutahar, Permanent Mission of the Republic of Yemen to the United Nations

Mr. Vladimir Garkun
First Deputy Chairman of the
Executive Committee - CIS
Executive Secretary



Mr. Umesh Narayan Panjiar,
Deputy Minister of Water
Resources of India

Ms. Martha Moren Abat,
Director General on Water
Issues, Ministry of Ecology,
Rural and Sea Areas of Spain
on behalf of the EU and
its Member States



Mr. Majidi Nomju,
Minister of Water and Energy
of the Islamic Republic of Iran



Mr. Kamal Majidullah
Special Assistant to the Prime
Minister of Islamic Republic
of Pakistan

Mr. Koshmatov Baratali,
Acting Chairman of the
State Committee on Water
Resources and Melioration
of Kyrgyz Republic



Mr. Jouni Lind
Secretary of State, Ministry
of Agriculture and Forestry of
Finland



Mr. Orman Anarbek Ongarovich,
Head of the Water Resources
Committee of the Ministry of
Agriculture of the Republic
of Kazakhstan



**Mr. Ali bin Mohammed Al Abri,
Deputy Minister of Regional
Municipalities and Water
Resources, Oman**



**Mr. Owaki Hiroki,
Deputy Director-General,
International
Cooperation Bureau, MFA of
Japan**

**Ms. Pauline Maria Hayes,
Deputy Director of Department for
Europe, Middle East, America, East
and Central Asia, Department for
International Development (DFID),
United Kingdom**



**Ms. Madelyn Spirnak,
Senior Adviser, Bureau for
South and Central Asia, US
Department of State**



**Ms. Doris Hertrampf,
Ambassador Extraordinary
and Plenipotenciary of
Germany to the Republic
of Tajikistan**

**Mr. Nahla Zaki Aboul-Fotouh,
Deputy Minister of Water
Resouces (Director, Institute
of Management Research and
Irrigation Methods),
Arab Republic of Egypt**



**Mr. Chalernpol Thanchitt,
Ambassador Extraordinary
and Plenipotentiary of
Thailand to the Republic
of Tajikistan On behalf of
Suwit Khunkitti Minister
of Natural Resources and
Environment of Thailand**

**Ms. Galina Saidova,
First Deputy Minister of
Economy of the Republic of
Uzbekistan**



MEETINGS WITH PRESIDENT OF TAJIKISTAN



Meeting of the President of the Republic of Tajikistan Emomali Rahmon with President of the Islamic Republic of Iran Mahmoud Ahmadinejad



Meeting of the President of the Republic of Tajikistan Emomali Rahmon with Under-Secretary-General for Economic and Social Affairs Mr. Sha Zukang

Meeting of the President of the Republic of Tajikistan Emomali Rahmon with Ms. Kori Udovički, United Nations Assistant Secretary General, UNDP Assistant Administrator Director, UNDP Regional Bureau for Europe and the CIS





Meeting of the President of the Republic of Tajikistan Emomali Rahmon with Mr. Tair Mansurov, Secretary-General of EurAsEC

Meeting of the President of the Republic of Tajikistan Emomali Rahmon with Miroslav Jenca Head of UN Regional Centre on Preventive Diplomacy for Central Asia



Meeting of the President of the Republic of Tajikistan Emomali Rahmon with Mr. João Gomes Cravinho, Portuguese Secretary of State for Foreign Affairs and Cooperation



Meeting of the President of the Republic of Tajikistan Emomali Rahmon with Vice Prime-Minister of Turkmenistan Muraguli Akmedov.



Meeting of the President of the Republic of Tajikistan Emomali Rahmon with the President of South-South News Francis Lorenzo.

ROUND TABLES

Kokhi Somon, 8-9 June 2010



Round Table 1. Accelerating Progress Towards Water-related Internationally Agreed Development Goals (IADG), Including the Millennium Development Goals and Ensuring the Involvement of Women
 Kokhi Somon, Press Conference Room, 8 June.



**Round Table II. Transboundary Water Cooperation and International Law
Kokhi Somon, Amthitheater Hall, 8 June.**



**Round table III. Water Quality
Grand Hall, Building 8. 8 June.**



Round Table IV. Water Resources and Adaptation to Climate Change and Disaster Risk Reduction
Kokhi Somon, Press Conference Room. 9 June.



Round Table V. Sustainable Financing
Kokhi Somon, Amthitheater Hall. 9 June.



**Round Table VI. Integrated Water Resource Management,
Energy, Agriculture and Food Security**
Grand Hall, Building 8. 9 June.

CLOSING SESSIONS

Kokhi Somon, 9 June 2010



**Wrap up Session for Round Tables IV,V,VI
Grand Hall, Building 8. 9 June.**



Wrap up Session for Round Tables IV,V,VI
Grand Hall, Building 8. 9 June.



Wrap up Session for Round Tables I,II,III
Kokhi Somon, Amthitheater Hall. 9 June.



Wrap up Session for Round Tables I,II,III
Kokhi Somon, Amthitheater Hall. 9 June.

CLOSING PLENARY SESSIONS AND CLOSING CEREMONY

Kokhi Somon, 9 June 2010



Closing remarks by the Prime Minister of the Republic of Tajikistan,
Mr. Akil Akilov, Chairman of the Organizing Committee of the Conference
Inauguration Hall.



Adoption of Dushanbe Declaration on Water and other final documents.

VISIT TO NUREK HPS

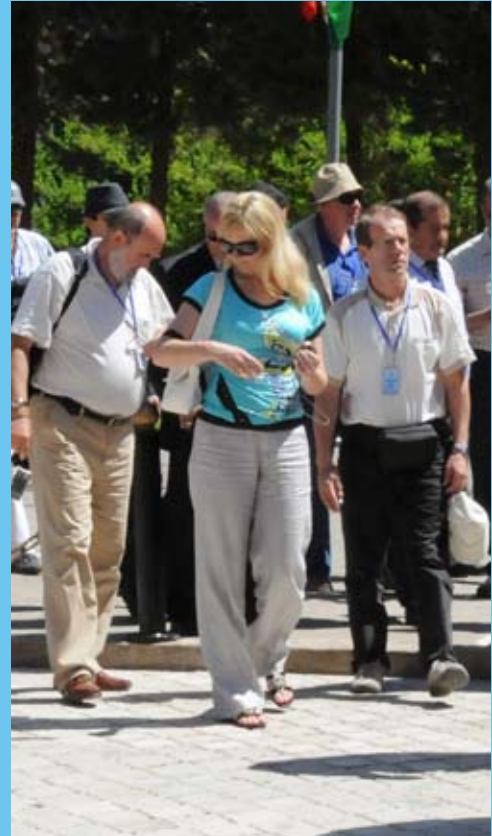
10 June 2010



Nurek's residents are happily welcoming participants of the International Water Conference.



Nurek's residents are happily welcoming participants of the International Water Conference.



Tour through Nurek HPS. On the upper picture one can see Nurek dam.



Visit to Nurek HPS power room (on the lower picture).



Participants getting familiarized with Nurek HPS operating console.
Nurek Reservoir is on the upper picture.



Participant of the International Conference Sagit Ibatullin is giving interview to Tajik television first channel (upper picture).
Conference participants in the access square not far from the dam (lower picture).



Conference participants exchanging impressions and taking picture.

- For your information, one of the 2 themes of this Ministerial meeting in Astana is “Water and management of water-related ecosystems” and the other one is “Greening the Economy”. So there is much room there to pursue the discussion on water.
- If much has been said about binding, the Convention also has its role to play in “trans” of transboundary. The Convention has established numerous links across sectors, especially with the forest sector and the Ramsar Convention on Wetlands through its work on the role of terrestrial ecosystems in water management. In 2006, the Parties adopted recommendations on Payments for ecosystem services in IWRM (in English, French, Russian and Spanish: http://www.unece.org/env/water/publications/documents/PES_Recommendations_web.pdf). The Convention has been strongly associating with Forest EUROPE which is the Ministerial process for the Ministers on Forest in Europe. Their last joint seminar on Forests and Water which was also organised by Turkey, Switzerland and the FAO took place in Turkey/Antalya in May 2009 (<http://www.foresteurope.org/?module=Articles;action=Article.publicShow;ID=283>).
- The institutionalization of permanent cooperation through the Convention has been an asset for peace and security in several basins such as the Dniester basin (Ukraine, Republic of Moldova, including the Transdnier region), the Drin river in SE Europe (Albania, The former Yugoslav Republic of Macedonia Montenegro, Greece).

Challenges

The key challenges encountered throughout Convention’s implementation are

- ⊗ the lack of political will of riparian countries to cooperate (ministers-parliamentarians);
- ⊗ the misunderstanding by decision-makers of the “hydrological cycle” and functioning of water systems;
- ⊗ short term profits versus the long term benefits;
- ⊗ the lack of awareness of commitments;
- ⊗ rather weak mandates of joint bodies and ineffective legal framework for cooperation and rigid institutional arrangements;
- ⊗ In joint bodies, the lack of representation of other sectors such as energy, agriculture;
- ⊗ Inappropriate water governance not enough public information and involvement in decision-making;
- ⊗ Inappropriate legislation and coordination at the national level;
- ⊗ Insufficient capacity of countries, both financial and staff competence – much due to changes in Ministers restructuring on an on-going basis ministries.

Nevertheless, the Convention is going forward and at the last Meeting of the Parties a program of work for the next 3 years (<http://www.unece.org/env/water/mop5.htm>) was adopted with a view to look at these challenges and emerging issues:

On the implementation of the Convention: A guidance on implementing the convention was adopted to clear the some provisions and encourage further ratification and a better implementation of the convention.

Climate change: A guidance on water and adaptation to climate, encompassing the essential transboundary dimension of water and climate change strategies. It

explains step by step how to develop and implement an adaptation strategy in a transboundary context avoiding the transboundary impacts and potential conflicts. A platform for the exchange of information has been established as well as pilot projects initiated to test the guidance.

We hope that our experience will flow into the Ministerial conference of Astana and after that into the global discussion taking place under UNFCCC.

National Policy Dialogues on the integrated water resource management: As transboundary depends on national water governance, the Convention has been entrusted by the EU Water Initiative, to organize National Policy Dialogues on integrated water resource management. They bring together at national level all actors around water whether governmental as well as non governmental, including the private sector. The first one was set up in the Republic of Moldova. At present, dialogues are established or about to be established in Ukraine, Armenia and Kyrgyzstan, Turkmenistan, Tajikistan, Azerbaijan, Georgia and Uzbekistan.

To conclude:

The Convention is a very active and dynamic instrument that is able to respond to existing and new and emerging challenges. It provides a collective framework for policy development and action, assistance in implementation, capacity building and projects in the field.

Jean Giono, a famous French writer said once.

“ Life, it is water. If you cup your hand, you will keep it. If you tighten your fist, you will lose it.”

Summary of Round table 2 Transboundary water cooperation

Participants of the Round table 2 focused on cooperation among basin countries on efficient joint management and protection of water resources of transboundary sources. It was emphasized that even during wars combatants have never suspended cooperation on management of water resources from single basins. Major issues discussed were as follows:

1. Relevant concepts and approaches linked to sharing of costs and benefits to promote better transboundary cooperation in water resource management
2. Policy and legal framework for transboundary cooperation and benefit sharing, acknowledging national differences related to water management, culture and language
3. Exchange data and joint or at least harmonized monitoring and assessment among all riparian countries
4. Enhanced involvement of the private sector and civil society

Mr. Ergolu

For Mr' Ergolu, it is essential that neighbors cooperate especially at a time when climate change threatens water resources while demand is increasing. Rational planning and sustainable use of water resources is essential as well as sincere cooperation.

In Turkey 70% of water is used for irrigation and 7% for drinking forcing the country to move towards the modernization of its water resources, including new irrigation techniques, better hydro power plants (HPP) and river basin management. Water should be re-used and be distributed in each countries according to fair decisions. Experiences from Turkey and the region (especially on HPP) can be shared.

Dr. Abuzaid

The Transboundary issue is an essential one. Several main questions can be asked:

- definition of transboundary rivers still unclear
- essential concept of equitable utilization
- sense of ownership
- benefits and sharing the benefit (and costs)
- building trust and transparency is one of the first necessity for the remaining disputes and negotiations
- integration of the development projects at basin and international level. Master plans done by countries
- type of solutions: win-win solution are looked for. Need legal and institutional frameworks among riparian but very few rules for transboundary water. Not all countries of the world have signed water conventions
- consider upstream vs. downstream countries
- joint monitoring and assessment programs are essential
- transboundary waters: shared groundwater and aquifers also to be taken into consideration

Panelists

Mr. Jao Gomes Cravinho

General remarks:

- like other forums: need for cooperation is dictated by nature. Water ignores political or human-made boundaries
- transboundary water management is for most countries essential and inevitable
- even strong rivals have been able to learn to share (Indus water commission, Arab countries/Israel, Portugal/Spain)
- conflicts are out-numbered by agreements but tensions remain

Challenges:

o growing understanding of climate by all actors. Many nations and people have already been affected.

o transboundary water management is often hostage of security issues. Securitization: maintain water regime and tensions. Reduced possibilities for good management of water issues. Poor water management and bad governance are the main issues. Human security dimension, conflict prevention. transboundary water management is also a main component of peace building.

o Access to water is a human right. Human dimension should have primacy.

- transboundary water management, rules and regulations need to be closely linked to international treaties and initiatives such as the MDGs

- there is increasing funding for water management (\$3.5 billion) but less than 10% is used for transboundary water management. These figures should be revisited during this conference.

Portuguese example on transboundary water management with Spain. Might be interesting for other setting. Lots of water basins shared between the two countries. Agreements and borders are old but when the economic and social contexts of the two countries change, the existing treaty becomes obsolete. Therefore a bilateral agreement is signed in 1998 that includes new agreements on fish conservation, HPP and drought. It also takes into consideration the adherence to the European Union, the modification of life of rivers, the decrease in water quality (mainly due to agriculture). The negotiations between the two countries took a long time but the convention deals with water deterioration and gaps such as more transparent ways of managing water.

Lessons learnt from this experience give opportunity:

1. essential to build a long-term vision with shared common values (human right). Long process. However the process takes much time, no circumstances where not possible.
2. need for definition of good strategy for preservation and dealing with transboundary water management in the long term. If agreements are not inter-generational, it might be worse tomorrow
3. need for joint monitoring and assessments. Good to trust but better to verify. Mechanisms of verification. Surveillance crucial for limited flooding.
4. active involvement of citizens. Case in many other contexts. Use of website, contribution of NGOs

1. Water management at river basin scale.
2. Need to have international agreement. Very successful stories exist (Rhine, Danube rivers) of joint transboundary water management.
3. Consider all objectives together to reach ecological, social and economical development together
4. coordination of decisions at all levels is needed
5. public involvement

Planning process of the WFD

River and water management plan by 2010 for all river basins in Europe. *All points on slide to be in the WBMP*

Conciliation water uses and good ecological status provided that right balance is ensured.

Management of extreme events (floods and droughts)

Floods=flood risk plans, prevention measures

Drought=expertise in southern countries (Spain-Italy-Greece)

Conclusions=fresh water availability decreases. Objective to consider the need for the regional sustainable water management. Several areas of the world deal with water scarcity and droughts. Need to do all this together with transboundary water management. Identify risks, challenges that are shared.

The UN regional center for preventive diplomacy established in 2007 to ensure conflict prevention.

Central Asia needs to continue efforts towards durable solutions for water use in the region. UN center for preventive diplomacy's role is to create conditions to improve cooperation.

Four key objectives should be reached therefore:

1. support dialogue building on transboundary water management. Two major conference on legal instruments on mutual agreements and gains
2. building of capacity for mutual understanding and dialogue (bilateral conferences on transboundary water management)
3. implementation of intl donors initiative (IFSAS, donor coordination meeting follow up to IFSAS). MOU on IFSAS.
4. support development between Afghanistan and Central Asia (afghan government as observers)

Significant challenges in CA. Many problems are still waiting for mutual confidence and trust.

Transboundary water cooperation is a long-term affair.

The results of 18 years of cooperation under the convention are as follows

1. Transboundary water management in Europe (Danube, transboundary river between Kazakhstan and Russia, transboundary lake in Geneva)
2. link between convention and needs of the countries. Tools to serve the parties
3. share experience=guidance in drafting new agreements. Dam safety and flood management

New emerging issues: recommendations for ecosystem resources for water and adaptation of climate change.

Facilitated in financing and usage of Global Ecological Fund (GEF)

Contribution to enhance of peace and cooperation=dimension to go across sector, not only water (link with the Forest and Waterland convention).

The Convention can contribute to water settlement in Central Asia

Challenges in the region:

1. Problem of political will, only technical agreement.
2. Misunderstand on interpretation of the impact of the water basin and rivers – long term issue
3. Weak mandate for joint bodies
4. Lack of knowledge of what exists
5. Other sectors except water one are not included in the discussion
6. Not enough information campaign among the people
7. No appropriate legislation at the National level
8. Too weak capacity of the existing water institutions
9. Frequent changes of ministerial staff=delay in implementation of the decisions

Main conclusions and recommendations

Transboundary water management is a long-term issue

- water basin, aquifers and rivers and lakes change over time. There is a need to

integrate long-term vision in agreements, negotiations and development

- treaties and agreements are the results of long discussions and negotiations

Treaties and agreements should be regularly updated

- economic, political and environmental changes bring new challenges to old treaties

- partners need to consider new dimensions and integrate multi-sectoral approaches (work with agriculture experts, economists, forestry and wetland working groups and initiatives)

No need for new tools, just trust and will

- treaties, success stories, conventions multi-national and regional experiences exist on which unresolved and emerging conflicts can base their negotiations

- but cooperation, mutual interests and discussions need to focus on common interest, mutual respect and lead to a win-win solution. If conflicts are not resolved all sides will lose.

Better definition and adhesion to rules and initiatives

- there seems to still be different definitions of transboundary waters, conventions exists but are not ratified but all states

- it is essential to bind new agreement to existing global and regional initiatives (such as MDGs)

Pay special attention to upstream versus downstream countries

- this issue remains at the center of several ongoing disputes and conflicts

- all parties need to respect the right of the other and recognize their role in the water basin

Human right to water versus water as a commodity

- participants raised the idea of introducing taxes and fees for the use of water

- others claimed that water is a common good and that transboundary issues can only be resolved if water is treated as such

Sharing experiences and data

- examples show that joint transparent monitoring and assessments of shared water resources are essential

- experiences and lessons learnt need to be shared especially at local levels

- the identification of risks and prevention of disasters based on reliable and transparent data is consequent part of the long-term solutions

- experience in raising additional funding for dealing with transboundary issues should also be shared

Awareness and communities

- more public awareness is also crucial for involving communities and additional partners

- the involvement of communities is central to agreements but also to finding solutions to conflict

The issue of cost sharing and involvement of the private sector were not fully addressed and would require more discussions.

Round table III. Water Quality

Co-Chair:

Mr. Rahmat Bobokalonov, Minister of Melioration and Water Resources of the Republic of Tajikistan

Co-Chair:

Mr. Jean – Chrysostome Mekrondongo, Minister of Energy and Hydraulic of the Central African Republic

Secretary:

Mr. Nikhil Chandavarkar, Chief, Communication and Outreach Branch Division for Sustainable Development, UNDESA

Rapporteur:

Mr. Jan Sand Sorensen, Regional Representative UNFPA

Penalists:

Yordan Uzunov, Member of the UN Secretary-General's Advisory Board on Water and Sanitation (UNSGAB), Professor of the Bulgarian Academy of Sciences

Ms. Sascha Gabizon, Executive Director of "Women in Europe for Common Future network"

Ms. Alice M. Bouman-Dentener, President of Women for Water Partnership

Mr. Ti Le-Huu, Chief of Sustainable Development and Water Resources Section, UNESCAP

Mr. Ian Ball, Dean of the Graduate School of Natural Resources Law, Policy and Management, University of Dundee, Scotland

Ms. Inmaculada Paniagua Brieva, Spanish Agency for Development Cooperation

Summary of Presentation on A closer look at growing risks: Degradation of water quality.

**Mr. Olcay Ünver, Coordinator,
UN-Water, World Water Assessment Programme**

The World Water Assessment Programme is a working example of system-wide cooperation

The flagship program of UN-Water, it brings together 27 UN agencies and other stakeholders

The reporting mechanism of the UN System, WWAP monitors progress towards internationally agreed-upon goals about water

Some facts about water pollution

- Global waste water production is estimated about 1,500 km³. Just for comparison, river water in circulation is around 2,000 km³ in volume.
- More than 80% of sewage in developing countries is discharged untreated within receiving waters (rivers, lakes and coastal areas).

Despite improvements in some regions, water pollution continues to be a daunting problem for the well-being of the humanity and the ecosystems.

- Globally, water quality is declining. Climate change and climatic variability might make this problem worse.
- The poor are the worst affected: More than half of the population of developing countries exposed to polluted water resources.

By the middle of this century, at worst 7 billion people in 60 countries will be water scarce, at best 2 billion people in 48 countries.

Agriculture's impact on water quality

- It is the largest water user and the main source of nitrate and ammonia pollution.
- By 2020, agriculture in non-OECD countries is expected to produce twice more BOD load in waterways than OECD countries.

An analysis of water use efficiency trends in 93 developing countries show a global potential, although not very significant.

	Sub-Saharan Africa	Latin America	Neer East – North Africa	South Asia	East Asia	All countries
Water use efficiency in irrigation (%)						
1998	33	25	40	44	33	38
2030	37	25	53	49	34	42
Irrigation water withdrawal as a percentage of renewable water resources (%)						
1998	2	1	53	36	8	8
2030	3	2	58	41	8	9

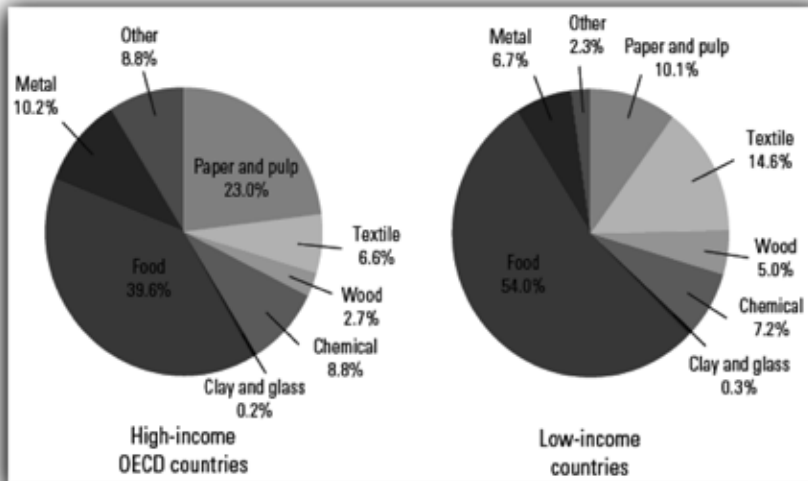
Human Settlements' impact on water quality

⊙ Bacteriological contamination from sewage is the most prevalent problem in the developing countries.

By 2030, approximately 6 billion (about 60% of the world's population) people is expected to live in urban areas.

Industry's impact on water quality

⊙ Many heavily polluting industries (such as leather and chemicals) are expanding dramatically, especially in emerging market economies.

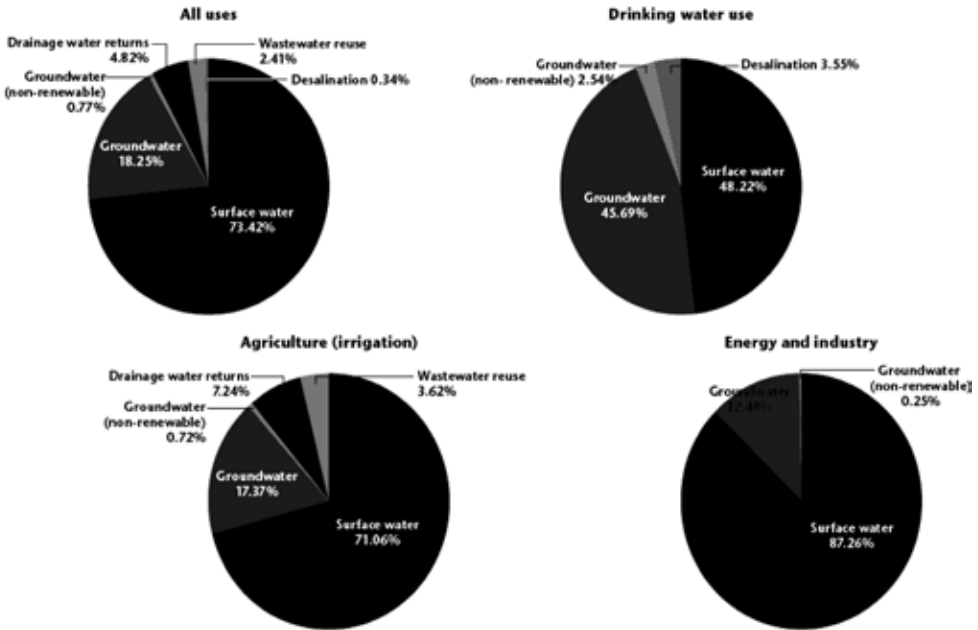


Millennium Development Goals

• Water (more specifically quality/quantity) is a cross cutting issue that is key to achievement of almost all MDGs.

<u>MDG 1</u>	Eradicate extreme poverty and hunger	Contribution approx. 30%
<u>MDG 2</u>	Achieve universal primary education	Contribution approx. 30%
<u>MDG 3</u>	Promote gender equality and empower women	Contribution approx. 20%
<u>MDG 4</u>	Reduce child mortality	Contribution approx. 30%
<u>MDG 5</u>	Improve maternal health	Contribution approx. 30%
<u>MDG 6</u>	Combat HIV/AIDS, malaria and other diseases	Contribution approx. 25%
<u>MDG 7</u>	Ensure environmental sustainability	Contribution approx. 50%
<u>MDG 8</u>	Develop a Global Partnership for Development	(No estimation)

Withdrawals by supply source



Source: FAO-AQUASTAT.

Poor water quality: Sustainable development at stake

• Human Health:

In average, 2.2 million people, mostly children, die every year due to sanitation/hygiene related diseases.

• Ecosystems:

The cost of environmental degradation in the Middle East and North Africa alone has been estimated at some \$9 billion a year, or 2%-7% of GDP.

Access to safe water and sanitation: Breaking the spiral of poverty

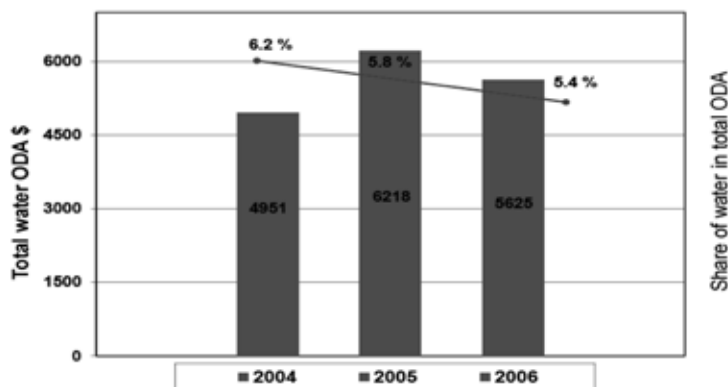
☉ In 2008, over 2.6 billion people were living without access to improved sanitation facilities and nearly 900 million people were not receiving their drinking-water from improved water sources.

☉ The overall economic loss in Africa alone due to lack of access to safe water and basic sanitation is estimated at \$28.4 billion a year, or around 5% of GDP.

The World Bank estimates that investing in sanitation and drinking-water brings considerable economic returns—in average 2% of gross domestic product, rising to over 7% in some specific country contexts.

Insufficient funds allocation

• The total aid for all aspects of water, as measured by the OECD, fell from 8% to 5% of total ODA between 1997 and 2008.



Budgetary spending on infrastructure is often cut during periods of financial tightening, although for governments that can afford it, investing in infrastructure can help counter an economic slowdown.”

Messages

1. Investments are LACKING at all levels:

- *Water continues to be a neglected sector in all its fields,*
- *More stringent regulation, enforcement and “targeted” subsidies can boost investments.*

2. Inertia at leadership level and awareness are NOT at a sufficient level:

- *Sharing information about pollution can contribute to an effective prevention and mitigation.*

3. Growing need for better monitoring/reporting:

- *The effects of water-depleting and water polluting activities on human and ecosystem health remain largely unreported or difficult to measure.*

4. Governance/corruption:

- *Legitimate, transparent and participatory processes can create a strong deterrent to corruption which leads to irreversible damages to precious resources (land, water and ecosystems).*

Conclusions

1. Water pollution worldwide is of huge concern, but has not received adequate attention.
2. Urgent steps must be taken worldwide to begin to implement tried and tested methods of wastewater treatment as the world NO LONGER has the sinks for pollution.
3. Prospects for sustainable use of water resources (surface and underground), remediating water quality and restoring services to ecosystems look remote unless alternative management approaches are developed.
4. There has been progress made in connection with implementation of national water management plans.

Summary of Presentation on Clearing the Waters Water Quality Solutions.

Mr. Thomas Chiramba, Head Freshwater Ecosystems Unit, United Nations Environment Programme (UNEP)

INTERNATIONAL CONTEXT

- **MDG Goal 7: Ensure Environmental Sustainability**

- Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources
- Reduce biodiversity loss by 2010
- Halve, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation
- By 2020, to have achieved a significant improvement in the lives of at least 100 million slum dwellers

- **Agenda 21: Conservation & Management of Resources for Development**

- Protection of the Quality & Supply of Freshwater Resources: Application of Integrated Approaches to the Development, Management & Use of Water Resources

Ecosystems and their Services

- The MA observed that the availability of water and other ecosystem services have been affected and that aquatic ecosystems were the most impacted affecting livelihoods due to:
 - declined **ecosystem function** and **resilience**
 - deterioration of **WATER QUALITY** and **availability**
 - Water allocation to ecosystems is **critical for continuous provision of services** essential for sustaining livelihoods and development (critical for poverty reduction and attainment of MDG's)

Water Quality – on a global decline

- Every year, **about 1,500 cubic kilometers of wastewater are generated** = six times more than water existing in all rivers globally = 600 Mio Olympic-size swimming pools.
- Every day, **2 million tons of sewage**, industrial and agricultural wastes are discharged into the world's water.
- Worldwide, **1.1 billion people lack access** to potable water supply.
- Lack of adequate **sanitation contributes significantly to global water pollution**. 2.5 billion people have no access to adequate sanitation. Over 70% of them live in Asia.

Threats to water quality

- **Water contaminants:** nutrients, sedimentation, water temperature, acidification, salinity, pathogenic organisms, trace metals, chemicals and toxins, introduced species and other biological disruptions.
- **New contaminants:** radioactive elements, organic toxins, and discarded pharmaceuticals.
- **Drivers for water quality degradation:** population growth, changing production and consumption patterns - increasing industrial processes, mining, agriculture, energy production, and urbanization.

Water Quality as a cross-boundary challenge

- Pollutants are transported over long distances through water and the atmosphere, from source to sinks in lakes, seas and oceans, and across political boundaries.
- Climate change impacts on the hydrological cycle, frequency of floods and droughts, affecting water quality.

Water Quality damaging ecosystems and biodiversity

• Deteriorating functioning of ecosystems

- Estimated extinction rate five times greater than that of terrestrial species.
- Biodiversity in freshwater species has declined by half since 1970.
- In some regions, more than 50% of native freshwater fish species and nearly one-third of the world's amphibians are at risk of extinction.

• Purification capacity of ecosystems is decreased by the loss of forests and wetlands

• Negative economic impacts

- Cost of environmental degradation in Middle East and North Africa estimated at US\$9 B/year, or 2-7% GDP
- In the US, costs for restoring ecosystems are estimated at US\$60 billion and continue to rise: Everglades: US\$10.9 billion, Coastal Louisiana: US\$14 billion, Lakes: US\$8 billion, Missouri River – yet to be determined

Water Quality affecting human health

- Waterborne diseases and other infections are the number one killer of children under five years. More than 1.5 million children die each year.
- More people die from unsafe water annually (2.2 million) than from all forms of violence, including war.

Benefits from investing in water quality outweigh costs

- **Polluted water has a high human health cost:** About 2 million people die every year due to sanitation related diseases.
- The overall **economic annual losses** (costs associated with health spending, productivity losses and labour diversions) in Africa due to lack of access to safe water and basic sanitation are estimated at US\$ 28.4 billion.

- For each US Dollar invested in improved access to safe water and sanitation, depending on the region there is a projected 3-34 US \$ benefit gained (WHO). Benefits range from time savings and productivity gains, to budget savings on national health care. Per capita gains for people in developing countries could reach 15 US \$ per year.
- Achieving the MDG target of providing access to safe drinking water and basic sanitation to have an estimated economic benefit of 84.4 billion US Dollars per year (WHO).

Water Quality Solutions 3-Step-Approach

- Prevent pollution
- Treat polluted water
- Restore ecosystems

Step 1: Pollution prevention

= reduce or eliminate contaminants at the source

+ least expensive

+ most effective

+ zero-impact

+ saves costs associated with waste water management, monitoring and health impacts

This is the priority action at all levels.

Step 2: Water treatment

- Confronted with major diseases e.g. cholera in the industrial revolution in mid 19th century, wastewater treatment was introduced.
- 150 years later we still experience over 90 % of raw sewage and 70 % of untreated industrial wastes being discharged into surface waters in developing countries.
- Effective technologies to treat wastewater are available, but need to be upscaled.

Step 3: Restoration

- Degraded ecosystems e.g. wetlands that filter and clean contaminated water need to be restored.
- Water quality restoration examples:
 - Integrated watershed management approach in Catskill Mountains for ensuring the water supply in New York city for over 9 Mio users at a cost of US\$ 1 billion instead of investing in a large water treatment facility costing US\$ 4-6 billion.
 - Tree planting programme along the Parana River in Brazil supplying drinking water to the city of Sao Paulo.

Mechanisms towards water quality solutions

- Better understanding of Water Quality through improved monitoring and data

- Increase recognition of value of quality water and hence financing through improved economic and financial approaches
- Increase awareness and political will through more effective communication and education
- Improve governance through increasing effectiveness of legal and institutional tools
- Accelerate improvements in water quality worldwide through deployment of effective methods and technologies

World Water Day 2010 on 'Water Quality'

Objectives:

- Create awareness about sustaining healthy ecosystems and human well-being through improved water quality.
- Enhance the profile of water quality at the political level so that water quality is considered alongside water quantity.
- Stimulate governments, organizations, communities, and individuals around the world to actively engage in proactively addressing water quality.

UN-Water World Water Day 20-22 March 2010

- WWD 2010 was jointly hosted by UNEP, UN-Habitat, and UNSGAB, and the Government of Kenya on behalf of UN-Water.
- Well attended by: policy makers, scientists and eminent personalities and UN-Water members and partners, university students, local and international journalists (approx 500 people)
- Main outputs:

1. Journalists orientation workshop on WQ (60 journalists)
2. Three (3) field visits undertaken to familiarize participants on WQ
3. Key publications on WQ were launched
4. Numerous news articles and stories were published globally
5. Launch of consultative initiative on collaboration and improving WQ
6. Outcomes of the main event:
 - Awareness created, WQ profile raised, outreach material disseminated
 - Scientific dialogue (Nairobi Scientific Communiqué)
 - High-Level Policy dialogue (UN-Water Statement and Commitment to Action)

Upcoming Events on WQ

- Stockholm World Water Week 2010 on 5-11 September
- CBD COP10 on 18-29 October in Nagoya, Japan

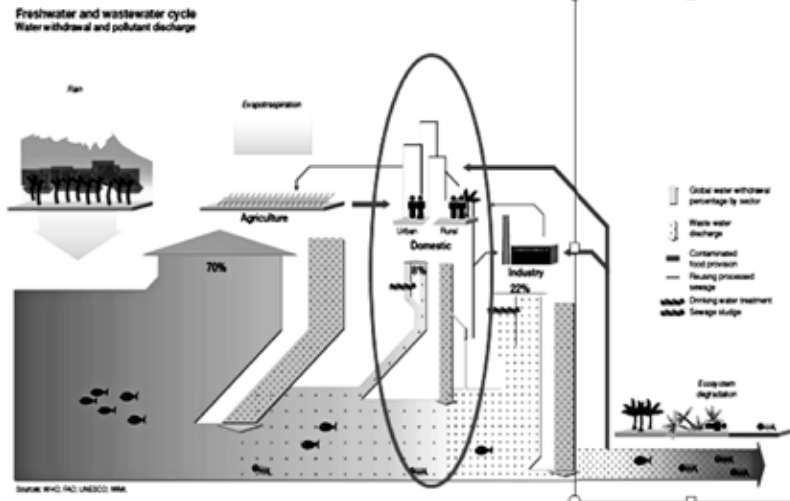
Call for Action - What do You do?

Get involved in finding and implementing appropriate 'Water Quality' solutions

Summary of Presentation on a system perspective in sanitation a necessary pathway towards improving water quality

Mr. Christian Zurbrügg, Head of the Department of Water and Sanitation in Developing Countries (SANDEC), Swiss Federal Institute of Environmental Sandec/Eawag

The water cycle and the role of pollution



Diarrhoeal Diseases – a significant global burden

- 1.8 million under-fives die annually as a result of diarrhoeal diseases.
- For 88 % of diarrhoea cases the underlying cause is unsafe water inadequate sanitation and poor hygiene.
- 50 % of malnutrition is associated with repeated diarrhoea or intestinal worm infections.
- Childhood malnutrition is at the root of 35 per cent of all global child mortality (WHO, 2008).

Death related to the quality of drinking water, basic sanitation and hygiene



➔ The number of deaths attributable to water, sanitation and hygiene, is disproportionately high in some parts of the developing world.

Key messages:

- Developing regions carry a disproportionately heavy health burden with regard to communicable diseases and injuries.
- Safe water supply alone is not enough to protect peoples' health. Adequate sanitation facilities and good hygiene practices are just as important.
- The health impact of improved water supply and sanitation is proven to be high.

Water shortage, poor quality water or unreliable supply have profound effects on people's well-being. Providing safe water alone is not enough, as water can quickly become unsafe and faecal-oral transmission of diseases can occur in other ways. If people do not have access to adequate and appropriate sanitation facilities or the opportunity to develop good hygiene practices, diseases can spread through polluted water or other pathways in the home environment. At any one time about half of population in developing countries suffers from one or more of the six main diseases associated with inadequate water supply and sanitation: diarrhoea, ascariasis, dracunculiasis, hookworm infection, schistosomiasis, and trachoma.

The problem of disease is not evenly distributed in the world. Developing regions carry a disproportionately heavy burden regarding communicable diseases and injuries. In 2002, infectious diseases made up the largest overall difference between the regions (as classified by WHO). The total number of healthy life years lost (DALYs) per capita as a result of environmental burden per capita was 15 times higher in developing countries than in developed nations. The environmental burden per capita of diarrhoeal diseases and lower respiratory infections was 120 – 150 times greater in certain subregions of developing countries than in the subregions of developed nations. These differences arise from variations in exposure to environmental risks and access to health care services. The world map, containing the environmental disease burden in deaths per 100 000 people, illustrates significant subregional differences. (Module 2)

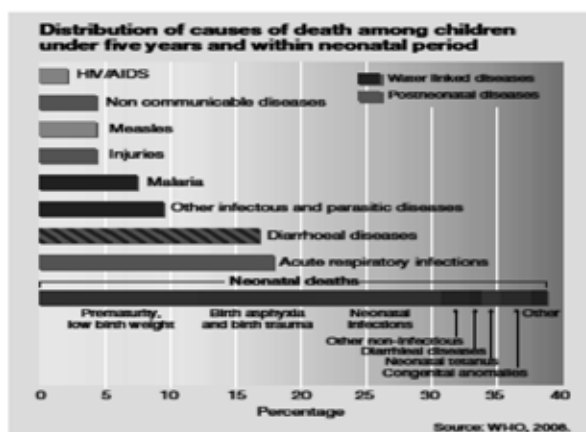


Figure 15: Distribution of causes of death among children under five years and within the neonatal period, 2004 (Figure from WHO, 2008).

- The percentage of water, sanitation and hygiene «deaths» is highest in Africa. But what about India and China, the home of the world's population? The number of people affected by water, sanitation and hygiene diseases could be a lot higher there than in Africa.

- What are the reasons for the differences in disease burden between the developing countries (e.g. when comparing South-America to Africa)

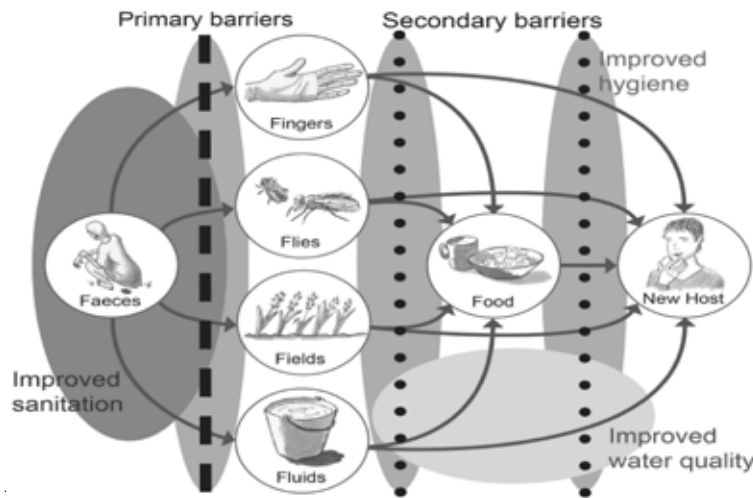
What facilities, services and behaviours have the greatest impact on improving health? How can we measure this?

Where can we disrupt the transmission routes?

First preventive barrier from disease is the improvement of sanitation conditions (creation of basic conditions and introduction of sanitary measures, observance of simple sanitation rules)

The second shield - is the observance of sanitation rules during cooking and,

The third barrier – which is the most important, usage of clean and safe drinking water.



Key message.

- Washing hands after defecation or constructing safe sanitation facilities are primary barriers that prevent pathogens from entering the environment.
- Washing hands before eating or protecting food from flies are secondary barriers that prevent pathogens from infecting a new host or contaminating food.

Figure: Barriers and interventions to disrupt transmission of diseases.

Additional information and questions:

Primary interventions with the greatest impact on health often relate to the management of faeces at the household level. This is because (a) a large percentage of hygiene-related activity takes place in or close to the home and (b) first steps to improving hygienic practices are often easiest to implement at the household level. However, to achieve full health benefits and in the interest of human dignity, other sources of contamination and disease also need to be managed, such as sillage, drainage or solid waste.

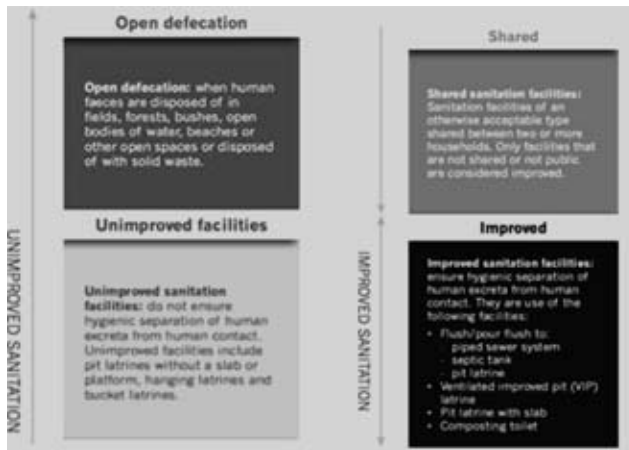
Secondary barriers are hygiene practices preventing faecal pathogens, which have entered the environment via stools or on hands, from multiplying and reaching new hosts. Secondary barriers thus include washing hands before preparing food or eating, and preparing, cooking, storing, and re-heating food in such a way as to avoid pathogen survival and multiplication. They also include protecting water supplies

from faecal contaminants and water treatments, such as boiling or chlorination. Other secondary barriers include keeping playgrounds free from faecal material, preventing children from eating earth and controlling flies.

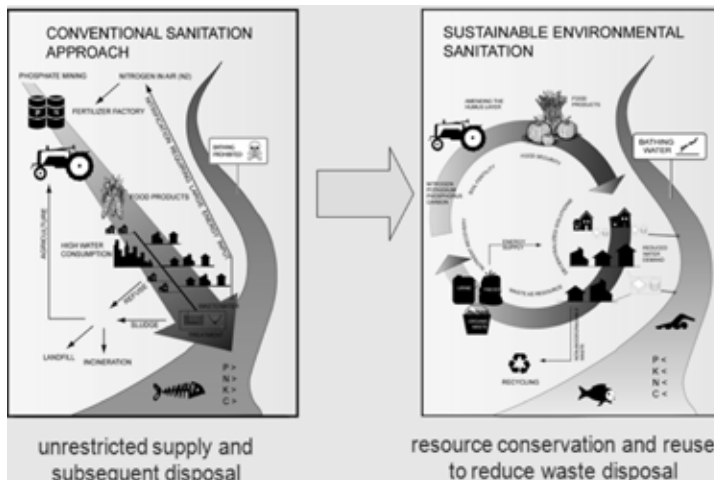
By combining the biological reasoning and the findings of epidemiological studies, it seems reasonable to conclude that the hygiene practices of prioritisation should be those that constitute the primary barriers to pathogen transmission. These practices prevent faecal material from entering the domestic environment of the susceptible child. Human stools should be regarded as the public enemy number one.

- Engineers building water treatment and sanitation facilities need to understand all the transmission routes: Building a septic tank without air-ventilation does not solve the problem of fly transmission. How realistic is implementation of the required interdisciplinary approach?
- Washing hands with soap requires enough clean water. What can a person do with hygiene knowledge but without water?

How can the behaviour of slum dwellers be influenced? How can we ensure correct use of facilities and their good maintenance?



Understanding levels of Sanitation



A connection to a sewer is not enough. The need to move from linear to circular thinking

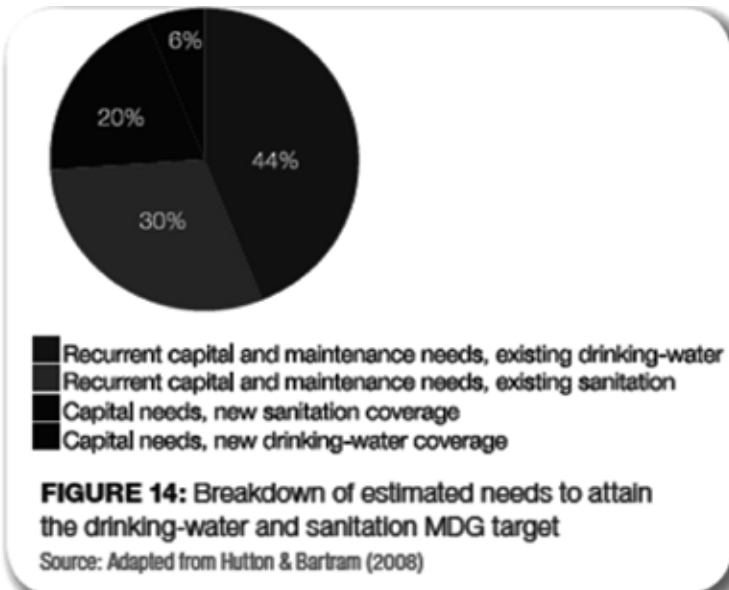
Key message:

- HCEC uses of a 'circular model or closed-looped outline' emphasising resource conservation and reuse to reduce waste disposal, in place of the traditional linear model of unrestricted supply and subsequent disposal

Figure: The conceptual change from linear (left) to closed-loop (right) environmental sanitation systems. (Eawag/Sandec, 2005)

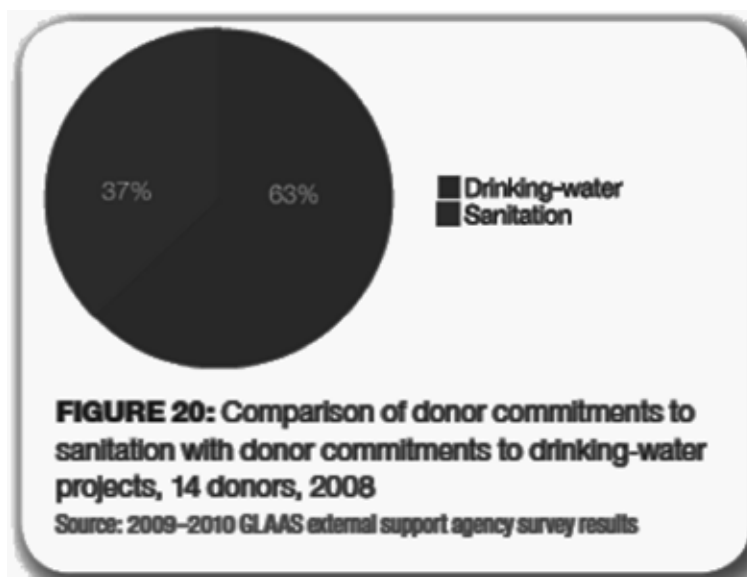
Additional information & questions:

Water supply and sanitation services have traditionally been based on the use of a 'linear' model: fresh water is imported into a zone and exported as wastewater after it has been used. Growing populations and increasing per capita consumption have led to an increase in the availability of fresh water and an increase in the pollution of receiving waters. Environmental degradation and greater danger to human health results, despite ever-increasing efforts at wastewater treatment. 'Circular systems' are based on maximizing the reuse and recycling of appropriately treated human wastes and wastewater. This in turn reduces the need for ever-increasing water abstraction and the discharge of treated, partially-treated or untreated wastes, to receiving waters. Reusing wastes (including the utilisation of rainwater, which would otherwise have to be treated as a waste and disposed of through the storm drainage system) also provides the opportunity for local production of food and horticultural products by individual homeowners, community cooperatives and commercial ventures in urban agriculture.

Operation and Maintenance**key to sustainability of services**

UN-water global annual assessment of sanitation and drinking-water (GLAAS) 2010: targeting resources for better results.

Sanitation – not yet at the forefront of priorities



UN-water global annual assessment of sanitation and drinking-water (GLAAS) 2010: targeting resources for better results.

Summary of Presentation on Leveraging Debt Relief Gains to attain the MDGs on Water.

**Mr. Imam Umar, Office of the Senior Special Assistant to the
President on the MDGs**

Presentation Outline on Leveraging Debt Relief to attain the MDGs on Water

- Country Indicators (2006)
- Sources of water by Quintile
- Water Sector Profile
- Efforts to attain the MDGs
- The utilisation of the DRGs for Water Supply
- Assessment of Water Quality
- Drinking Water Quality Assessment Surveys
- Challenges
- Moving Forward
- Conclusion

Country Indicators (2006)

a) Population	140 million
b) Food Insecure	90 million
c) Surface Water	267 billion cubic meters
d) Ground Water	57.9 billion cubic meters
e) Number of Dams	160
f) Water Impounded	13 billion cubic meters
g) Water Supply (Urban)	65%
h) Water Supply (Rural)	30%
i) Overall National	47%

Sources of drinking water by Quintile

a) Pipe borne water	20.5%
b) Untreated pipe	3.2%
c) Borehole	19.0%
d) Protected Wells	18.3%
e) Unprotected well/rain water	16.2%
f) Rivers, Lakes & ponds	16.0%
g) Vendor or water truck	4.5%
h) Others	2.3%

Water Sector Profile

a) The responsibility for the provision of water is the responsibility of Federal, State (36 + FCT), and Local Governments (774);

- b) The Federal Ministry of Water Resources is charged with the responsibility of providing leadership role for the coordination of the activities of all Federal, State and Local Government agencies that are involved in the development and management of water resources

Efforts to attain the MDGs

1. Following Nigeria's negotiation for the debt forgiveness of the US\$ 19.293 billion with the Paris Club of creditors in June 2005, an annual saving of US\$ 1 billion was made. Consequently, in the bid to demonstrate commitment to the attainment of the MDGs, Government decided to dedicate the savings to scale-up existing MDGs related interventions.

2. Accordingly, the Office of the Senior Special Assistant to the President on the MDGs (OSSAP-MDGs) was established to tag and track debt relief funded expenditure. The Debt relief provided an opportunity to strengthen the three tier partnership between Federal, States, and Local Governments.

3. The Presidential Committee on the MDGs is a platform chaired by the President to ensure that the implementation of the DRGs for the attainment of the MDGs is regularly monitored and assessed. Members of the Committee include the Ministers with MDGs related mandate, Private Sector operators, Civil Society and International

Development Partners.

2006 DRGs Appropriation

The utilisation DRGs for Water Supply

1. Disbursement of DRGs for water supply through the FMWR

Completion of the following water supply projects:- (i) 58 abandoned urban and 28 semi urban water supply projects and five Federal Universities , (ii) 26 rural water supply projects, (iii) payment of outstanding liabilities for 34 water supply projects (iv) Construction of 27 Small Earth Dams (v) Water Harvesting Schemes under the South-South Programme with China and FAO.

2. Disbursement of DRGs for water supply through the Conditional Grant Scheme

Provision of 304 Motorised Boreholes, 3,804 Hand-pumps Boreholes, and 1,687 solar powered Boreholes

3. Disbursement of DRGs for water supply through the Quick Wins Projects

Construction of 453 Motorised Boreholes, 69 solar powered Boreholes and 2,545 Hand pumps Boreholes in 360 Federal Constituencies and 109 Senatorial Districts.

Assessment of Water Quality

Current Status of Water Quality activities

- The Federal Ministry of Water Resources (FMWR) was recently demerged from the Federal Ministry of Agriculture in order to have more focus on water issues. The FMWR has five Technical Departments, four Agencies, and twelve River Basins Development Authorities.
- The results of the 2004/2005 Rapid Assessment of Drinking Water Quality (RADWQ) showed that there were water quality problems associated with groundwater hitherto assumed to be potable and wholesome.
- A National Water Supply and Sanitation baseline survey was conducted in 2006/7, but only the existing infrastructure and their capacities were inventorised but the quality of the waters was overlooked.

On-going Studies in the Sector

- To address these gaps, the National Water Resources Institute carried out three studies in 2008/9 with the following objectives:- (i) to reveal the actual drinking water quality of the boreholes in representative areas; (ii) to determine the parameters that cause aesthetic and objectionable problems; (iii) to recommend mitigation measures for the identified drinking water quality shortcomings.

Water Quality Laboratory Monitoring Network Programme

- ⊙ The country has two Reference Laboratories located at Kano and Lagos and four Regional Laboratories located at Akure, Enugu, Gombe and Minna. Additional six Regional are being established at Sokoto, Maiduguri, Makurdi, Port Harcourt, Warri and Aba.
- ⊙ The activities are centred on determining the quality of surface and ground water and undertake surveillance on pollution. Currently, there are seventy seven sampling points nationwide.

Drinking Water Quality Assessment Surveys

Results from the Niger Delta(Rivers, Bayelsa and Delta States

- ⊙ Lead had 0% compliance in the three states. It should be noted that Lead is implicated in the brain and kidney diseases of humans;
- ⊙ Compliance of Cadmium was 0% in Bayelsa but 80% in both Rivers and Delta;
- ⊙ The E-Coliform compliance were Rivers 63%, Bayelsa 60% and Delta 63%. Thus, one out of three borehole site is bacteriologically contaminated.
- ⊙ The pH level in the groundwater samples collected shows a range of 4.00-6.36 in Rivers, 5.32-6.88 in Bayelsa and 4.36-7.09 in Delta. These are close to acidity and below WHO value of 6.5-8.5 for drinking water

Results from Ogun

- ⊙ Compliance of Caliform was 10% and purple Sulphur Bacteria was detected in three sites;
- ⊙ There was 100% compliance for Lead, Chromium, Mercury and Cadmium;
- ⊙ Iron has 70% compliance;
- ⊙ The pH compliance was only 8% across the State. In the 92% that did not meet the limit, pH values ranged from 4.4%-6.4%.

Results from Kaduna State

- ⊙ The pH compliance was 30% and in most part of the State the pH range varied from 3.3-7.7;
- ⊙ Arsenic recorded 84% compliance;
- ⊙ There was 100% compliance for Nitrate and heavy metals such Cadmium and Lead.

Challenges

- ⊙ Poor Infrastructure
- ⊙ Lack of Community Involvement/Gender Issues
- ⊙ Sector Monitoring Mechanism are poor
- ⊙ Institutional Arrangements
- ⊙ Transparency and Accountability
- ⊙ Civil Society Participation is very limited
- ⊙ Limited Budgets and Human Resources Capacity
- ⊙ Large Land Area of 923, 768 square kilometers
- ⊙ Poverty due to economic stagnation

MDGs Mid-Point Assessment

- ⊙ The issue of water supply is critical because of the rapid rate of urbanisation;
- ⊙ Between 2000 and 2007, the proportion of people with safe drinking water has been falling annually by -0.7%;

⊙ Thus, if this trend continues the proportion of people with access to safe drinking water by 2015 will be 43.5%;

⊙ To meet the MDGs target of ensuring that 75% of the population with access to safe drinking water, the proportion will have to grow at 3.9% annually.

MDGs Costing and Countdown Strategy

⊙ Cumulatively, the projected cost of attaining the MDGs up to 2015 is US\$ 247.54 billion and in per capita terms, the cost is US\$1,475;

⊙ The cumulative cost to attain the MDGs for the water sector is US\$ 22.68 billion;

⊙ The expected cumulative spending on the average Nigerian is US\$ 137;

⊙ Thus, there is the urgent for scale-up initiatives in the bid to move closer to the MDGs target.

Moving Forward

⊙ The OSSAP-MDGs is making arrangements for the implementation of MDGs activities in 113 Millennium Villages Projects (MVP) nationwide;

⊙ The guiding principles for the establishment of the Millennium Villages Projects are Community Involvement and Ownership, Gender Equity and Sustainability

• Conclusion

⊙ Nigeria is not on track to achieve the MDGs target for Water;

⊙ Water Quality Issues are being vigorously pursued;

⊙ Only 10% of the surface and ground water resources are currently exploited;

⊙ Yet no city in Nigeria can boast of uninterrupted water supply for 24 hours.

Summary of Round Table III Presentations, Main Conclusions and Recommendations of RT III

The water quality remains one of the important criteria for assessing the effective use of water resources and ensure high living standard for the people. As part of the Round Table 3 of the Conference were considered the current situation related to the prevention of pollution of natural water sources, improvement of sanitary living conditions of people associated with water, infrastructure and sewage treatment of polluted municipal and industrial wastewater. The main conclusions and recommendations of the conference are:

- Today, 50% of world population is exposed to polluted water

- By 2030, as a result of the world population growth, some 60% of people will have no access to clean water

- Every day, 2 million tons of sewage, industrial and agricultural waste are discharged into the world water sources

- 2.5 billion people have no access to adequate sanitation, over 70% of them in Asia, that significantly contributes to global water pollution

- 2.2 million people, mostly children die annually of water borne diseases

- Overall investment in water resources has decreased, by national governments and ODA
 - Ecosystem functions and resilience has declined drastically due to continued deterioration of water quality and availability, in addition to decrease in protection and purification capacity of water ecosystems and as well as loss of forests and wetland
 - Climate change, impact a rapid economic growth and transboundary pollutants are affecting water quality across borders, causing severe transboundary damage to ecosystem and biodiversity
 - 1.8 million under-fives die annually as a result of diarrhoeal diseases, 88% result from unsafe water and inadequate sanitation and poor hygiene, causing severe malnutrition, affecting the poorest of the poor mostly
 - A need to focus on sanitation issues and implement water safety plans.
 - Isolated actions, inadequate education and absence of integrated approaches to drinking water, sanitation, hygiene and water treatment are some of the major issues, the world hasn't yet addressed the issue effectively. A holistic approach that looks at all pathways of disease transmission is often lacking and is not making efforts for its effective solution.
 - Move from a linear approach in which wastewater is discarded to a circular system that promotes its safe reuse.
 - Experience from Nigeria and similar countries show that most countries will not be able to achieve the MDG targets related to water by 2015
- o Outdated infrastructure, lack of community involvement, poor and often very poor monitoring systems, equipment, skills and capacities and institutional arrangements in most countries are some of the contributors to continued lack of access to clean water for large number of people
- o Lack of transparency and accountability has been cited as a serious issue control and improvement of water quality
- Nigeria's experience also shows that even though only a fraction of the water is utilized in some countries, whereas its shortage remains in most towns and rural areas in developing countries
 - In fact, in some countries, access to safe water has even fallen over the past 5 years.

Solutions and Recommendation:

“Unclean water is as dangerous as lack of water”

The March 22, 2010 at the World Water Day, within the framework of preparation to the Conference under the theme «The dirty water is dangerous as its lack « a number of recommendations were proposed and the following decisions have been adopted

- It has focused on Water Quality under the theme “Clean Water for a Healthy World”
- Invest in treatment of polluted water: experience from some countries show that investment in treatment has great opportunities for return (US1 invested could bring back a return of US\$ 3-34 according to WHO assessments)
- Adopt a three-step approach to the improvement of water quality:

- o **Prevent pollution** (least expensive approaches, most effective with zero impact)
- o **Treat polluted water** (avoid surfacing large scale water borne diseases that could have disastrous implications: in 150 years, over 90% of raw sewage and 70% of untreated water could surface in most developing countries)
- o **Restore ecosystems** (integrated watershed management, tree planting and addressing climate change)
- o Understand water quality through improved monitoring
- o Recognize the value through improved economic and financial approaches
- o Build awareness and political will and effective leadership
- o Improve governance and institutional effectiveness
- o Deploy appropriate and effective methods and technologies
 - Apply legitimate, transparent and participatory processes, eliminate corruption will help avoid irreversible damages to precious natural resources (land, water and ecosystem)
 - Set up clear, short-term targets for politicians and decision makers with a long-term perspective
 - Adopt comprehensive water management and planning approaches. As an example an approach in the European Union countries (EU Water Framework Directive) was mentioned, which addresses water quality on a catchment level from source to consumption

Major Issues to be Addressed

1. What is strongest policy and its economic cost of investment versus return?

- Addressing environmental issues and climate change should become a major priority through integrated, effective management systems
- Linking common policies (environment and climate change) to specific issues of water quality
 - o “Get out of the box” of traditional thinking of policy and decision making
 - o Convey simplistic messages of short-term impacts to politicians and public that highlights synergies between investment, production and trade offs
 - o Short term message should make sense to politicians, such as food production and the role of irrigation as pollutants of water
 - o Address dumping of large scale pollutants by the private sector without recognizing long-term costs
 - o Effective water recycling processes and approaches
 - o Design appropriate clean living environment
 - o Take major events, such as the current global financial and economic crisis as an opportunity to introduce appropriate long-term clean economies
 - Appropriate approaches must be found to change people’s attitudes, behaviors and way of life. Changing societal behavior is the most challenging issue which requires long term, continuous commitment.
 - Policies must make distinction between urban and rural areas and their needs and

require specific and targeted plans, including investment in monitoring of water quality in rural development aspects.

2. Public awareness in water quality issues

- Change the pattern of responding to needs expressed by people working in the field and analyse the needs properly, especially in ODA
- Improve education and its role in water quality control and make appropriate use of the media, especially radio, as many rural people in developing countries are illiterate
- Apply simple community based water testing methods, that can convey messages to people that “clear water is not always clean water”, through practical demonstration of cause-effect.
- Involve school children as multipliers of good messages to the entire community by conveying simplistic messages, role plays and involving school parents committees, where available: reducing the cost of awareness and increasing monitoring
- Ensure politicians understand the value of involving communities to improve water quality. Ensure that after awareness is created there are ways for communities to improve their situation. The Chinese experience in large-scale water quality projects involving communities or the Nigerian Hygiene and Sanitation Working Groups were mentioned.

3. Management and technological solutions and innovations

- Involve communities in mapping water related issues and problems through simple methods
- Introduce appropriate mineralized water resources management is a necessity in some countries, it includes treating and recycling brackish and other waters in the agriculture sector
- Involvement of water consumers in renovation and rehabilitation of infrastructure, ensure their active participation in maintenance and their sustainability
- Be open-minded and accept multiple solutions to specific issues, instead of applying narrow minded traditional approaches and solutions: for instance, there are many different methods to address sanitation issues
- Use the “Specific consumption of water” concept to communicate how much water it takes to produce bread, or any other good for consumption to raise awareness. At the same time be aware of the limitations of the concept, the indicative nature of the numbers, and that location and the source of water matter.
- Make use of traditional, natural residues for water purification and cleaning as opposed to traditional expensive methods
- Link water innovations to energy innovations

4. Monitoring resources

- Develop simplified water monitoring approaches that communities can apply, such as testing kits at grassroots level and make effective use of telecommunication facilities, such as Google and mobile phones

Link monitoring to research and policy-making: improved data will help politicians make more informed decisions.

**Round Table IV.
Water Resources and Adaptation to
Climate Change and Disaster Risk Reduction**

Co-Chair:

Dr. Kuniyoshi Takeuchi, Director of the International Center for Water Hazard and Risk Management (ICHARM), Japan

Co-Chair:

Mr. Mahmood Ayub, Director for Central Asia, Regional Bureau for Europe and CIS, UNDP

Secretary:

Ms. Goulsara Pulatova, Regional Coordinator UNISDR Central Asia

Rapporteur:

Mr. Rastislav Vrbensky, UNDP Country Director

Penalists:

Mr. Sálvano Briceño, Director, United Nations International Strategy for Disaster Reduction (UNISDR)

Mr. Jorge Jurado, Former Minister of Water of Ecuador

Mr. Heinz W. Weiss, Consulting Engineers, Basler & Hofmann AG, Switzerland

Mr. Byeon Jae-young, Director, Ministry of Land, Transportation and Maritime Affairs of Korea

Mr. Vladimir Aizen, Professor of University of Idaho, USA

Mr. Olcay Ünver, Coordinator, UN-Water, World Water Assessment Programme

Mr. Sálvano Briceño, Director, United Nations International Strategy for Disaster Reduction (UNISDR)

Excellencies,

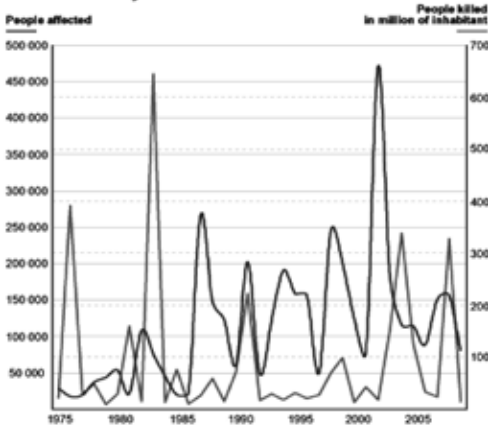
Distinguished participants,

Ladies and gentlemen,

I believe holding this conference is a very timely event due to the increased number of water-related disasters arising from floods, droughts, tropical cyclones, landslides and tsunamis over recent decades. Water-related disasters account for about 90% of all disasters triggered by natural hazards of these 75% of disasters are related to extreme weather. The growing social and economic impacts of disasters are immense, with hundreds of thousands of lives lost and millions of people affected. Moreover, it is the poorest countries and the poorest people who are disproportionately affected, in terms of lost lives, lost livelihoods, and relative impacts on national economic indicators.

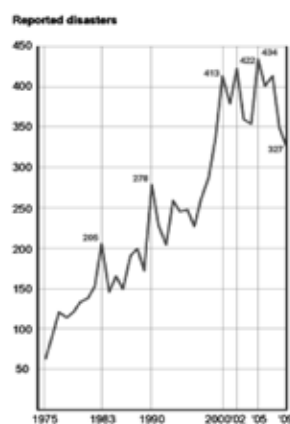
It is also important to point out that climate change has globally become a threat to development and is expected to increase the severity and frequency of weather-related natural hazards such as storms, high rainfalls, melting of glaciers, floods, droughts and heat-waves. The nature and full degree of the security implications of climate change are still largely untested. Climate change is a long-term issue that is likely to cause extreme temperatures, floods, droughts, cyclones, and higher sea level. The impact of climate change on human well-being may be manifold. It may and most probably will include impact on food production and food security, for example, due to increasing water scarcity, land degradation and desertification health and incidence of various vector-born diseases the frequency and intensity of extreme weather events, including flooding, drought and tropical storms, and sea-level rise. Disaster risk reduction and climate change mitigation and adaptation share a common space of concern reducing the vulnerability of communities and achieving sustainable development.

Time trend of reported people killed and affected by disasters⁽¹⁾ 1975-2009



Source of data: UNISDR, and UNISDR/WHO
International Disaster Database (disasters.unisdr.org)
United Nations Office for Disaster Prevention and Relief

Time trend of reported disasters 1975-2009⁽¹⁾



(1) Excludes triggered by natural hazards

Water risks and water-related disasters are therefore an integral part of social and economic development. One of the global trends in this regard more and more often brings us to a simple deduction – **disasters are NOT natural**. It becomes obvious when, among other things, we think of:

- Greater exposure to natural and human-induced hazards, climate change and variability (global warming)
- Socio-economic trends: poverty and unsustainable development styles, unplanned urban growth and migrations, lack of awareness and institutional capacities...
- Physical: insufficient land use planning, housing & critical infrastructure located in hazard prone areas...
- Environmental degradation: ecosystem and natural resource depletion (coastal, watershed, wetlands, forests)

Disasters can become serious impediments to achieving the Millennium Development Goals by 2015, since disasters can quickly destroy accumulated development gains, in terms of damage and losses to infrastructure and other assets and frustrated social and economic progress. Can sustainable development be achieved without taking into account the risk to natural hazards? A short answer: **NO!**

The Millennium Development Goals do not directly address disaster risks or disaster risk reduction, but appropriate sectoral and cross-sectoral risk reduction approaches can do much to support the achievements of the goals. This requires consideration of the implications of disaster risks for each Goal, the vulnerabilities of different parts of society to the various hazards, understanding the root causes of these risks, and the application of readily available water-related expertise and methodologies, especially in the context of Integrated Water Resources Management.

The vision of disaster risk reduction is building resilient communities towards sustainable development. The six principles of sustainability include the following:



Strategies to reduce water-related disaster risks need to be based on the Hyogo Framework for Action, which among other things calls on national and local governments to include water-related disaster risk reduction into their national agendas, including the development and adoption of risk reduction and adaptation related policies, legislation, programs and action plans.

Disaster Risk Reduction (DRR), as a conceptual framework, consists of ways and means which could be briefly described as follows:

- To minimize disaster risks by reducing the degree of vulnerability and increasing resilience capacity
- To avoid (prevention) or to limit (mitigation and preparedness) the adverse impacts of natural hazards with a sustainable development approach

The DRR Agenda in Progress includes the following milestones:

1989: IDNDR 1990-1999 – promotion of disaster reduction, scientific development

1994: Yokohama Strategy and Plan of Action – Mid-term review IDNDR, first blueprint for disaster reduction policy guidance (social & community orientation)

1998: UNDP inherits DRR function from DHA (former OCHA) for supporting capacity development at national level

2000: International Strategy for Disaster Reduction (ISDR) - increased public commitment, linkage to sustainable development, enlarged coordination at int'l and regional levels, networking and partnerships ISDR secretariat, UN Trust Fund

2002: Johannesburg Plan of Implementation- WSSD Includes a new section on “An integrated, multi-hazard, inclusive approach to address vulnerability, risk assessment and disaster management...”

2005: WCDR - Hyogo Framework for Action 2005-2015 Building the Resilience of Nations and Communities to Disasters

2007: 1st session Global Platform for Disaster Risk Reduction (GP2007)

Monitor HFA progress, facilitate further actions and partnerships, take stock, identify gaps and obstacles and share lessons and good practices

2009: 2nd session Global Platform for Disaster Risk Reduction (GP2009) Monitor HFA progress, identify gaps and priorities

2010: Mid-term review of the Hyogo Framework and links with CC Adaptation COP-16, MDGs 2010 review and 2012 Sustainable Development Rio Summit

2011: 3rd session Global Platform for Disaster Risk Reduction (GP2011, Geneva, 8-13 May 2011) Monitor HFA progress, identify gaps and priorities

By way of conclusion, I would like to share the key messages requiring our urgent attention and action:

1. Disaster risk reduction can be immediately acted on, as a no-regrets policy
2. Need to scale up the effort and funding, at all levels, for disaster risk reduction, to counter growing risks
3. Various risk reduction methods are readily available
4. The Hyogo Framework for Action is a core policy guide for supporting adaptation (recognized in CC negotiations)
5. Reducing risk to natural hazards is a sine qua non condition for IWRM, CC adaptation, MDGs and sustainable development

Risk reduction is an essential ecosystem service, to be reflected in environmental legislation and policies

**Mr. Jorge Jurado,
Former Minister of Water of Ecuador**

Just to have in mind:

The impact of diarrheal disease on children is greater than the combined impact of human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS), tuberculosis and malaria.

Over 2.6 billion people not using improved sanitation and nearly 900 million people not using an improved source of drinking water is surely unacceptable.

Many countries seem to allocate insufficient resources to meet the Millennium Development Goal (MDG) target for sanitation and drinking-water. When compared with other sectors, particularly the other major social sectors of education and health, sanitation and drinking-water receive a relatively low priority for both official development assistance (ODA) and domestic allocations. (UN-water global annual assessment of sanitation and drinking-water (GLAAS) 2010: targeting resources for better results, 2010)

Background

Water plays a pivotal role for sustainable development, and is directly related to food security, poverty reduction and fostering human rights. Competition to use – and abuse – increasingly precious water resources have intensified dramatically over the past decades. This has reached a point where water shortages, water quality degradation and aquatic ecosystem destruction are seriously affecting prospects for economic and social development, political stability, as well as ecosystem integrity. (Stockholm International Water Institute)(SIWI)

Are we going to accept this situation?

One of the most important aspects that have to be changed as soon as possible is the way we are implementing the resource allocation. We must invest in good water politics and planning in order to assure that water is available there where it is needed.

Today we are looking only to the achievement of sectoral goals, in fact a whole spectrum of water-related goals: health; Measures to accelerate progress towards the water-related internationally-agreed development goals, including the MDGs and ensuring involvement of women; Transboundary water cooperation and the International Law; Water Quality; Water Resources and Adaptation to Climate Change, Disaster Risk Reduction; Sustainable Financing; Integrated Water Resource Management, drinking water; water quality; water access; glaciers situation; food security; energy and agriculture, as it was stated at the UN General Secretary Mr. Ban Ki-moon's address to this Conference. But we are doing very poor about the maintenance of the water cycle so that we are not able to guarantee the permanence

of water in the watershed and therefore we are doing nothing to create strong global and comprehensive water politics...

A permanent water flow in the drainage basin has to be considered as the only possibility to work in all other water sectors without being afraid about the consequences of scarcity. The maintenance of watersheds is the possibility of proper intervention on the water cycle.

But that is not enough; we need to think not only in the lower local level, if we are interested on the effects of climate change we have to jump to other higher levels of work: the regional one and the global one. We cannot maintain our efforts just on local objectives.

If we are going seriously to discuss about climate changes and water issues it deserves a dual recognition: Climate change has to be approached on at least a regional basis and with a comprehensive scope not only in sectoral projects. There has to be a new working view: new water politics; new water global institutions; new planning with comprehensive programs not only isolated actions.

Remember, and do not forget!

Last March In New York on the WATER FOR LIFE, 2005 – 2015 Conference organized by the President of the UN General Assembly, we already mentioned that the approaches and sectorial management of water focused only on urgent needs have not allowed a global integral and integrating vision to make possible a sustainable handling, and care about all its necessities and uses to obtain an equitable distribution.

If we accept that water is the primary medium through which climate change influences the Earth's ecosystems and therefore people's livelihoods and well-being through water-related climate change impacts that are being experienced in the form of more severe and more frequent droughts and floods (UNwater)...

We must ask :

Why there are so few initiatives to work on global water politics?

Why there is no discussion at a global basis in order to establish new institutions that can really push forward regulations that can force countries to work together in a much wider basis than just the transboundary approach?

Why entire regions have no common answer to their common water problems?

Why we are not discussing deep enough to have a better understanding of the hydrologic cycle and about how we can influence those stages where water reaches the soil so that we can reduce the entropy of water?

Why at the international level water is not being accepted formally as a political issue?

Why we already accepted the undervalue of water?

We should work much harder on:

The improvement of knowledge about regional water availability.

How can we build confidence between countries who share water or when they depend on each other water.

How can we build regional and global institutions to work in an comprehensive way on water issues?

Which new initiatives are to be considered to guarantee water for all uses?

What do we have to do when water is not any more available?

Do we need an awareness contingency plan for those cases?

What we have achieved in Ecuador:

Ecuador within its constitution recognizes that water is a fundamental human right, as well as a strategic national patrimony of public use. We have now a very comprehensive national water plan. We built a new water institution as the water authority in the country: the National Secretary of Water, with a ministerial rank and member of the presidential cabinet. This institution is working now in the nine water basins with more than 33 administrative units where all matters about hydrological issues should be treated.

To make all of this sustainable we had to think forward and **beyond our borders** . We had to think about the two main hydrologic cycles in our region, one of them depending directly of the regional Evapotranspiration of the Amazon, that has to be thought as the most important matter if we consider human intervention and the fragility of the entire ecosystem. This cycle is a result of water evapotranspiration from the soil and the vegetation in all the Amazon basin, from the Andes to the Atlantic coast, and here are nine countries involved, so we need to have a common political agenda for a strong water management to preserve the permanency of the water circuit in the whole region.

But the Amazon basin water cycle is also important due to the annual cycle of evapotranspiration which is an important component of the Amazon hydrological balance, and is of critical importance to the global water cycle. Understanding the changing water balance in this region is particularly important to estimate future global and regional hydroclimate changes in response to projected deforestation of the rain forest in this region. (Werth D. Avissar R., The Regional Evapotranspiration of the Amazon, Journal of Hydrometeorology 2004; 5: 100-109)

This is the best example of a common need.

The governability of water must be considered like an essential element of adaptation to the climatic change

We must push to a new global and regional initiative to obtain as soon as possible a guarantee for the access to safe clean water in amount and quality for human consumption. The follow up in this next five years of the Millennium Development Goals (MDGs) may be not enough.

Processes of emergent adaptation must be generated to face opportunely the risks and extreme changes related to the variations in the global, regional, and local hydrologic cycles as they constitute the main cause of droughts and floods.

But... can we do all these without an Organization?

We think there must be an institution with capabilities of coordination, management, formulation, planning, design, implementation and... regulation at the highest level possible.

We insist about the urgency to advance in the discussion of water governance at multilateral level for the creation of a Permanent Commission for Water at the United Nations as well as an Inter Government Panel in which all the States take part....

We recognize efforts of different initiatives unfolded, but we urge that water can only be managed in an integral way inside the United Nations, allowing the expression of its 192 State wills in a sovereign way and in exercise of its respective national policies.

Taking into account that increasing shortage of water for human consumption can become a threat for world peace, we consider pertinent and opportune to initiate as soon as possible some actions like the creation of a plan of global action that integrates all the water initiatives which are carried out in United Nations. This Action Plan could depend under a Permanent Commission to be created or on the way to follow, dependent of another instance at the maximum possible level.

Thank you.

**Presentation on Adaptation
to Climate Change: A Prerequisite for
Effective Disaster Risk Reduction.
Mr. Heinz W. Weiss and Ms. Ludmila V. Bobrik**

1. Introduction

Natural disasters regularly cause havoc in Tajikistan, where more than 90% of the land surface lies higher than 1 500 m above mean sea level, much of it being geologically instable. Disasters may be due to excessive flooding in the plains, flash floods in the valleys, debris and mud flows, land slides, snow avalanches, rock falls, earthquakes, drought, extreme cold and so on. On top of this, as a result of climate change, matters may be even changing for the worse. The glaciers are retreating at an alarming rate, the permafrost level is rising gradually, extremes of heavy precipitation as well as drought are on the increase. The resulting harmful processes are bound to lead to increasing and more extreme natural water-related disasters. The question thus arises as to what needs to be done, both in the face of past and present experience as well as with due respect to the impending climate change.

2. Data Basis on Hydro-Meteorology

Statistical data on economic damages, casualties and injuries are still somewhat scarce and haphazard. However, a recent study revealed that the corresponding expected annual economic damage resulting from natural disasters in Tajikistan may well be in the order of 60 million US dollars/annum. Capitalized (in this case simply «added up over the next planning period» due to increasing vulnerability / cost of damage) this amounts to a total of 1.5 billion US dollars, a sizeable sum for a small, mountainous country like Tajikistan.

Hydrometeorological data on water-related natural hazards are insufficient as well, in any part of the world, and in Tajikistan in particular. A World Bank team recently

produced a report pinpointing the most urgent needs for the Tajik National Hydro-Meteorological Services (NHMS). They came up with an amount of a minimum of somewhat over 6 million USD in the near future. The chances are good that the project will materialize. It may thus be realistic to assume that discharge measuring stations, such as is shown in Figure 3, may one day be producing results again.

World Meteorological Organization (WMO) endeavors to set up the so-called Aral HYCOS (Hydrological Cycle Observing System) in Central Asia. The project would link the Aral Sea region to the overall World HYCOS (WHYCOS), producing on-line data on hydro-meteorology, including data on climate change. This in the knowledge that natural hazards ignore national boundaries. The project idea was launched as far back as 2002 – up to today no donors could be found, though.

3. Adaptation to Climate Change

KOHS is an expert commission of the Swiss Water Resources Society on matters of flood control. The members comprise experts of the Federation, the cantons (“oblasts”), the universities, and consulting practice. With a recent policy document, KOHS defines its position on the current problem “Climate Change and Flood Control”. Its recommendations are as outlined below, namely:

Sustainable flood protection requires the consistent implementation of an integral risk management approach, implying the following steps:

- For the planning of measures, the consequences of climate change have to be factored in by means of appropriate scenarios.
- The worst case scenarios have to be considered in order to determine the space requirements for a watercourse; this space must be made available.
- Physical protection measures have to be planned in a way that they can be adapted with a justifiable effort. They have to be robust and cater for overload.
- The overload case has greater significance in relation to climate change.
- Residual risks cannot be avoided completely but they can be minimized by adopting secondary measures (individual flood protection) and with organizational planning (emergency plan and emergency concept).

It is of the utmost significance to acquire more knowledge and reduce the unknowns – a comprehensive understanding of the fundamentals is an important prerequisite to adequately dealing with natural hazards, viz.:

- To quantify the hydrological consequences of current climate scenarios, models with a high time and space resolution of water balance and discharge formation are needed. Consequently, a denser network of hydrometric stations is required.
- Scenario based design requires a profound knowledge of the processes involved and of the behavior of the measures proposed. A thorough analysis of past events is a prerequisite to furthering our understanding and to reducing uncertainties.

The general public has to be sensitized to flood hazards in order to be able to recognize their personal responsibilities, including the following precautionary measures, i.e.:

- Simple adaptations to buildings and infrastructure can reduce damage in an extreme event. The appropriate knowledge has to be communicated to owners, architects, and planners through public channels and education.
- Insurance institutions should play a role and promote individual responsibility through information programs and adoption of premium policies.

The funds available for flood protection are limited. The protection measures that are already necessary today cannot be implemented simultaneously. Where flood control projects cannot be realized immediately, risks can often be significantly reduced with other inexpensive measures from the other domains of integrative risk management, such as urban and rural planning, individual object protection, or emergency planning.

Judging from the Second National Communication of the Republic of Tajikistan under the UN Framework Convention on Climate Change, similar scenarios may develop in Central Asia. In this respect, the findings of the Swiss KOHS have a certain relevance also for Tajikistan.

4. National Strategy on Natural Disaster Risk Management

National and international organizations, together with the Government of the Republic of Tajikistan, are working on the problem by developing various disaster relief and prevention programs as well as devising and gradually implementing a national disaster risk management strategy [6, 7]. A mammoth task still lies ahead in trying to cope with the problem, which is obviously being compounded by the imminent climate change. Adaptation to climate change in this context implies that the national disaster management strategy vouches for qualified personnel and the corresponding finances to study the inherent processes leading to natural disaster (which is evident from the preceding chapter). Furthermore, to set aside sufficient funds both for prevention and remedial measures, by the country affected and by the supporting international donor community.

5. International Strategies on Disaster Risk Reduction (DRR)

Two documents/strategies/philosophies need to be mentioned under this heading. They are on the one hand supplementary to national strategies – on the other hand they need to be incorporated into the national strategies.

5.1 HYOGO Framework for Action (HFA) 2005-2015

Hyogo Framework for Action 2005-2015 (HFA) aims at building the resilience of nations and communities to disaster. HFA thereby formulates the following three strategic goals, viz.:

- a. The integration of disaster risk reduction (DRR) into sustainable development policies and planning
- b. Development and strengthening of institutions, mechanisms and capacities to build resilience to hazards
- c. The systematic incorporation of risk reduction approaches into the implementation of emergency preparedness, response and recovery programs.

For this to be achieved, HFA stipulates five priorities, namely:

1. Make disaster risk reduction a priority
2. Know the risks and take action
3. Build understanding and awareness
4. Reduce risk
5. Be prepared and ready to act.

The actors to be addressed are the following, namely:

- States
- Organizations
- The United Nations International Strategy for Disaster Reduction (UNISDR).

HFA as defined above serves a dual purpose. First of all, national strategies must strive for attaining the goals defined therein. Secondly, and this is the other way round, international organizations are requested to ascertain that this is indeed the case, and for this they should offer their wholehearted support.

5.2 Mainstreaming according to Tearfund methodology

“Mainstreaming according to derives from the metaphor of a small isolated flow of water being drawn into the mainstream of a river where it will expand smoothly without losses or diversion”. (With the understanding of turbulent flow in a river, due to hydraulics’ training, the authors would like to supplement this with «minimum friction and turbulence losses” – as is the stark reality in disaster risk reduction (DRR) as well as in development cooperation and financial cooperation, true to the flow of water resembling human nature and cooperation between various actors). “Mainstreaming risk reduction” describes a process to «fully incorporate disaster risk reduction into relief and development policy and practice. It means radically expanding and enhancing disaster risk reduction so that it becomes normal practice, fully institutionalized within an agency’s relief and development agenda”.

Mainstreaming has three purposes, namely:

- To ascertain that all the development programs and projects are designed with evident consideration for potential disaster risks and to resist hazard impact
- To ascertain that these development programs and projects do not inadvertently increase vulnerability to disaster, and
- To make certain that all the disaster relief and rehabilitation action programs and projects are designed to contribute to development aims.

There are six **key areas**, crucial to the process of mainstreaming, which are presented in. They are:

- 1 Policy
- 2 Strategy
- 3 Geographical planning

4 Project cycle management

5 External relations

6 Institutional capacity

According to, each of these six key areas should be resembled in any organization/ agency dealing with development and financial cooperation where disaster risk reduction (DRR) plays a role. For each of the six key areas, four *levels of possible attainment* of mainstreaming are defined. The “levels” are in short defined as follows:

Level 1: “Little or no progress”: Organization deals with disaster risk ad hoc

Level 2: “Awareness of needs”: Organization understands value and requirements of mainstreaming

Level 3: “Development of solutions”: Organization is developing plans and tools for integrating risk reduction into its relief and development process

Level 4: “Full integration”: Disaster risk reduction is “institutionalized” in an organization

International organizations are thus called upon, together with their recipient countries, to harmonize development and financial cooperation with disaster risk reduction (DRR). This is the key for success.

6. Conclusions

In concluding, a laconic reversal of the title of this present paper leads the way for coping with natural hazards and climate change in the best possible manner:

«Prepare and implement a national strategy on disaster risk management – this is a prerequisite for successful adaptation to climate change.»

And in line with Tearfund mainstreaming, this national strategy must endeavor to:

- Optimize the use of water resources
- Replace deforestation with afforestation
- Strive for integrated watershed management and improvement of agricultural practices

Despite all precautionary measures, damages like those recently occurring in Tajikistan cannot be totally prevented. Either there are backlogs concerning prevention. Or on top of this, some events are just too strong to be totally controlled, often referred to as «overload» – this is what is meant with «residual risk».

**Mr. Jae-Young Byeon, Director,
Ministry of Land, Transport and Maritime Affairs of Korea.**

I would like to introduce our Four Major Rivers Restoration Project which is one of the largest Korean Green Growth Initiatives and water management & policy.

First of all, let's take a look at our short movie clip. After that, I will speak about more details of the project and policy

Let's take a look at it first

2. Movie Clip

3. (Project Background)

It's an obvious evidence that climate change and water shortage phenomenon are inevitable common problem in the world. So, Korea started this project as an adaptation measure of climate change.

The annual precipitation per person in Korea is approximately 7 times less than the world's average. More over, a localized torrential downpour appears during the summer and almost no rain happens in the dry season.

This is one of our biggest problems.

4. This abnormal climate phenomenon also causes heavy rain in the wet season and severe flood damages

Casualties and property damages due to the floods have occurred repeatedly, and the scale is getting bigger. For the last five years, an average cost of the annual water-related damage was 2.2 billion US dollar and restoration expenditure was 3.5 billion US dollar.

5. In addition to the water related natural disasters, our rivers have experienced some degree of water pollution as well.

6. Due to the water pollution, our nature, especially aquatic eco-system has continuously degraded. Korean government has continuously been making an effort to improve aquatic ecosystem and its biodiversity.

7. Now, as we recognized that around 190 countries participated in the COP 15 in Copenhagen last December, it's an obvious evidence that climate change issues are inevitable.

In case of Korea, the ratio of a torrential rainfall has increased 1.7 times than in the past. In the dry season, approximately 18,000 household experienced water supply restrictions in 2009 due to the droughts. An average temperature has increased by 1.5(Celsius)

8. (Vision & Objectives)

So, to address these problems that mentioned above, Korean government adopted a green growth initiative as a core national policy, and consequently, determined to launch the Four Major Rivers Restoration Project in December, 2008

Our vision is «Reviving Rivers for a New Korea!». Under this vision, the objectives of this project are to address such water-related problems as recurring floods and

droughts caused by climate change and to make a balance between nature and human, re-creation of national land, and harmonize between local development and green growth.

9. (Project Scope)

This project is to restore the Han, Nakdong, Geum and Yeongsan Rivers, to provide water security, flood control and ecosystem vitality.

The overall project consists of three sets of projects: The first set (main project) is the Han, Nakdong, Geum and Yeongsan rivers revitalization projects; the second set (directly-linked project) is the restoration of the 14 tributaries of the four major rivers; and the last set (next stage) is refurbishment for other smaller-sized streams.

10. (5 Core Tasks)

The Four Major River Restoration Project has five key objectives: 1) securing abundant water resources against water scarcity; 2) implementing comprehensive flood control measures; 3) improving water quality and restoring ecosystems; 4) creation of multipurpose spaces for local residents; and 5) regional development centered on rivers.

11. (Securing Abundant Water)

This project will secure total 1.3 billion tons of water by constructing 16 weirs, dredging riverbed, embanking agricultural reservoirs, and constructing two new dams along with the four major rivers.

12. (Flood Control)

Korean government adopted 200 year frequency flood measure instead of 100 year to protect citizens from flood events. By doing the dredging, flood level will be decreased as well.

The project will also contribute to community development through various plans that utilize the infrastructure planned in the project and the scenery. To this end, 1,728km bicycle lanes will be developed, hands-on tour programs will be promoted.

13. (Water Quality)

By 2012, the water quality of the mainstream will be improved to an average of Level Two (BOD less than 3ppm) by expanding sewage treatment facilities and establishing green algae reduction facilities.

Moreover, the ecosystem will be rehabilitated by restoring our rivers ecologically sound, establishing fish-way, and installing movable weirs.

14. By creating more public spaces, rivers will turn into multipurpose areas. To this end, local residents will enjoy culture, relaxation, and sports in redeveloped waterfronts.

Through this project, total 929km of ecological rivers will be restored, 84 ecological wetland will be created, and 140 local streams will be restored.

15. (Ecology)

The four rivers are being restored as they are originally shaped. It will restore abandoned surrounding river areas to create rivers where people, rivers and environment live in harmony

16. We planned to create two flood control retentions and three waterfront retentions. Total 8.47 square km of these retentions will control approximately 49 million cubic meter of flood water. In addition to the flood control, these retentions will also be a space for enhancing riverfront ecology and ecosystem.

By removing more than 28,000 vinyl greenhouse in the four river areas and relocating agricultural lands within the rivers (approx. 177 million square meter), the four river areas turn into the waterfront eco-belts. As a result of it, non-point pollution problems will be eliminated as well.

17. (Project Budget & Time Schedule)

Korea is planning to invest total of 19 billion US dollar by the end of 2012 for making this project success.

The primary projects including weirs and small dams construction and dredging by 2011 and the secondary projects including restoration of tributaries and embanking agricultural reservoirs by 2012 will be completed.

18. Korea will have a sound river against 200-year frequent flood and water scarcity by climate change.

We will re-gain our precious rivers by improving quality of life and cultural activities throughout the water improvement and ecological sound river restoration.

In addition, we are expecting a local economy revitalization through this Korean Green New Deal that can generate approximately 34 thousand jobs and 33 billion US dollar.

19. (Sharing Experiences)

In terms of sharing experiences from the 4 Major Rivers Restoration Project, the Korean Government endeavors to tackle this issue in the regional perspective. In the course of launching the East Asia Climate Partnership, the Korean Government reviewed water-related issues in Asia. We have come to the conclusion that the provision of fresh water and the development of policies and infrastructure for inundation and disaster prevention are the most pressing issues at hand. We will support East Asian countries through our policy experiences of improving its integrated water resource management system.

In this regard, the 1st East Asia Climate Forum was successfully held on May 29 last year in Seoul, Republic of Korea. More than 170 participants from ASEAN members, Mongolia, China, Central Asian countries, and relevant international organization experts attended the forum, sharing their experiences and policies for low carbon green growth. As an outcome of the discussion, «the Seoul Initiative for Low Carbon Green Growth in East Asia» was adopted, presenting future direction for collaboration among Asian countries in the field of green growth.

20. (Sharing Experiences)

This year, the 2nd East Asia Climate Forum will be held on June 16 in Seoul. With more than 400 participants to be expected to come, the launching of the Global Green Growth Institute (GGGI) will be officially announced. GGGI is an independent research institution which is designed to provide country-specific economic analysis and capacity building support to developing countries. The GGGI will

focus on developing and newly industrialized countries, helping them meet their development goals while contributing to Greenhouse Gas mitigation.

21. (Sharing Experiences)

Korea also plans to host an International Conference on Water Management for Adaptation to Climate Change and Promotion of Green Growth in the Asia-Pacific Region at Seoul on July 1-2, 2010 in Seoul.

Country Representatives from Asia and the Pacific are expected to be attending, and representatives from international organizations including ADB, UNDP, UNESCAP, UNESCO-IHE, UNEP, GWP, and WWC will also take part in the conference.

22. (Sharing Experiences)

The Republic of Korea hopes that this Conference will offer a platform for high-level officials from Asia-Pacific countries, experts from international organizations and other important stakeholders to hold discussions on action-oriented collaboration strategies on water management to address climate change and foster environment-friendly economic growth. Participants will be able to share the experiences and lessons they learned in their pursuit of appropriate water management and explore further options to meet the challenges ahead.

Thank you!

**Presentation on Glaciers and Water Resources
Change in the World Mountain Systems
Mr. Vladimir Aizen and Ms. Elena Aizen
University of Idaho, USA**

*“Approximately 24,062,914 km³ water volume
in glaciers and seasonal snow, which is only
1.7% of total water but 68.7% of total fresh
water for over 6,000,000,000 water consumers...”
USGS Geological Survey*

ABSTRACT

Over one sixth of the world’s population lives in areas where surface water is dominantly derived from seasonal snow cover or glaciers. Climate change always had and will have significant impact on the seasonal snow and glacier water resources, and river water supply in mountain regions. However, glaciers have retreated globally since the middle of 19th century, after the “Little Ice Age” and acceleration of the glacier’s recession appears at the end of 20th century in the majority of mountain regions of the World as a response on rapid increase of air temperature,

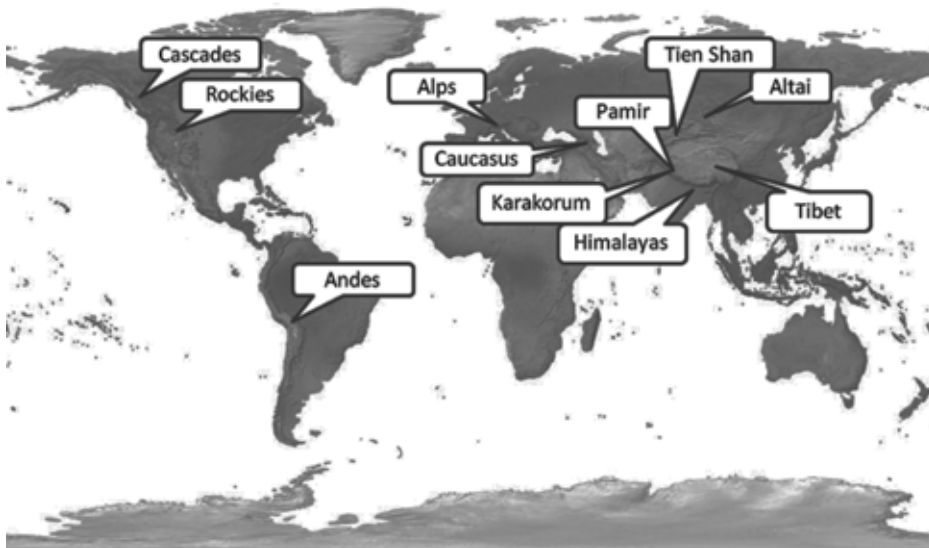
changes in precipitation partition (rain instead of snow) at high mountains, or lack of precipitation. However, the changes in seasonal snow covered area and glacier melt are not a linear process and may be different even in one mountain system. The appearance of seasonal snow pack in mountains shifted to later autumn and peak of snowmelt from early April to late March. The largest glacier recession observed in the Alps and Andes, while the high elevated glaciers in Pamir, Karakorum, and Himalayas are more stable to the modern climate change due to high elevated accumulation areas and increased precipitation in the last two decades.

The changes in seasonal snow and glacier water resources have distinct hydro-ecological consequences that feed back to the regional and global socio-economy. Alpine glaciers supplying water and generate river flow vital not only for the millions of people living downstream, but also for forestry, agriculture, industry, and urban areas in adjacent lowlands. The glacier meltwater is particularly important when the lower courses flow through semi- arid and arid regions with high evaporation and high demands for irrigation water during the vegetation period. It is obvious that climate change have significant impact on the snow/ice glacier water resources and river water supply in mountain regions and mid-low latitudes of the World promoting to study and develop a strategy for adaptation and socio/economy sustainable development.

AN OVERVIEW

There are mass of evidences that glaciers have retreated globally since the middle of 19th century, after the “Little Ice Age” [Mayewski and Jeschke, 1979], and accelerate their recession from the middle of 1970 in Asia (Yao et al., 2004; Liu et al., 2006; Aizen et al., 2006; 2010) and in South America [Fu et al., 2004; Haylock et al. 2006; Magrin et al. 2007] as a response on rapid increase of air temperature, changes in precipitation amount and precipitation partition (rain instead of snow).

Fig. 1. *The World's mountains systems with major alpine glaciers*



Although all glaciers in the World (Fig. 1) respond on changes in climate, the tropical glaciers are more sensitive than glaciers in the mid-latitudes. The co-existence of high elevated cold and arid areas are determined unique climatic and hydrological regimes not only in tropical Andes but also at mid-latitudes of central Asia and Tibetan Plateau. The dry semiarid and arid regions of central Asia are the World most possession from snow and glaciers melt water. The large Aral-Caspian and Tarim endorheic basins and the great Asian rivers, such as Ob, Yenisei, Huang He, Yangtze, Mekong and Brahmaputra, are fed by Altai, Tien Shan, Pamir and Tibetan Plateau glaciers. Changes in global and regional air temperatures and frequency of major atmospheric circulation processes regulating moisture flow over the mountain systems are the major driven forces of glacier mass balance and rivers discharge variability.

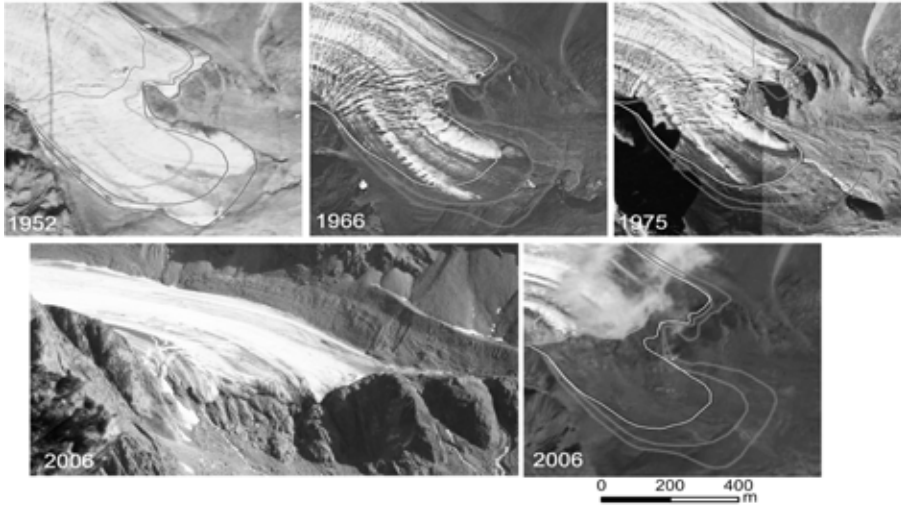
Alps show a considerable decrease in the glacier ice mass throughout the 20th century than any other mountain systems in the World. However, large differences in the magnitude of mass loss between the individual glaciers are evident with the cumulative specific mass balance varying by a factor of more than three [Huss, et al., 2010]. Huss, et al., illuminate two short periods of mass gain in 1910s and late 1970s, and two periods of rapid mass loss in 1940s and late 1980s to present.

The new satellite-derived Swiss glacier inventory revealed that mean glacier area loss per decade from 1985 to 1998/99 has accelerated by a factor of seven compared to the period 1850–1973 [Paul, et al., 2006]. In Switzerland, glaciers lost about 18% of their area from 1985 to 1998/99 (from 1973 to 1985 the change is only -1%). This corresponds to an average relative area loss of 14% per decade, which is about seven times higher than the decadal loss rate between 1850 and 1973 (-2.2%). There is an even higher relative loss of area towards smaller glaciers, but the scatter among values increases as well, indicating a very specific behaviour of individual glaciers that are smaller than 1 km². Such small glaciers account also for a major part (44%) of the total area loss since 1973, although they cover only 18% of the total area in 1973. In the 1970s, about 5,150 Alpine glaciers covered a total area of 2,909 km². This represented a loss of about 35 percent of glacial area from 1850 to that time. Accelerated loss of ice cover since then has resulted in a total loss of 50 percent of the 1850 area, culminating in a volume loss of 5 to 10 percent of the remaining ice during the extraordinary warm year of 2003.

According to the mass balance data from ten Alpine glaciers [IUGG(CCS)/UNEP/UNESCO/WMO, 2005] the mean cumulative specific mass loss was about 17 m water equivalent (we) between 1981 and 2003, corresponding to about -0.8 m we per year. This is about three times the long-term mean value for the 20th century of -0.27 m w.e. [Haeberli and Hoelzle, 1995; Hoelzle et al., 2003]. Apart from 3 years (1984, 1995 and 2001) with small mass gains, all years since 1981 exhibit mass losses. A linear trend line on the data points suggests an increasing speed of glacier mass loss, indicating that glaciers were not able to primarily adjust to the current climatic conditions by a dynamic retreat towards higher elevations with cooler temperatures.

In densely populated high mountain areas such as the European Alps the consequences of extreme glacier wasting on the hydrological cycles, water management, tourism, and natural hazards requiring an urgent adaptation strategy development.

Fig. 2. *Siberian Altai, multitemporal boundaries of the Leviy Aktru glacier terminus in 1952, 1966, 1975, and 2006.*



Altai mountains define northern periphery of the central Asian mountain system and southern periphery of the Asian Arctic Basin. Altai glaciers cover 2,043 km² in southern Siberia, Mongolia and north-western China. In the last 54 years the annual precipitation in Altai increased by 3.2 mm yr⁻¹, notably in spring/summer months while at the adjusted low lands the precipitation trend was insignificant. Despite of substantial increase in precipitation, the main cause of glacier recession in Altai was the growth in spring/summer air temperatures (0.03oC yr⁻¹) [Aizen, et al., 2005], which intensified snow/glacier melt and increased discharge to the Ob and Yenisei rivers by 7%. The Altai glacier area shrank by 6.2% (86 km²) on average between 1952 and 2006 (Fig. 2) [Surazakov & Aizen, 2007].

Andes contain 99% of the world's tropical glaciers and most of them are undergoing considerable recession, with many having reduced their volume by 30% since 1980 [Francou et al., 2003]. In the tropical Andes, river runoff during the dry season (May-September) is often solely fed by glaciers, and therefore "the retreat of glaciers can lead to a considerable seasonal water shortage" [Juen et al., 2007]. There is relatively little research on the glacier ice of the arid Andes of northern Chile. The available evidence from the Atacama region shows that glacier ice or permanent snow/firn fields are rarely found below 5200m a.s.l. The development of glaciers is also limited by the low levels of precipitation and continuous increasing of air temperatures.

In the tropical Andes, trend in air temperatures was more than 0.1°C per decade since 1939, and triple over the last 25 years. However, changes in air temperatures

and precipitation may have different impact in different mountain regions at macro- and meso- scale and even at a scale of small catchments. In arid regions of central and northern Chile, much of western Peru and western Argentina climate change has been appeared through warming and decreasing precipitation during the twentieth century.

Cascade glaciers retreat averaged 1,400 m among larger Mount Baker glaciers, 1200 m for 38 other North Cascade glaciers examined by the North Cascades Glacier Climate Project (NCGCP), and 1,900m for the Nisqually Glacier on Mount Rainier [Pelto, 2007]. Glaciers also retreated significantly on Mount Hood and in the Olympic Mountains. By the mid-1980s, all the Mount Baker glaciers that had been advancing in 1975 were again in retreat. Elsewhere, the termini of 35 of the 47 NCGCP-monitored glaciers were retreating and by 1992 the remaining 12 were as well. As of 2005, five glaciers we observe had melted completely away, including the Lewis in 1990, Milk Lake in 1992, Lyall in 1994, West Lynch in 1995 and North White Chuck Glacier in 2001.

Caucasus glaciers occupy an area of 1600 km² [Stokes, et al., 2006]. The Caucasus glacier area decreased by 24.7% from 1900s to 1950s and 17.7% from 1950s to 2000s. The Elbrus glacierized massif decreased 14.8% and 6.28% respectively. The glacier recession was faster in the first period, between 1900s and 1950s [Panov, 2001, Khromova, et al,]. It is concluded that the decrease in glacier area appears to be primarily driven by increasing temperatures since the 1970s and especially since the mid-1990s.

Himalaya, Karakorum, Hindukush glaciers are covering area of approximately 54,350 km² [Dolgushin, 1989], being the largest glacier covered area outside of the polar regions. Locating in tropics, glaciers in Himalayas are highly vulnerable to climate change. The Indus, Ganga and Brahmaputra the major Himalaya river systems consist of substantial contribution from the melting of snow and glaciers constitute a water sources for more than 1 billion people who inhabit the region [Singh & Jain, 2002].

Glacier orientation relative to the prevailing direction of the monsoons receive more precipitation than others, favoring those exposed to the south. Glaciers expansion revealed at high Himalaya and Karakorum in the last two decades [Diolaiuti, et. al., 2003; Hewit, 2005] as result of an increase in winter precipitation, which compensate the rise of winter temperatures [Archer & Fowler, 2004]. Many glaciers have increased in the area of accumulation zones particularly the large glaciers: Ngojumba, +6.1%; Bothe Kosi +12,6%. However, during the last 50 years, an overall reduction in glacier area in Himalayas evaluated as 5% based on the topographical maps and remote sensing data. Melt waters from glacier basins comprise more than 40% of the average annual flows of the Indus and the Yarkand, with a potential to affect the lives of some millions of people downstream. While there was a roughly 10% reduction of the Karakoram ice cover in the first 60 years of the twentieth century, no significant reduction has occurred in recent decades and, as noted, many glaciers are undergoing advances. The considerable reduction of the glaciers observed between about 1910 and the 1960s was, in effect, removing ice stored in the Little Ice Age, a process that is not yet complete. Today some glaciers are larger than a few centuries

ago. Meanwhile, the evidence of advances in the Karakoram not only indicates a different response here to changing climate. It raises the prospect of a return to the hazards of advancing ice not seen since the Little Ice Age.

Although there have been reports and discussions of Karakoram glaciers since the mid-nineteenth century, they have been patchy in space and time and of varying quality. The glaciers are not, and have never been, consistently monitored. Few glaciers anywhere in the inner Asian mountains meet the criteria of the World Glacier Monitoring Service, and hence have not been tracked by it. The cries of concern for these glaciers should at least highlight the need for more reliable data and a better grasp of climate-glacier interactions.

Pamir mountains extend at the most western periphery of the central Asian mountain system. In Amu Daryá and Zeravshan river basins in Pamir glacier covered area equal 11,834 km² (2009) [Aizen, et al., 2010]. Glaciers shrunk by 615 km² (5%) during the last 40-years in these basins, however the evaluation of changes in glacier ice volume is still unknown and requiring special studies. Recent investigations on the Fedchenko Glacier (78 km long), the largest World alpine glacier, has revealed that the glacier surface has lowered by 30 m in average, reaching 80 m at the low part of the glacier tongue during the last 50 years (Fig. .

The total glacierized area has changed mainly due to shrinkage of small glaciers with area 0.5- 2.0 km². The number of small glaciers in 1970s was 456 while in 2009 only 359. The number of medium (2.1 – 10.0 km²) and large glaciers (over 100 km²) remained stable. Large glaciation massifs have shrunk lesser than 1% because their area distribution has big positive difference between the Equilibrium Line Altitude and the upper accumulation area. At the north-western and central Pamir at elevations over 3,000m annual precipitation increased by 8.1 mm yr⁻¹ for the last 17 years [Finaev, 2007] increasing river runoff and floods at the heads of Pamir rivers.

Fig. 4. Glacier area changes in Pamir, Amu Daryá and Zeravshan river basins evaluated by SRTM 2000, Corona KH-9, Landsat TM, ETM+, Aster, ALOS/PRISM.

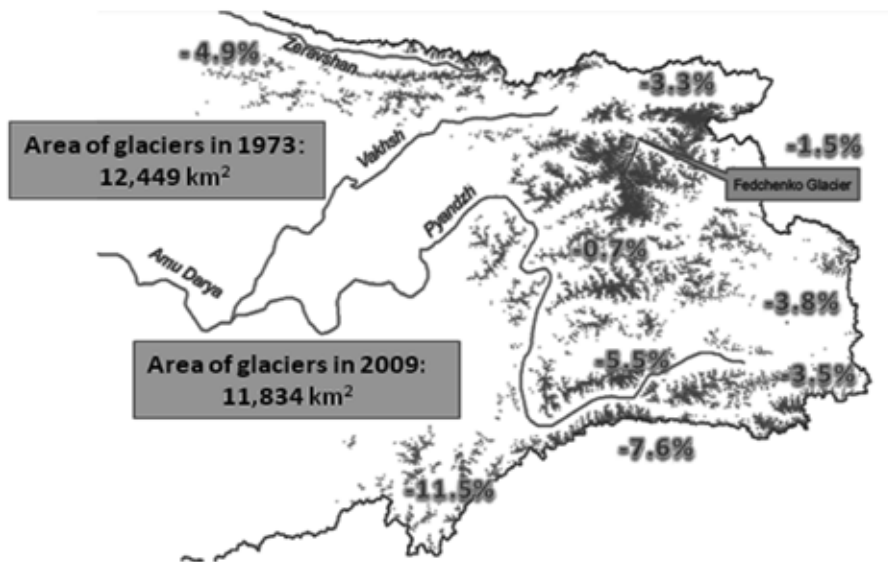
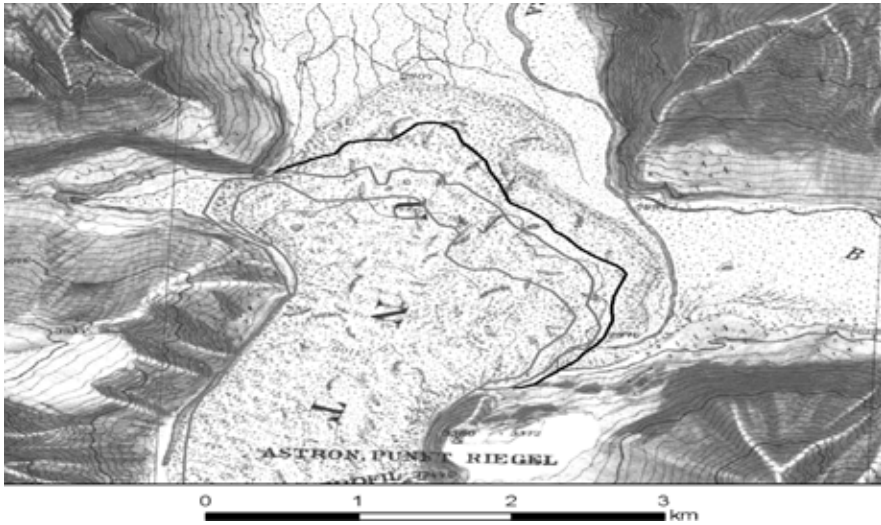


Fig. 5. Retreat of the Fedchenko Glacier terminus from 1928 (map in background) to 1958 (black), 1980 (red) by geodetic survey, and 2009 (blue) by GPS survey.



The annual trend of daily snow covered areas in Pamir is positive and equals 1.4 % yr-1 in the last 10 years with maximum in December-January (up to 231,982 km² yr-1 or 10% yr-1), which is the result of increased winter precipitation. Positive trends observed in late spring and even summer causes by increased summer snow falls at high altitudes. A negative trend in average is observed in the autumn and in the middle of March. Snow cover appears at the end of November (9 days later) and disappear at the end of May (14 days later) at elevations over 3,000 in Pamir mountains.

Fig. 6. Surface lowering of Fedchenko glacier from 1958 to 2009 along the center profile (upper)

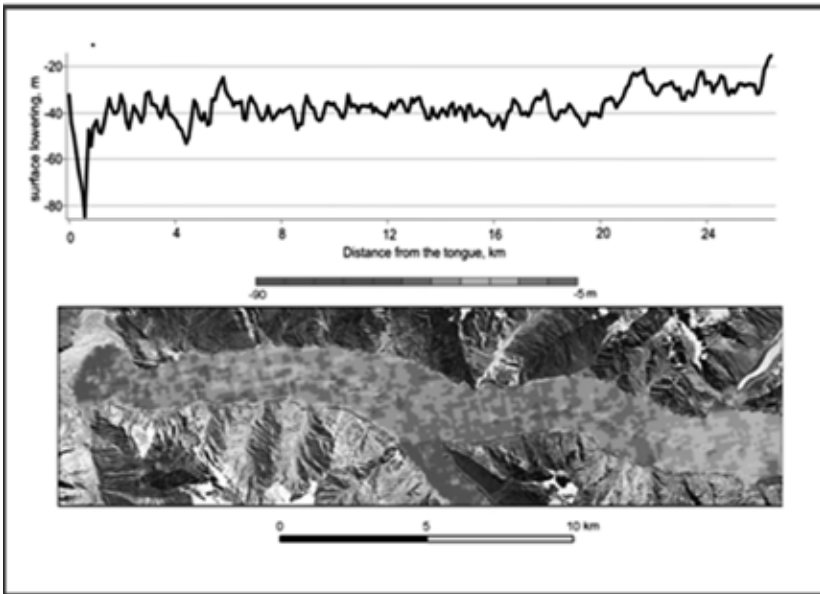
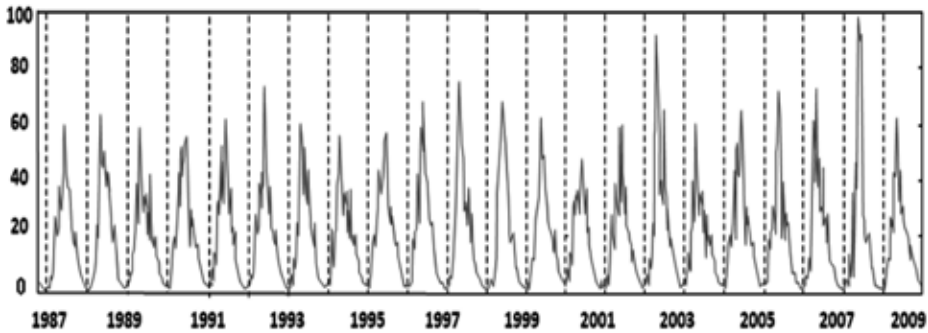
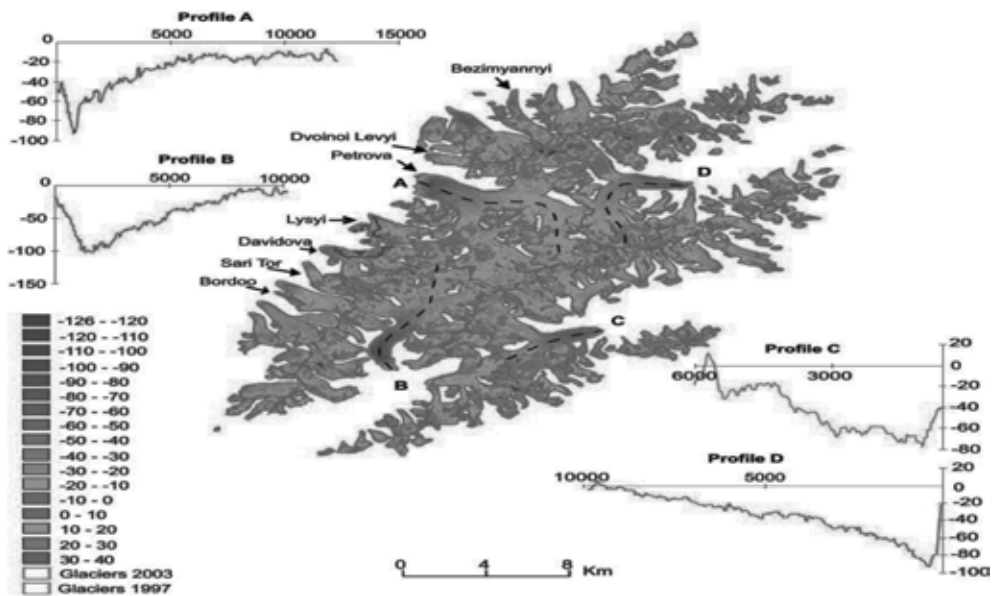


Fig. 7. Annual snow covered area variability in Amu Dar'ya River basin (Pamir) 1 km 8 days resolution AVHRR data validated by surface observational snow data (1986-1991, NSDC).



Tibetan Plateau glacierized area (including Kunlun and other peripheral ridges) comprises approximately 38,800 glaciers covered 39,270km², that hold 2,870 km³ ice [Dolgushin, 1989, Aizen, 2010]. 50% Tibetan glaciers retreated, 30% advanced, and 20% were stable between 1950s and 1960s. The next decade, from 1960s to 1970s, glaciers of Tibetan Plateau were relatively stable but since the 1970s glacier recession has accelerated and from 1990s up to 95% of 620 studied glaciers have retreated. Glacial recession rate was 4 m/yr-1 at the north Tibetan Plateau intensifying up to 6,5 m/yr-1 toward of southeast [Yao et al., 2004, 2007]. The Tibetan Plateau total glacier area has shrunk by 5.5% during the last 45 years [Kang et al., 2004]. The glacier retreat in the 1990s was the most extensive compared with the other period of 20th century. It has been concluded that cause of the most recent glacier retreat acceleration is the result of air temperature increase.

Fig. 8. Glacier massif Akshiirak, Tien Shan, Kyrgyzstan. Changes in the glacier area and surface measuer by aerial photogrammetry 1977 and SRTM data 2003.



Tien Shan glaciers (Kyrgyzstan and Xinjiang, PR of China) lost -709 km² of the total area during the last 60 years, which is -7.1% [Aizen, et al., 2010]. The rate of glacier recession is varying even in one mountain system. The rate of glacier recession varies between 3%, at the central Tien Shan with large high-elevated glacier massifs, and 14.1% at the low western Tien Shan with small sparse glaciers. The Tien Shan glacier recession increased by three times between 1977 and 2003 in comparison with 1943-1977 period. The surface of some Tien Shan glaciers has lowered by 100 m from 1977 to 2000 (Fig. 3) [Aizen et al., 2006]. The annual runoff of the major Tien Shan rivers is on average 67km³ yr⁻¹, which includes glacial melt of about 14km³ yr⁻¹ (20%). During droughts, the proportion of glacial runoff increases to 30% of the total as a result of decrease in precipitation and increase in glacier melt. In some Tien Shan river basins, the proportion of glacial runoff can be as high as 40% of total runoff.

Over the last twenty years duration of snow melt from the date of maximum snow cover to the date of its disappearance reduced by 30 days, equal 138 days in 2008 in Tien Shan. The seasonal snow covered area decreased by 15% (120,000 km²) and there is a tendency for later dates of the maximum snow cover. Snow melts 30 days faster than 20 years ago. A negative trend of -1.7% yr⁻¹ of long-term average snow cover area over the last decade.

CONCLUSION

The World mountain glaciers recession has different rate in different mountains systems and even in the same mountain system due to complexity of climatic impacts at high mountain terrains. The glacier recession accelerated since the middle of 1970s-1990s.

Mountain systems with high elevated glacier accumulation areas (Himalayas, Tibet, Pamir, Tien Shan) have better conditions to prolong glaciers existence in comparison with relatively low mountains (Alps, Altai, Cascades, Caucasus).

The increased air temperature intensifies melt of seasonal snow and the glacier ice at high elevations and evapotranspiration at middle and low reaches of river basins. The beginning of glacier ablation and seasonal snow melt has been shifted to early dates. In summer, rain instead of snow appears more often in alpine areas at upper river reaches.

The precipitation increased in most of the World mountain systems during the last 10-15 years promotes to advance high elevation glaciers, grow river discharge, intensify flooding, and natural hazards.

Questions we still need to answer:

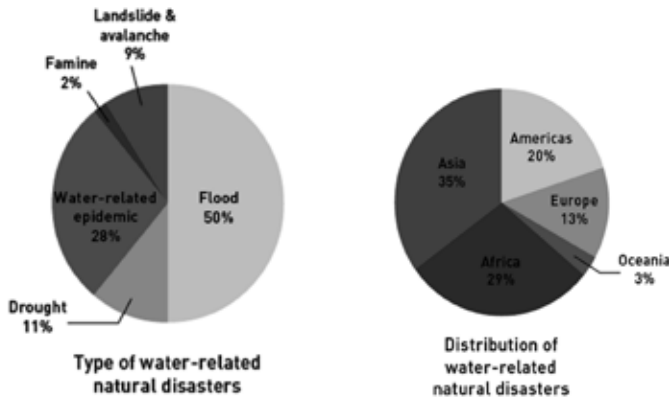
- How climatic and water cycle components changes in time?
- How the seasonal snow cover, glacial area/volume, lake area, and river runoff changed in past and what possible changes await us in future?
- How possible depletion/collapse of seasonal snow cover may impact on air temperature, soil moisture, regional hydrology, natural vegetation, and ecology?
- How sufficient are the climate-driven impacts on future river runoff, land degradation, and their dynamics in extreme events?
- What is the role of natural and human driven changes in water resources, eco-hydrological processes, bio-geochemical cycles, water quality, and landscape evolution?

May we evaluate, simulate, and predict the effects of water resources alteration on human society and characterize the adaptation and mitigation process?

Summary of Presentation on Living with Uncertainty: Climate Change.

Mr. Olcay Ünver, Coordinator,
UN-Water, World Water Assessment Programme

Water Related Disasters



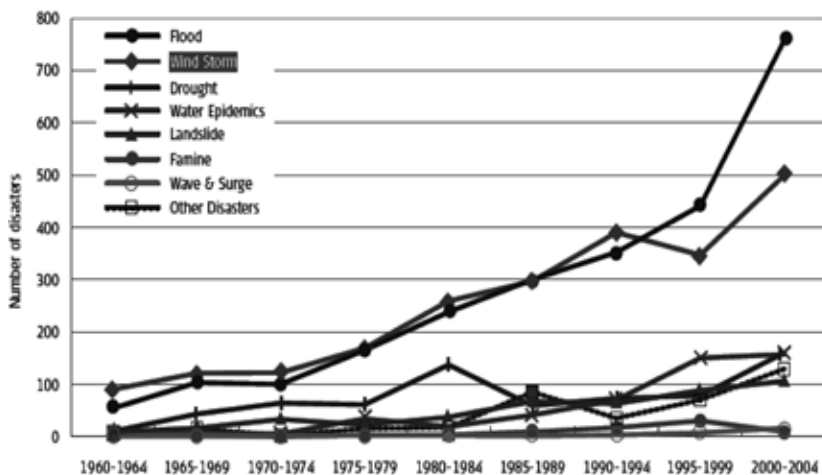
From 1996 to 2005, appx. 80% of all disasters were of meteorological or hydrological origin! Disasters were mainly happened in Asia -35%, Africa- 29%, America - 20% , Europe- 13% and Pacific - 3%,

Is Climate Change a reality?

Climate change has already intensified the hydrological cycle and made rainfall more variable, with major impacts on water resources in many parts of the world.

Global Trends

Rising global and regional trends in runoff, floods and droughts, and other climate related events and variables in the second half of the 20th century.



Source: Data from the Center for Epidemiology of Disasters (OFDA-CRED) in Louvain (Belgium). Analysis by the Public Works Research Institute (PWRI) in -kuba (Japan), 2005.⁴

Global Trends

- In the past three decades, droughts have become more widespread, more intense, and more persistent.
- Globally, the number of great inland flood catastrophes was twice as large per decade between 1996 and 2005 as between 1950 and 1980, and economic losses were five times as great.

However, the dominant drivers of these upward trends are MAINLY socioeconomic factors, such as population growth, land use change and greater use of vulnerable areas.

The cost of adapting to Climate Change

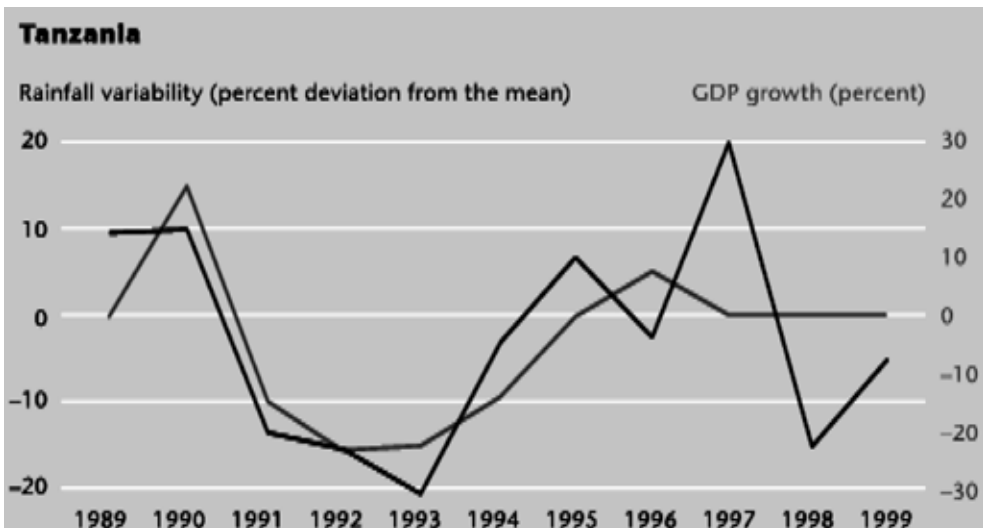
- **World Bank:** adapt or climate-proof new investments range from \$9 to \$41 billion a year.
- **UNDP:** about \$37 billion a year in 2015.
- **UNFCCC:** \$28-\$67 billion and as high as \$100 billion a year several decades from now.
- **OXFAM:** The current cost of adaptation to climate change in all developing countries is more than \$50 billion per year.

Estimates vary because they depend on future greenhouse gas emissions, mitigation measures and assumptions about anthropogenic climate change itself and about how effectively countries will adapt to it.

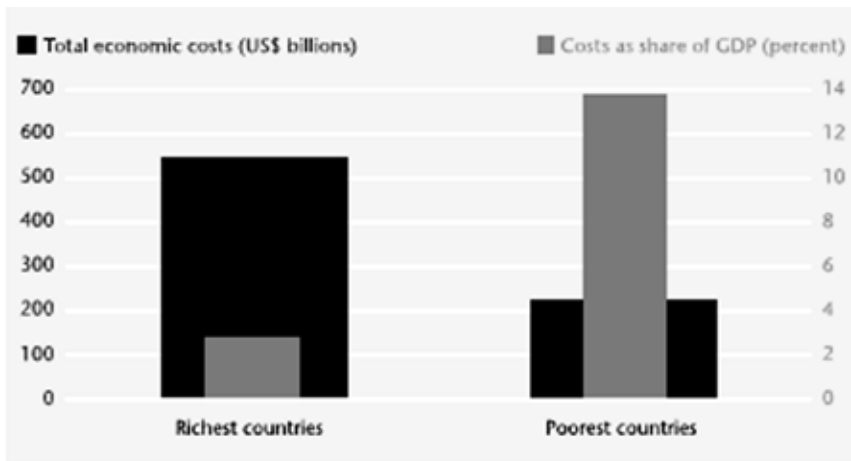
What is at stake?

Livelihoods:

GDP growth tracks rainfall variability.



Climate impacts are greatest in poor countries: About 75% of people residing in low lying areas are in Asia, with the most being poor people.



Well-being

- About 150 million might be displaced by 2050.
- By 2020 in Africa alone, 75 to 250 million people may be exposed to increased water stress.

Ecosystems:

- Even with a temperature rise of 2 °C, the Southern Mediterranean may lose 60%-80% of species.

Sustainable Development:

- Climate change could cost the world at least 5% in GDP each year.

What needs to be changed to cope with CC?

Consumption patterns:

- Climate change is inducing people to alter their lifestyles and live in a more sustainable manner.

Mitigation measures:

- Adopting and balancing the use of structural and non-structural methods is a necessity,
- For both floods and droughts, a comprehensive watershed management approach provides the best solution,
- The concept of risk management should be integrated into long term policies, plans and programmes for sustainable development

MESSAGES

• CC is mainly about water:

Water is the primary medium through which climate change influences ecosystem and affects livelihoods, sustainable development and the well-being of societies.

• Water and CC must be understood in the context of broader challenges:

Population growth, changing demographic and consumption patterns, food and energy crises, continued poverty and environmental degradation.

- **Adaptation Strategies:**

Coping with uncertainty in water supply and demand requires effective planning and infrastructure development. Improved water resources management is critical to achieving the MDGs for health, hunger, energy, sanitation, and socio-economic growth.

- **Policy and Investment:**

Effective responses to climate change impacts require a broad range of strategies and concerted efforts at the local, regional, national and global levels to improve water governance and build society's capacity to adapt.

Adaptation to climate change and water stresses must be mainstreamed within the broader development context.

Integrated management of water and land resources must be given central priority in national strategies for sustainable development and security.

Significant investments in data collection, monitoring and assessment and scenarios incorporating all drivers are needed.

Summary of Round Table IV Water Resources and Adaptation to Climate Change, Disaster Risk Reduction

It was emphasized an importance of impact of climate change on vulnerability to natural hazards, which is growing. The hazards are natural, but it becomes the disaster only if the people are involved. Disaster risk reduction aims on reducing the vulnerability and increasing the resilience. The work started in the 90's. ISDR was launched in 2000 mandate to advocate for reducing risks, not only preparedness and managemet.

There is evidence of more extreme events, there are areas which are going to be more affected, there will be new areas affected. There s also increased frequency of the events. Therefore climate change and disasters are interlinked. Disaster risk management can be a no regret policy and Hyogo framework is a key policy guideline in this respect

2,6 billion people with no sanitation, many countries allocating insufficient resources to achieve MDGs. Water plays pivotal role for human security, poverty reduction and human rights. Unsustainable water management is influencing economic development. We must invest into proper water planning and allocation. We are looking at sectoral goals, lacking integrated approach. Poor maintenance of water cycle, we are working in a sectoral way. Maintenance of water cycle, concentrating on local level is insufficient, we need to work on global and regional levels as well. The climate change and water issues deserve dual approach - global and regional level as well as integrated, not only sectoral approach. It requires integrated approach not only individual action. Sectoral management focusing on short-term needs does

not allow for integrated approach. Few initiatives working on global water politics, lack of discussions on global institutional framework leading to new regulations going beyond limited country driven approach, there are no regional and global approaches.

Branch management with an emphasis on short-term needs does not allow us to achieve integrated approach. Today, few initiatives are carried out in the global water policy, an absence of discussions on global institutional framework leads to new rules that go beyond the approach of the country and therefore there are no regional and global approaches. Water is not accepted as political issue. Need to concentrate on the following aspects:

- Improvement of knowledge about regional opportunities;
- Improve understanding of countries sharing the water;
- Global and regional institutions;
- New initiatives for water for new uses.

Adaptation to climate change is a prerequisite of doing proper disaster risk reduction. Countries are different, but some basic issues remain the same. Always insufficient funds to deal with disasters, there is residual risk we need to accept. Disaster for the country reduction, on individual level the situation considered as disaster can be different. We need comprehensive data on hydrology and other natural disaster related issues. Countries need national Disaster Risk Management strategies, but we also need regional cooperation as boundaries are ignored by natural disasters, but basically it is national problem. We need more data on local, district and province, it requires financial resources and training of population as well as to know where to invest. In Tajikistan in average annual damage 60 million USD. There are excellent examples of best practices, in many cases local, Muminabad in Tajikistan has for instance NDRM plan, concentration on prevention. Run off potential from mountains, you have to do prevention measures. Risk mapping, now with external support, the risk maps are being developed and utilized. Climate change and glaciers: disappearance of the glaciers, more debris, with water dangerous combination.

Disaster risk will happen with or without climate change, but it is increasing the risk, we don't know exactly to which extent, the strategy to cope with it is the same, no need for change, but we have to be more careful. More effort in hydrology and meteorology (detection of climate change), new agricultural practices (e.g. preventing land degradation), reforestation, energy as integral part of DRM optimization. DRM is for the people, we need to convince people what they should do. Effective DRR is the prerequisite for successful adaptation for climate change.

Governability of water is an essential element of adaptation to climate change. In addition to ongoing efforts there should be an institution for coordination, development, planning and regulation of issues at the highest level possible, promotion of discussions on the establishment of permanent commission on water under the UN as well as an intergovernmental panel. Water management has to

be ruled in integral way within the United Nations through global plan of actions within the framework of activity of that permanent commission.

There are examples of successful solution of problems of water disasters and climate change. In the best examples the issues are addressed through adequate investment on: reducing the influence of floods, catchment afforestation and reduction of flood peaks, reducing an impact of dry period and drought, flood management, development of new lands and reducing the influence of shortage of water resources, a regional in planning and improving human security, river-course regulation works and restoration of river channels and tributaries ; bank protection construction of dams and reservoirs ; allocating more places for people and creation of zones of cultural activities ; sustainable regional cooperation and experience sharing with other countries. Conducting international forums on disaster risk reduction.

The issue of declining of glaciers because of an impact of climate change remains dramatic. Researches and studies held over the last 5 years show that glaciers in various parts of the world are melting with different speed. European Alps which are, not very high, since 1980 retreating faster, 30-40 disappeared in last 30 years, less in Scandinavia, North America, that during last 50 years are melting 2 times faster than speed of retreat in Alps and Alaska. South America has dramatic decrease, Andes 99% tropical glaciers, glaciers reduced by 30% since 1980. In Asia retreating speed makes up 50% and 20% in Tibetan plato. By using remote sensing in the Pamirs it is estimated that, Fedchenko glacier has changed length only by 1km to the south of Afghanistan, surface about 30m in average, in some parts 100m. However, since 1930 a volume of glaciers in Tajikistan has decreased to 30 %. Glaciers are not the main component, river run off 30%, seasonal snow cover up to 50%. Thereby, there is a need for more data on atmospheric precipitation drilling glaciers, restoration of data for 150-250 year of the past reconstruct what has happened.

Most of meteorological or hydrological disaster during last 15 years of climate change are intensifying the hydrological cycle. Rising in run of drought and floods over the last 3 decades and droughts have become more frequent, severe and flood catastrophes inflict more economic loses, land use changed and worsened. More initiatives WB, UNDP and other international organizations. indicate that up to 100 billion needed annually. In connection with the climate change and natural disasters in vulnerable countries, it is necessary to apply and implement arrangements on alleviation of disasters that should in balance include construction and non-constructive measures, have to cover large-scale integrated Basin approach, disaster risk management should be integrated into all strategies. Water and climate change in a more larger context are the strategy for adaptation of effective planning of infrastructure improving water management:

- Effective responses to cc on all levels;
- Adaptation mainstreamed into broader development context;
- IM of water and land resources must be given priorities;
- Data and knowledge lacking - monitoring deteriorating;

- Information about influencing factors not modeled for future (10 years) scenario programme accelerated - info for decision makers.

As it is explored, there are no measurement of glaciers in Central Asia and special project including satellite technology, revisiting the catalogue of glaciers based on air photographs, different methodologies designed by various teams is needed. Now we have new technology and even satellite image which goes back to 60s and 70s. A lot of information used is unfortunately not proof read and scrutinized. Only 5.5% are based on the current information.

Although the issue of data is important, it has been emphasized the importance of action and concentration on adaptation and presentation of good practices and political readiness as well as capacity development and human empowerment.

Study on climate change by using 3 broadly respected models show results, significantly increasing and decreasing, a variability of adaptation to climate change. It is therefore, the results should be interpreted carefully. The world community has also to study climate change, the global warming, looking at benefits of increasing temperature.

It was emphasized the importance of joint work of scientist and governments -politicians and decision makers including on the local level. Policy oriented researches are needed, since link between science and action is often missing.

In conclusion it was highlighted the importance of implementation of decisions, only people can bring about the change and lead political leadership, but empowerment of the people is needed emphasizing the importance of awareness raising and education.

Round Table V. Sustainable Financing

Co-Chair:

Mr. Farrukh Hamraliev, Minister of Economic Development and Trade of the Republic of Tajikistan

Secretary:

Ms. Josefina Maestu, Director UN-Water, DPAC

Rapporteur:

Mr. Bokhtar Bakozade, Head of Coordination Unit, Office of the Resident Coordinator of the UN, Dushanbe

Penalists:

Mr. Zafar Adeel, Chair to UN-Water; Member of the Interim Core Group of Sanitation and Water for All (SWA)

Dr. Diego J. Rodriguez, Senior Economist, Water Unit, Energy, Transport and Water Department (ETWWA) The World Bank

Ms. Catarina Bjorlin Hansen, Pricipal Banker, Municipal and Environmental Infrastructure Team, EBRD

Mr. Pier Francesco Mantovani, Lead Water Supply and Sanitation Specialist, Europe and Central Asia Region, The World Bank

Mr. Eric Peter, Senior Investment Officer, International Finance Cooperation, World Bank Group

Mr. Makoto Ojio, Country Director Asian Development Bank, Tajikistan Resident Mission

Summary of presentation on impact of poor sanitation and unsafe water.

Mr. Zafar Adeel, Chair to UN-Water; Member of the Interim Core Group of Sanitation and Water for All (SWA)

Sanitation and Water for All: the Global Framework for Action is a framework within which all stakeholders can work to extend safe sanitation and water services to all.

Sanitation and Water for All recognizes that countries and organizations around the world can achieve more by working together collaboratively (rather than working independently). More can be achieved with clear common goals and mutual accountability, greater transparency and sharing, and by agencies taking and delivering upon complementary roles.

BACKGROUND

Health Impacts:

- 2.2 million preventable deaths of children
- Diarrhoea the second leading contributor to global disease burden
- For children under 15, impact of diarrhoea greater than that of HIV/AIDS, malaria and TB *combined*
- Overall around 9% of the global burden of disease is attributable to poor sanitation and unsafe water

Education Impacts

- Evidence of increased learning performance when worm infections reduced

Economic Impacts

- Economic benefits range from US\$ 3 to US\$ 34 per US\$ 1 invested
- World Bank estimate between 2% and 7% of GDP lost through poor sanitation and unsafe water in developing countries

Why does WASH matter?

- The impact of poor sanitation and unsafe drinking-water on human development is devastating
- The MDGs for poverty reduction, health, education and gender equity will not be achieved unless progress on sanitation and drinking-water is accelerated

Why are countries off-track to achieve the water and sanitation MDG target?

When we look at country coverage data over time, we see lagging progress to achieve the MDG targets, especially the sanitation MDG. We see several trends amongst the countries off-track to achieve the water and sanitation targets: insufficient political prioritisation, insufficient national investment and poor aid targeting, weak sector capacity at country level, lack of accountability, weak data analysis.

Sanitation and Water for All brings together stakeholders from within and outside the sector to address these problems in order to accelerate progress towards and beyond the MDGs.

What is Sanitation and Water for All?

Sanitation and Water for All has a vision of universal access to sustainable sanitation and water. It is a partnership of like-minded organization – not an organization in itself and works through members. There is a growing membership of developing country governments, donors, civil society, development banks, regional bodies and multi-lateral agencies. Sanitation and Water for All partners agree to embed good practices in key institutions and monitor outcomes.

- ⊙ For funding agencies it means adopting good aid practices in the water and sanitation sector, in accordance with higher level agreements (such as the Paris Declaration and Accra High-level Forum) and focusing on the unserved.
- ⊙ For NGOs it means aligning themselves with mutually agreed approaches to sustainable service development.
- ⊙ For governments it means stronger leadership, better coordination, sound planning, good monitoring and clear policies.
- ⊙ For service providers it means reaching out to the unserved.

Sanitation and Water for All will work to give greater priority to funding for sanitation and water, but also recognizes that existing finance can be used more efficiently and achieve greater impact through mutually accountable partnerships between developing countries and donors organizations.

Three Key Sanitation and Water for All Activities:

Support Country Processes

- ⊙ Stronger Focus on off-track countries/sectors
- ⊙ Improve technical assistance
- ⊙ Support contacts for use in practice, without going beyond its limits

Sanitation and Water for All supports developing countries in their own country-level processes. This support can take the form of helping to develop or fund actionable country plans, technical assistance, or knowledge sharing and lesson learning. Partners are currently developing a pooled 'action' mechanism, which will target support where it is needed without the added cost of setting up a new funding mechanism.

Establishing Global Framework for Sector Dialogue - Annual High Level Meeting

- ⊙ Forum for global dialogue on water
- ⊙ High Level Meeting

Sanitation and Water for All provides a global forum – a High-Level Meeting (HLM) – where decision-makers and sector leaders make decisions and are held accountable for the achievement of SWA's goal of universal service access. The HLM is a meeting

for monitoring whether the principles that have been agreed and the decisions that have been made are actually working.

Improved Information for Decision-making

- ◎ JMP biennial report on coverage
- ◎ GLAAS annual global report on drivers & constraints to sector progress (financial, human, enabling environment)

The UN-Water Global Annual Assessment on Sanitation and Drinking Water (GLAAS) provides the evidence base from which decisions can be made as to what kinds of actions developing countries should take, and how donors should respond. It will also identify where the international system is failing, for example, where a developing country has prepared strong plans, but donors are failing to respond. And it can help communicate positive lessons, where countries have taken action, and donors have responded positively to collectively achieve results. GLAAS will draw on existing sources of information and data provided by developing countries and donors (including some large NGOs) to provide a snapshot of the actions taken by parties, and whether they are working.

What GLAAS Tells Us

- Aid for health and education has outpaced aid for WSS
- Poor Targeting to Low-Income Countries
- Basic Systems are not Targeted by Water Sector Aid
- WASH aid **increased** between 2000 and 2008: by over 150% to Africa and over 50% globally
- **Over the same period, WASH aid reduced as a % of overall aid (from approx 6.3% to 4.7%)**

Main GLAAS Messages:

- Greater political commitment for WSS needed by donors and dev. Countries: If Ministers of Finance and Heads of State are not thinking about WASH, resources are not allocated
- Target resources better to reach WSS MDG Target: Resources are not only needed generally, but need to be targeted to the unserved if we are achieve the water and sanitation MDG target
- Strengthen national systems to plan, implement + monitor delivery of services: It is difficult to invest in countries where plans and policies are scant. It will always be difficult to invest in the areas most in need unless countries can demonstrate they are investment ready (both in terms of donor aid as well as national budget allocations)
- Stronger partnerships to develop and implement national WSS plans: Efforts need to coordinated and drawing on all capabilities to develop what is needed

So we committed to achieve the MDGs but we know that most funding is not going to where it is most needed. To ensure proper aid targeting, choices need to be made.

The evidence presented in GLAAS played a significant role in catalyzing interest in the High Level Meeting. We now know where we are at and can use that information to set and monitor realistic targets.

Sanitation and Water for All, drawing on the strength of improved coordination amongst stakeholders and using the evidence presented in GLAAS has begun addressing the critical barriers to accelerating progress toward the water and sanitation MDG and beyond to achieve universal access to sanitation and water.

2010 High Level Meeting

On April 23, 2010, UNICEF hosted the first annual High Level Meeting on behalf of the Sanitation and Water for All partnership at the World Bank in Washington DC. Finance and Water Sector Ministers representing 18 countries met with representatives of 13 donors, seven UN agencies and civil society for the First Annual High Level Meeting (HLM) of Sanitation and Water for All.

The meeting, held at the World Bank, was hosted by UNICEF on behalf of the new Sanitation and Water for All partnership, and aimed to shape sector dialogue and to stimulate aid targeting, donor coordination, and on-the-ground action to ensure access to sanitation and safe drinking water for the billions who have none.

1st HLM Outcomes (**more information can be found at: <http://www.sanitationandwaterforall.org/>**)

- **Min Water-Finance dialogue**
- Water Ministers' Commitments to Action
- Sector advocacy
- Higher budgets
- Developing credible national plans
- Stronger Leadership with clear roles and responsibilities
- Addressing capacity gaps
- Undertaking Annual Monitoring
- Specific country commitments e.g:
 - Ghana compact and budget increase,
 - Nepal SWAp,
 - Zimbabwe sector restructuring,
- **Water Ministers' Call to Donors**
- Target of >50% sector aid to LIC by 2013
- Increase oda to basic services from 16% to 27% of total sector aid by 2013
- No credible sector plan should be unfunded
- Monitor Paris Declaration and Accra Agenda for Action

Summary of Presentation on Increasing Efficiencies through Quasi-Fiscal Deficits and Public Expenditure in WSS

Mr. Dr. Diego J. Rodriguez, Senior Economist, Water Unit, Energy, Transport and Water Department (ETWWA) The World Bank

Outline of Presentation

- ⊙ Context and Characteristics of the WSS Sector
- ⊙ Inefficiencies in the Sector
- ⊙ Tackling Inefficiencies: Public Expenditure Reviews (PERs)
- ⊙ Examples
- ⊙ Lessons from PERs

Context and Characteristics of the WSS Sector

Access and the Cost of Meeting the MDGs

- 1 billion lack access to safe water
- 2.6 billion are without basic sanitation
- In developing countries: Range USD40-60B (WB); USD72B per year (WMO)
- With long-term planning and investments in IWRM to close supply-demand gap by 2030: USD200B annually for upstream financing

Characteristics of Water Sector

Investment

- ⊙ Highly capital intensive sector
- ⊙ Long term planning horizons (15-30 yrs)
- ⊙ Infrequent lumpy investments
- ⊙ Heavy reliance on public funding

Maintenance

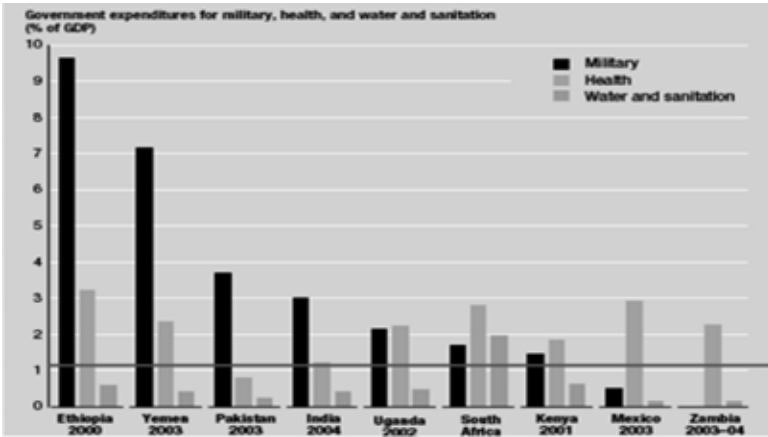
- ⊙ Long asset lives (up to 50 yrs)
- ⊙ High maintenance costs (2-3 percent of Asset Value)
- ⊙ Exponential cost of deferred maintenance

Risks

- ⊙ Politically charged, conflicts of interest, externalities

SEVERELY UNDERFUNDED CRIPPLED WITH INEFFICIENCIES

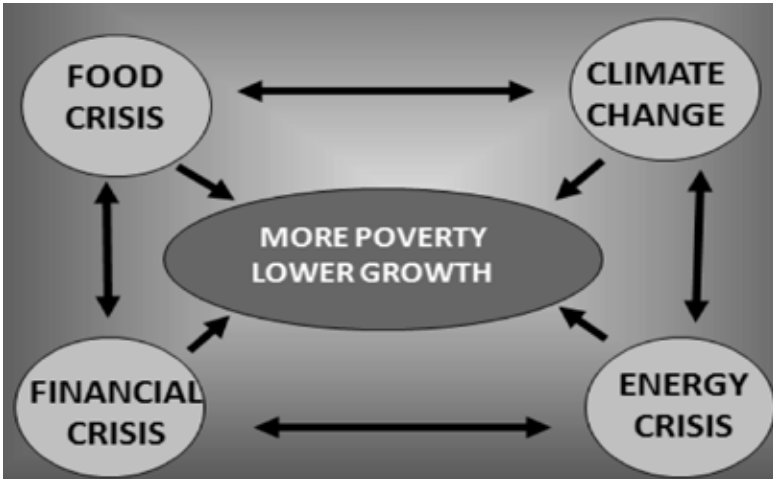
The Negative Trend of Public Expenditure



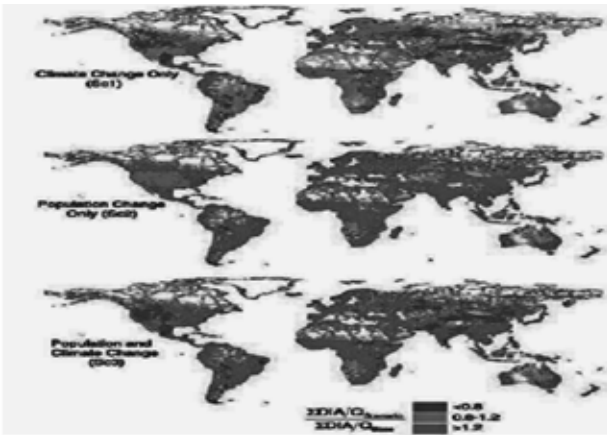
Min expenditure: 1% GDP

Source: HDR 2006

Other Crises



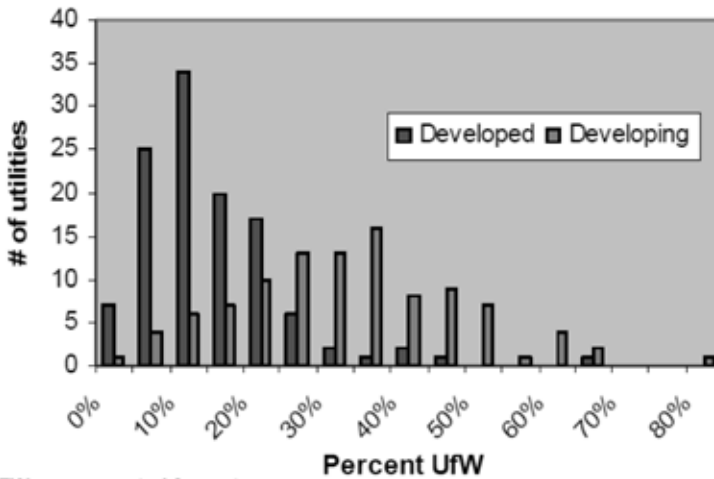
Let's not forget demographics...



Inefficiencies in the Sector

- Technical inefficiencies
 - Non-revenue water, energy efficiency
- Managerial inefficiencies
 - Corruption, billing, collection, pricing signals, project preparation
- Sectoral inefficiencies
 - Sector governance, management
- Regulation and investment climate

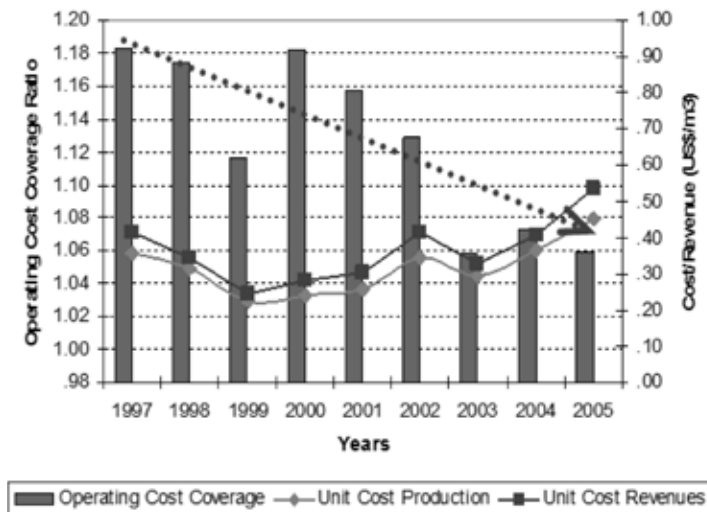
5BUSD literally going that the drain



UFW: unaccounted for water

Source: IBNET

Efficiency Levels in Eastern Europe and Central Asia



Higher public expenditures do not necessarily results in better social outcomes.....

• Gap in outcomes due to:

Sub-optimal spending due to inefficient allocation of resources (delays and lack of predictability), discretionary reallocation of resources, inter jurisdictional transfers, poor targeting, inappropriate policies and weak institutions

Low quality of service

Lack of demand from certain segments

Tackling Inefficiencies: Public Expenditure Reviews (PERs)

What is a PER?

A PER is concerned with the allocation, management, and process of public expenditure for the sector or sub-sector

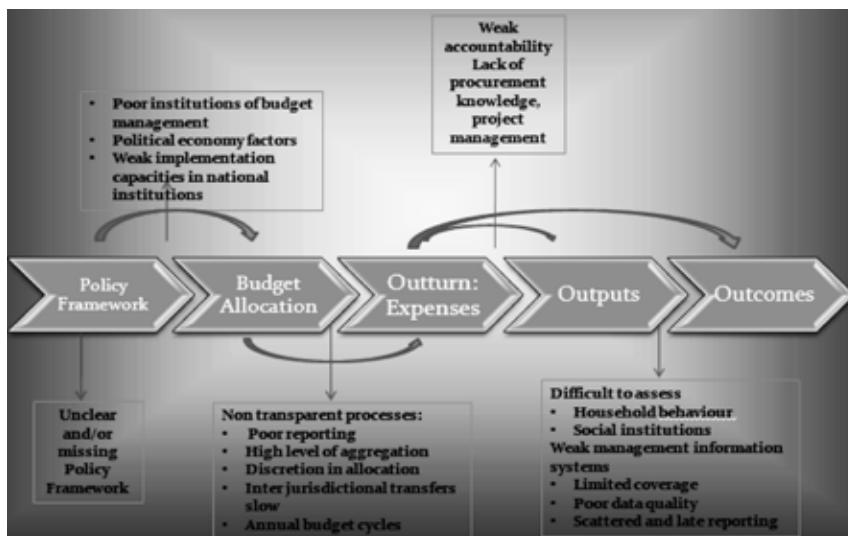
- Efficiency, effectiveness and equity of resource allocations
- Reviews institutional framework, organizational capacity, and daily expenditure management

New generation also incorporates on quasi-fiscal deficit: value of implicit subsidies (underpricing, collection, NRW)

Issues in a PER

- Fiscal discipline: did expenditure correspond to budget allocations?
- Strategic prioritization: did expenditure correspond to strategic objectives?
- Operational efficiency:
 - Did expenditure deliver value for money? (output indicators)
 - Did expenditure make a difference? (outcome indicators)

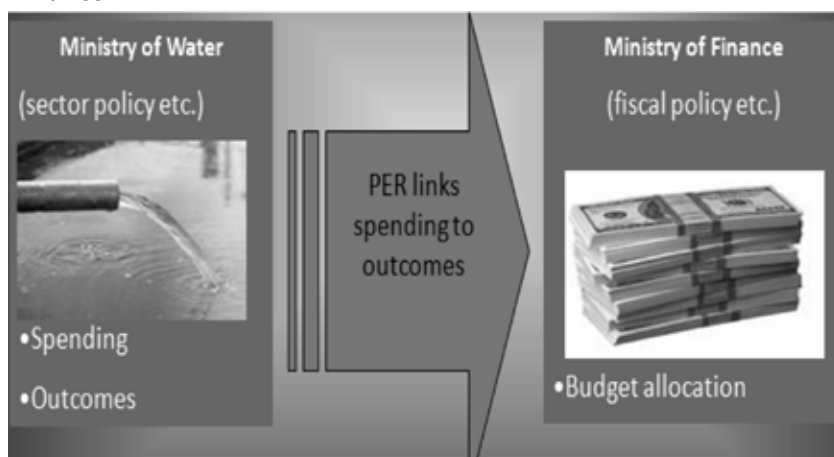
The Links in the Process



What would a PER look like?

- How much is spent on water – and how much does the government spend?
- How does government finance?
- What does government finance?
- Does public spending help the poor?
- Are public resources used efficiently and effectively (impacts and outcomes realized)?
- Is public spending adequate and sustainable?
- What is the cost of inaction?

Core message: PER can help Line Ministry “make their case” to the Ministry of Finance



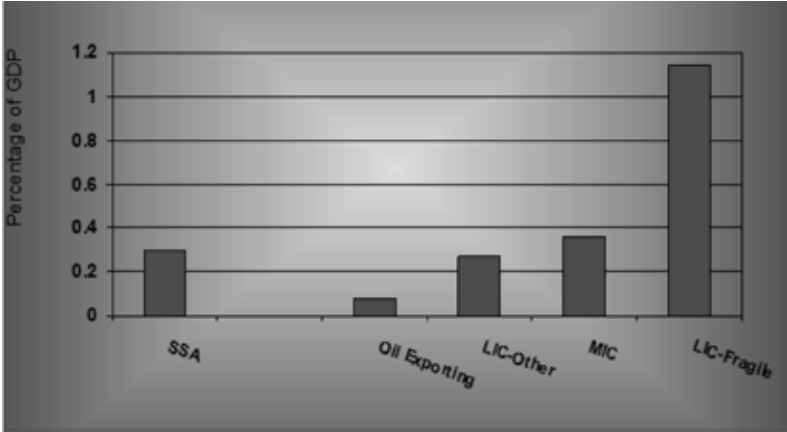
Exemples

REGIONAL: AFRICA

Existing spending close to US\$6bn, more than half financed by public domestic resources

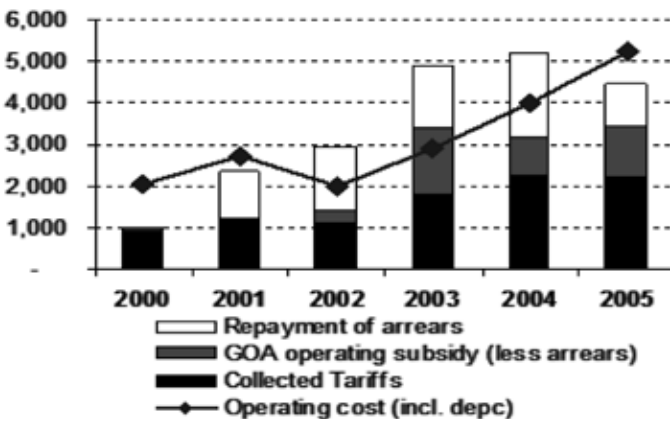
	O&M	Investment					Total
	Public	Public	Private	Non-OECD	ODA	Total Investment	
ICT	4.6	1.7	3.1	0.5	0.1	5.4	10.00
Power	7.0	2.7	1.1	2.2	0.8	6.8	13.80
Transport	8.8	5.5	0.6	1.1	1.7	8.9	17.70
WSS	3.1	1.4	0.0	0.4	1.1	2.8	5.90
Total	23.5	11.2	4.8	4.2	3.7	23.9	47.40

Under-pricing costs amounts to 0.3% of Africa GDP or \$1.9 bn per year



Overall funding gap of US\$5.8 bn can be reduced by efficiency and cost recovery measures

US\$ billion	SSA	LIC-Fragile	LIC-Other	MIC	Oil-Exporting
Financing gap	5.81	1.48	2.19	(1.59) No gap	2.14
Reduce inefficiencies	0.58	0.07	0.29	0.29	0.22
Improve cost recovery	1.87	0.43	0.32	0.97	0.14
Remaining gap	4.35	0.97	1.59	(2.86) Add gains	1.79



ALBANIA

Financing utilities' operating costs

- Operating costs increasing (due to cost of electricity)

- Tariffs increasing (but not keeping pace with costs)
- Gap between costs and utility revenues increasing; therefore operating subsidy and arrear payments increasing

Eliminating inefficiencies could generate almost 0.8 % of GDP in savings, annually

Potential (annual) Savings from Eliminating "Hidden Costs" ⁽¹⁾	
Source of potential savings (annual)	Lek millions
A- Collection failure (improve collection ratios from 70 to 95 percent)	835
B- Under pricing (raise tariffs to cover O&M costs from 70 to 100 percent)	857
C- Excess losses (reduce NRW from 69 to 20 percent) ⁽²⁾	5,042
Total Savings	6,734
<i>As share of GDP</i>	<i>0.8%</i>

(1) Using methodology developed in ECA

(2) Reducing technical losses will require significant investment

Lessons from PERs

Some Lessons from PERs

- Use of investment tools improves efficiency in expenditure
- Budget and planning cycles do not match at different levels of government
- Local Government transfers may be unpredictable due to processing issues
- Donor funding also unpredictable
- Long-term planning is hindered by budget and donor annual cycles
- Fragmentation of donor funding with high transaction costs
- Procurement, disbursement and reporting requirements hindered by fragmentation and capacity constraints (low level of disbursements)
- It is necessary to provide better incentives to utilities to decrease the hidden costs of service: link public investment to performance
- Information and data are crucial in all processes

"It is common sense to take a method and try it. If it fails, admit it frankly and try another. But above all, try something." Franklin D. Roosevelt

Summary of Presentation on EBRD Financing Priority Investment Programs for water utilities

**Ms. Catarina Bjorlin Hansen,
Principal Banker, Municipal and Environmental
Infrastructure Team, EBRD**

Financing PIPs for water utilities

- EBRD water projects in Tajikistan
- Priority Investment Programs
- Case study Khujand Water I and II
- Case study South Tajik Water
- GoT support and facilitation
- Concluding remarks

EBRD Water projects

- Khujand Water Phase I and Phase II, under implementation, financed by EBRD and SECO
- South Tajik Water (Dangara, Kulob and Kurgan-Tube), under implementation, financed by EBRD and EBRD's Stakeholders Special Fund (SSF)
- North Tajik Water (Karaikkum, Kanibaidam, Isfara, Chkalovsk, Taboshar, Gafurov and Khorog) under preparation, financed by EBRD and SECO
- Central Tajik Water Projects (Rudaki, Tursun-zade, Gissar and Shachrinav) under preparation, EBRD and (grant co-financier to be identified)
- Dushanbe Water, under preparation, EBRD, EIB and IFCA

Priority Investment Programs

- Identify intelligent Priority Investment Programs with a longer time view
 - Phased approach due to affordability constraints
 - Phased approach to utilize available grants while searching for additional grant co-financing
 - Phased approach to build up creditworthiness and institutional capacity
 - Focus on critical operational improvement and efficiency measures
- Small financing packages can have huge impact
- EBRD facilitates donor aid by channeling grant funds
- Case study: Khujand Water I and II

Khujand Water I and II

- Khujand Water I
 - EBRD loan USD 1.2, SECO grant USD 3.15 million
 - Corporate Development Program to build operational and financial sustainability
 - Stakeholder Participation Program to boost awareness and collection rates
 - Result: water supply rehabilitated in 30% of the City, collection rate improved from 40% to 90%, energy consumption reduced by 25%, credit worthiness enhanced but still dependent on operational subsidies from the City
- Khujand Water II
 - Based on achievements of Phase I, additional loan/grant package was prepared. EBRD loan EUR 1.5, SECO grant EUR 3.5 million
 - Additional Corporate Development and Stakeholder Participation support
 - Company creditworthiness enhanced, reliance on operational subsidies minimal, maintained high tariff collection rates
 - Looking at a possible Khujand III, which would cover a wastewater treatment plant. This can be implemented when we identify a donor to provide investment grant co-financing

Lessons learnt in Khujand

- Affordability constraints determine loan/grant ratio
- Phased approach suitable to reach sustainable operations
- Focus on increased collection rates when water supply is restored, supported by Stakeholder Participation Programs for increased awareness
- Complemented by tariff increases within affordability limits
- Energy efficient pumps and leakage remediation lead to reduced energy consumption, i.e. lower operating costs
- Debt repayment subsidies from the Cities usually required during the first 3 years until collection rates improve.
- Substantial Corporate Development Support required to build operational and financial sustainability

South Tajik Water

- EBRD loan USD 2 million, SSF grant 4.2 m
- Covers Dangara, Kulob and Kurgan-Tube
- Builds on previous WB project, complementary improvements
- We work through the state holding company for utilities Housing and Communal Services in small cities
- Group cities to gain efficiency in preparation and implementation
- Loan to KMK on-lent to respective water utilities

- Corporate Development support to KMK and the water utilities, incl. study tours to Khujand
- Work closely with KMK to address sector wide sustainability issues
- Financing mechanisms (loan/grant ratios)
- Tariff methodology
- Public Service Contracts covering operational subsidy requirements and social protection
- Release of water utilities to city management
- Possible regionalization of small utilities
- Extend the cooperation to cover the North and Central Tajik Water projects

Government of Tajikistan's support and facilitation

- We work through Housing and Communal Services and can reach out to small cities throughout the country
- We work directly with the City Administration of Dushanbe and Khujand
- GoT investment program in the water sector is complementary to EBRD interventions (e.g. the water source development in Khoja Bakirgan in the Khujand area)
- Cooperation with the Anti Monopoly Committee regarding tariff methodology and affordable tariff levels
- The close cooperation with the GoT facilitates fruitful sector development

Concluding remarks

- EBRD's main constraint is availability of investment grant co-financing
- We work closely with donors and IFI to line up investment grants for project implementation
- Due to limited availability of investment grant co-financing projects are phased to utilize available grants while searching for additional funds
- A phased approach also allows the water utility to build up creditworthiness and institutional capacity for future investment projects
- It is relatively easy to get TC grants for preparation and implementation of projects from international donors.
- Extensive support is needed to build operational and financial sustainability and support physical project implementation

EBRD has project preparation and implementation capacity in the field with a fully staffed office in Dushanbe.

Summary of Presentation on Output Based Aid: A Financing Tool for Access to Water Service.

**Mr. Pier Francesco Mantovani,
Lead Water Supply and Sanitation Specialist, Europe and
Central Asia Region, The World Bank**

“Need for more sustainable public expenditure in water”

Meeting water supply & sanitation (WSS) access goals calls for increased public expenditure.

The WSS infrastructure gap particularly affects low-income and marginal areas, where cost-recovery is weak and investment subsidies are required.

Efficient, targeted subsidy mechanisms are needed for sustainable public financing of WSS access.

The Output-Based Aid (OBA) Approach

An emerging public finance approach by which disbursements are linked to the verification of effective service delivery to targeted beneficiaries.

Well-suited to promote access to services:

Shifts the risk to service providers.

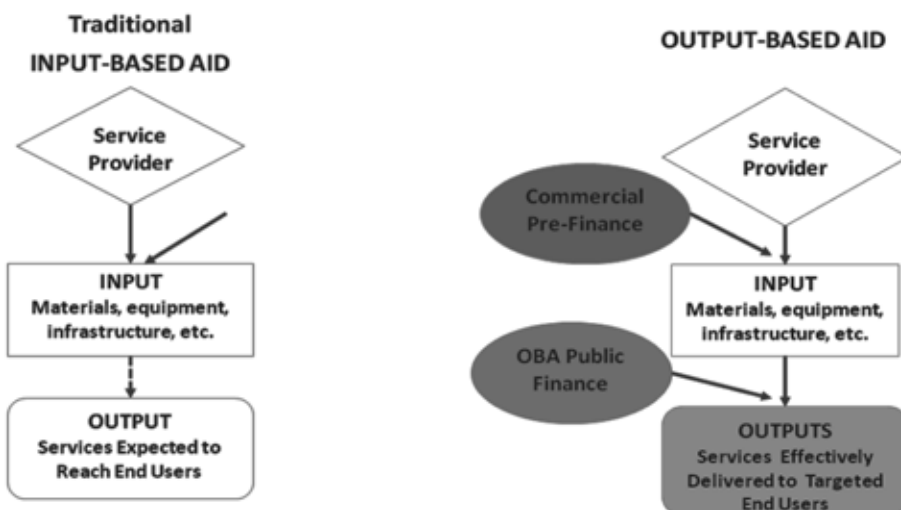
Bridges gap between cost of service and beneficiary’s ability to pay

Can target poor areas or households

Leverages commercial finance

Public Financing of Services Development

Input-based vs. Output-based Aid



OBA Core Concepts

Targeting : Using incentives to serve low-income communities

Accountability : Providers must deliver compliant service in order to be paid.

Monitoring : Output verification is systematic, ensures transparency.

Leverage: OBA leverages beneficiary contributions and private finance.

Efficiency : Implicit result and cost guarantee.

Where applicable, OBA enables better use of public funds.

Snapshot 1 : Morocco

WSS connections in poor periurban areas

Middle-income country, with large informal settlements around cities.

No WSS service in periurban settlements, due to cost and challenges of extending networks in informal habitat areas

No affordable option for households to access utility service.

Key design features:

Pilots by public & private operators in Casablanca, Meknes & Tangiers.

Upfront assessment of standard WSS connection price in targeted poor areas.

Works pre-financed by operators with loans or municipal funds.

Elegible households commit to a standard connection fee payable over 7 years.

Unit OBA subsidy bridges the gap between the standard connection price and household connection fee (25-50%).

Unit subsidy paid after connection (60%) and after 3 months of service (40%).

Snapshot 1 : Morocco

WSS connections in poor periurban areas

Main results:

Pilots successful, after slow start, for both water supply & sewerage service.

Strong stakeholder mobilization to overcome implementation obstacles.

Simplification of OBA documentation requirements.

Snapshot 2: Kenya

Small-scale rural water service development

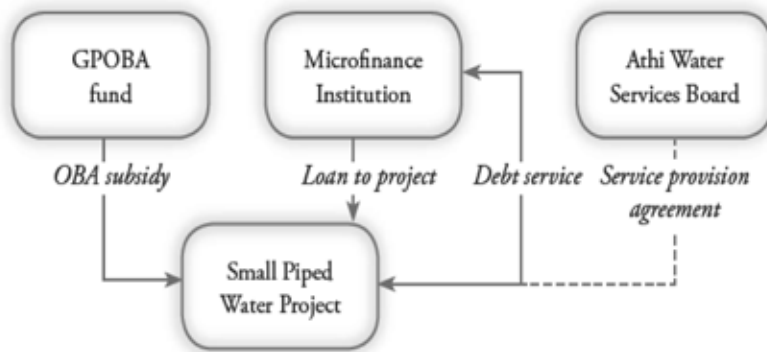
Rural communities around Nairobi want piped water service.

Small water operators access microfinance loans supported by GPOBA and Athi Water Services Board.

OBA subsidy paid upon completed development of simplified water systems.

Snapshot 2: Kenya

Small-scale rural water service development



Growing experience with OBA Projects

In 2002: 32 projects identified, \$1.5 bn of World Bank funding

In 2009: 131 projects identified for \$3.5 bn of WB Group funding, +\$2.8 bn government funding + 66 projects outside WBG

Growing evidence base : 34 projects closed, 78 on-going, in low and middle income countries

Comparison of Performance: OBA vs. Traditional Projects

Lessons Learned: Benefits of OBA Approach

Explicit identification of outputs promotes targeting

OBA shifts risk to providers

Achieve efficiency gains through competitive processes

So far, \$1 of subsidy leverages ~\$2 of private finance.

Forces accurate monitoring by paying on outputs

Encourages careful subsidy

Lessons Learned: Challenges of the OBA Approach

Access to commercial finance or microfinance is essential.

Capacity to implement and monitor can be an issue.

Demand risk requires prudent upfront investment by provider

OBA requires a supportive regulatory environment for sustainability

Moving Forward

Scale-up OBA approaches where they make sense

Fund technical assistance for new initiatives and further analysis and evaluation of OBA projects

Address challenges such as:

Limited access to commercial pre-finance,

Documentation and verification capacity

Contractual flexibility for changed conditions

Share lessons

Summary of Presentation on Sustainable financing for water projects: An IFC perspective

**Mr. Eric Peter, Senior Investment Officer,
International Finance Cooperation, World Bank Group**

Outline:

1. IFC - An overview
2. Water sector key trends and issues
3. Sustainable financing for water projects: IFC's role

1. IFC - An overview

- IFC is a member of the World Bank Group, owned by 181 countries. IFC was formed in 1956 to help the private sector reduce poverty in developing countries. IFC is the largest multilateral source of debt and equity financing for private enterprises in the developing world and provides a full range of innovative financial products and advisory services tailored to entrepreneurs and companies.
- IFC's strategy in Central Asia is to support private sector-led growth, particularly in the non-extractive sectors and frontier regions. This includes ongoing support to the financial sector and investments to support the infrastructure, manufacturing and the service sector.
- IFC is increasing its operations in Central Asia in order to support more competitive businesses, improve further access to finance and contribute to the region's sustainable and equitable development.

2. Water sector key trends and issues

- Globally, a sector in crisis
- Key demand drivers
- Key global trends
- Limited private sector participation
- Pre-requisites to foster greater private participation
- Key issue: "mis-pricing" of resource and delivery

3. Sustainable financing for water projects: IFC's role

- IFC's role: Developing pipeline of "bankable" projects
- IFC's role: Providing innovative financing solutions
- Innovative financing solution example: IFC InfraVentures

Objective: Establish commercial framework to attract private investors in infrastructure projects in developing countries (IDA)

Structure: a US\$ 100 million private equity fund to finance early stage development of infrastructure projects managed by IFC senior staff

Functioning:

- ⊙ Provide early stage risk capital (not grant funding) to finance full range of project development activities for infrastructure projects
- ⊙ Proactive involvement in project development, primarily as co-developers
- ⊙ Risk capital to be compensated at project financial close through small equity stake in project company (if unsuccessful, costs are written off).
- ⊙ Streamlined decision-making and leverage other IFC and WB staff and resources

Summary of Presentation on ADB's Approach to Financing Water and Climate Change Programs.

**Mr. Makoto Ojira,
Country Director Asian Development Bank,
Tajikistan Resident Mission**

WATER POLICY AND OPERATIONS

- ADB's Long Term Strategy 2020 and TAJ Country Partnership Strategy: 2010-2014
- Water Policy ("Water for All») approved in 2001
 - Governance of water services
 - Integrated Water Resources Management
- Water Financing Program (rural, urban, basin)
 - Past water projects: \$25 billion
 - Pipeline of programmed projects: \$8.6 billion

ADB's WATER SECTOR OUTPUTS

Indicators	Outputs delivered 2005-2008	Outputs Programmed 2009-2012	% increase/ decrease
Water supply pipes installed or upgraded/length of network (km)	7,400	11,100	50
New households served with water supply (number)	310,200	1,292,600	316
Wastewater treatment capacity added (m ³ /day)	240,700	572,600	137
New households served with sanitation (number)	76,500	2,165,900	183
Land improved through irrigation services, drainage, and flood management (hectares)	830,400	667,500	(20)

WATER GOVERNANCE

- ADB's Pilot and Demonstration Activities (PDA) Program
- Average \$50,000 per project
- Rapid achievement of results
- Replicable

ADB'S WATER PROJECTS IN CENTRAL ASIA

Investment Amount: \$18 billion

- Water in Central Asia Regional Economic Cooperation Program
- Water and Adaptation Interventions in Central and West Asia (May 2010)
- Improved Management of Water Resources in Central Asia (Sep. 2008)
- Improved Management of Shared Water Resources in Central Asia (Dec. 2003)

ADB'S WATER PROJECTS IN TAJIKISTAN

Investment Amount: \$223 million

- Agriculture Rehabilitation Project (Dec. 2000)
- Irrigation Rehabilitation Project (Dec. 2004)
- Khatlon Province Flood Risk Management Project (Oct. 2007)
- Pyanj River Basin Flood Management Project (Mar. 2008)
- Power Rehabilitation Project (Dec 2000)
- Regional Power Transmission Interconnection Project (Dec. 2006)
- Nurek 500 KV Switchyard Reconstruction Project (Nov. 2008)

WATER AND CLIMATE CHANGE

- Asia-Pacific floods represent 49% of world's total floods over the last century
- 91% of total number of people affected killed
- \$466 billion in flood damages (1992-2001)
- 2 billion people at risk from floods by 2050
- Global warming brings more severe disasters

NEW FINANCING MECHANISM FOR CLIMATE CHANGE

- Climate Investment Funds (\$19 billion) - Strategic Climate Fund - Pilot Program for Climate Resilience (PPCR)
- Pilot programs in selected countries and regions (9 countries plus 2 regions)
- Pledges: \$614 million (Sep. 2009)

PPCR OBJECTIVES AND COUNTRY SELECTION

- Integration of climate risk and resilience
- Strengthen capacities
- Scale-up and leverage climate resilient investment

- Enable learning-by-doing and sharing of lessons
- Countries selected based on climate change risks

PPCR PREPARATION AND IMPLEMENTATION

- Phase 1

Studies, analytical work, and networks on key sector topics: 6 to 12 months

- Phase 2

Project preparation, investment, capacity development: 3 to 5 years

PPCR FOR TAJIKISTAN

- Partnership of Government, WB, ADB, EBRD and UK DFID
- Promote development planning (greater climate resilience)
- Examine local institutions, “indigenous” skills for climate change
- Enhance Tajikistan’s capacity and analytical evidence base

PROPOSED ACTIVITIES FOR TAJIKISTAN

- Institutional analysis & capacity needs for climate resilience
- Climate science and impact modeling partnership
- Awareness-raising
- Enhancing the climate resilience of the energy sector
- Analysis of sustainable land management approaches for changing climatic conditions
- Analysis of river basin approach to climate resilience

Summary of Round Table 5

The thematic of presentations and discussions can be divided into 2 broader categories – one on stocktaking of developments in the sector since 2005, and five others on new practical measures to improve the current state of the sector, including improvements in use of public financing, financing to water utilities, better targeting of resources, effectiveness of aid and improved governance.

The key points raised in the round table both from presentations on stocktaking and practical measures pointed to main problems, trends and further steps needed for improving the situation. As for persistent problems in the sector, particular focus was on the issue of chronic under-financing of the water sector, especially its basic services component. Moreover, the existing financing is not evenly and equitably distributed whereby most financing is disproportionately allocated in sectors and countries which cannot be classified as in great need. Thus, it was pointed out that 50% of aid flow to the top 12 countries while only 46% is distributed among all LICs. Consequently, better targeting of financing the sector was specifically stressed in the presentations.

The role of public finance was undoubtedly regarded by all participants as the most crucial lifeblood for sustainability of the sector, especially taking into account that 70% of investments in the sector come from this source. However, an important threshold commitment for 1% of GDP is not yet met by the governments. On top of it, the absorptive capacity of external financing by the governments was mentioned as a weak link in their public finance systems. Also, the worsening capacity of the utility operators was a point of discussion between presenters and participants which springs from the issue of sustainable tariffs.

Major issues raised in the discussions are related to the financial shortage of the sector, social policy and economic matters, as well as to the quality of investments. This is a fact, that despite an availability of a clear lack of finance in the sector, statistics on the financing of water-supply reflect only large projects, whereas small and quite low-cost projects are ignored.

On the section related to activities of external agencies in the water sector, the thrust of presentations as well as discussions was on improvements in the targeting of financial support with a clear preference for moving towards funding smaller projects, water utilities and community projects to be able to address the types of projects that allow to improve access to safe water and basic sanitation. External agencies should also take account of countries which are falling behind on MDGs and channel their finance to these countries in need. External agencies should additionally strive to improve predictability of their aid, and support access of community initiatives to financial markets,

Presentations analyzed the role of private sector in financing water-related projects. The past and current trends clearly demonstrate low level of involvement of the private sector and mainly directed to bigger projects and utilities. The private sector's involvement has been historically low from the beginning, falling even lower in recent years. The private sector by default prefer countries with better regulation. Pre-conditions which could guarantee private sector's greater involvement such as improved governance and regulatory regime, sound project preparation, mechanism of dealing with financial risks, and adequate pricing of services are often absent.

The main issues raised in the discussions pertained to financial gap in the sector, social policy and affordability issues, as well as the quality of investments. Participants pointed to the fact that although there is a clear financial gap in the sector, the statistics on water-related funding may be mainly reflecting bigger projects while smaller projects which may less expensive to implement are ignored. Lack of statistics and proper accounting of financing for irrigation and other sectoral investments, including IWRM were pointed out as well. Social policy and affordability proved to be an issue that needs to be considered appropriately in the round table discussions. Participants concurred on the premise that addressing inefficiencies of water services may require balancing between reducing costs or raising in prices. Long-term goal of raising tariffs to a cost-recovery basis should be implemented in a step-by-step manner by providing transition finance and support to community initiatives and water utilities and slowly and partially lifting subsidies. This approach would, on

the one hand, be in line with long-term goal of cost-recovery, while, on the other hand, deal with affordability concerns of the most vulnerable layers of population. And lastly, another crucial debate issue pertained to the quality of investments. Although there should a greater increase in investments, it should be accompanied by a better targeting as well as prioritization of low-capital but at the same time effective projects.

From a general overview of problems and trends in the sector, several obvious and necessary recommendations follow. First of all, there is a need for mobilization of financing from all sources, either public, private, or external agencies. OECD are particularly recommended to increase financing to water sector. The financing needs for achievement MDGs related to water sector are estimated to require 40-60 billion USD per year. Financing needs of IWRM would need up to 200 billion USD annually. Improvements in public finance necessitate several measures. One of them is the development of the Public Expenditure Surveys for tracking of allocation and management of Public budget with a purpose of improving efficiency, effectiveness and equity. Developing National strategic financing plans are recommended as a priority as well. Public finance should be also channeled and mobilized for filling financing needs of communities and utilities. The national funding should be specifically channeled to support innovative mechanisms such as provision of micro-credits to small service providers and community initiatives as well as making available public guarantees and bonds. Together with external agencies and donors, new innovative and effective mechanisms of financing should be further developed and supported which, among others, would include such financing schemes as: output-based schemes, combination of grants and loans, using ODA to leverage other financial resources, development of guarantee and risk-sharing instruments.

Improving governance is a number one priority as it serves as an important precondition for improving use of existing finance and attracting funding from national external sources. As evident from private sector discussions, improved governance, including favorable regulation regime, is a must for private sector to be attracted to this sector. There is sufficient interest from private sector to develop a pipeline of bankable projects which should be further serve as an encouragement for engaging private sector as much as possible. New financing schemes such as Climate Resilience Fund should be given further boost taking into account for obvious cost-effective and far-fetching results if such schemes are implemented. Such schemes allow to approach financing from a comprehensive standpoint with inclusion of planning and institutional reform. They also prioritize building on indigenous skills and Sustainable Land Management and River Basin Management approaches.

Round Table VI. Integrated Water Resource Management, Energy, Agriculture and Food Security

Co-Chair:

Mr. Andrey Vasilev, Deputy Executive Secretary of the United Nations Economic Commission for Europe (UNECE)

Co-Chair:

Mr. Daniel Valensuela, Deputy General Manager of the International Office for Water (France)

Secretary:

Mr. Reza Ardakanian, Director of the UN-Water Decade Programme on Capacity Development / UNW-DPC

Rapporteur:

Dr. Walter Klemm, Senior Land & Water Development Engineer TCIN, Investment Centre Division, FAO, Rome

Penalists:

Mr. Ahmad Wagdy, Professor of Hydrology, Cairo University, Egypt

Dr. Marco Keiner, Director Environment Housing and Land Management Division, UNECE

Ms. Fernanda Guerrieri, Assistant Director-General/Regional Representative for Europe and Central Asia, FAO

Ms. Nino Chkhobadze, Chair of GWP CACENA

Summary of Presentation on Novel Technologies for Assessing Groundwater Development Potential in Arid Regions

**Mr. Ahmad Wagdy, Ph.D. Prof. of Hydrology, Cairo University,
Senior Expert, Arab Water Council, Egypt**

Outlines

- **Overview of Egypt:**

Population – Demands – Water resources management– Climate changes

- **Water in Arid / Hyper Arid Environments:**

A harsh environment – Every water drop has a value –Flash flooding events

- **Groundwater assessment tools:**

Remote sensing-derived parameters (PCI, ENVI) –Satellite-derived precipitation (TRMM) – Isotope analysis– Geophysics (VLF) – Pumping tests - Surface & GW modeling (WMS, GMS) – Web-based dissemination/analysis (ARCGIS, ARCIMS)

- **The Eastern Desert**

Project

Wady Systems in Hyper Arid Environment

Flash Floods; 1994 Event

Damages Following 1994 Flash Flood

Flash Floods Worldwide: Turkey Sep 2009; Jeddah Nov 2009; N. Sinai Feb 2010

The Eastern Desert Project

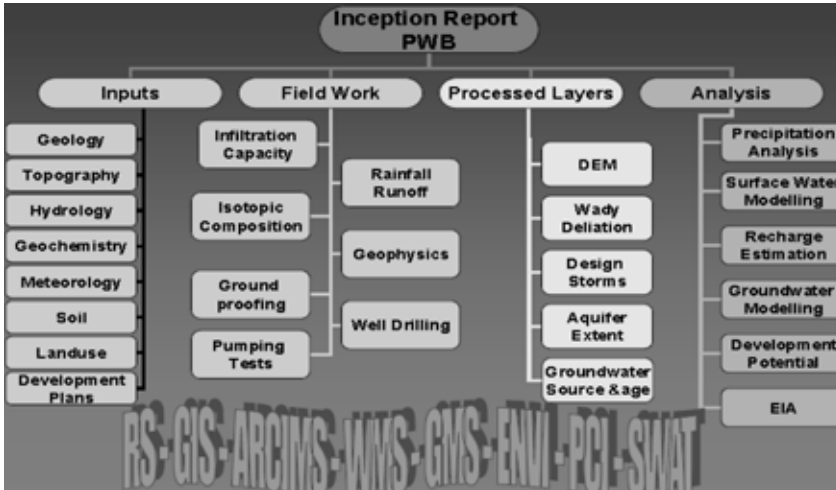
- A Targeted-Research Project
- Develop a replicable model for integrating groundwater resources of wady systems of arid regions into national water budget
- Funded by GEF through UNDP
- Total GEF contribution of \$ 830,000
- In-kind local contribution of \$ 590,000
- Executing Agency : Cairo University in collaboration

Objectives

- Develop a replicable integrated model (methodology) for evaluating the extent and development potential of ground water resources in arid lands, with the Eastern Desert of Egypt as a pilot site.
- The model will be replicable for similar arid areas: Oman, North of Sudan, Tibesty, Yemen, and Saudi Arabia.
- Introducing new techniques and procedures to address arid region hydrology.
- Integrating research with development as per prevailing conditions and constrains.

- Building national capacities and providing a pool of experts capable of conducting proper groundwater management.

Project Flow Chart



Information Layers;

Geology

Full set of Georeferenced

Conoco Geologic

Maps 1:500,000

Satellite Coverage

Complete coverage of Georeferenced Landsat TM scenes

Satellite Coverage cont.

Complete coverage of ASTER Scenes

L1A and L1B

- Digital Elevation Terrain Data (DEM) Satellite

Satellite Coverage, cont.



SRM (radar) coverage of the Eastern Desert at 1km horizontal resolution

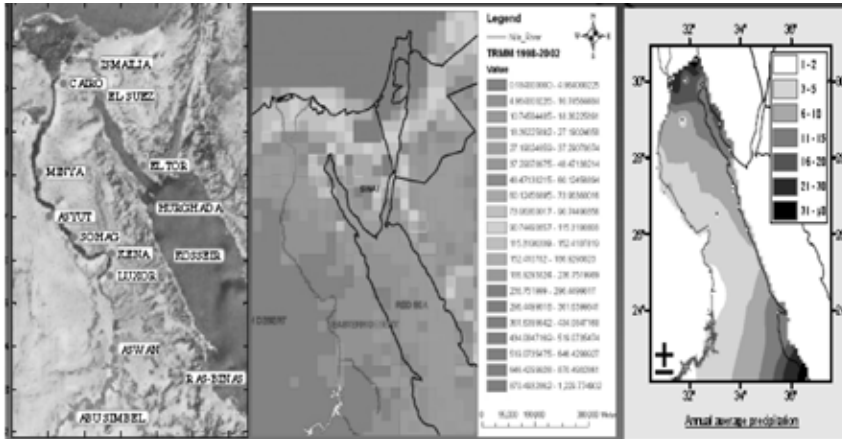


Band reflectance Mosaic of Landsat TM over Eastern Desert (left scene)

Satellite Coverage cont.

- Mosaic of TM Band Ratio Images 5/4, 5/1, 5/7 (Lithology:Blue, Green, Red:)
- Mosaic of Geologic Maps covering the Eastern Desert

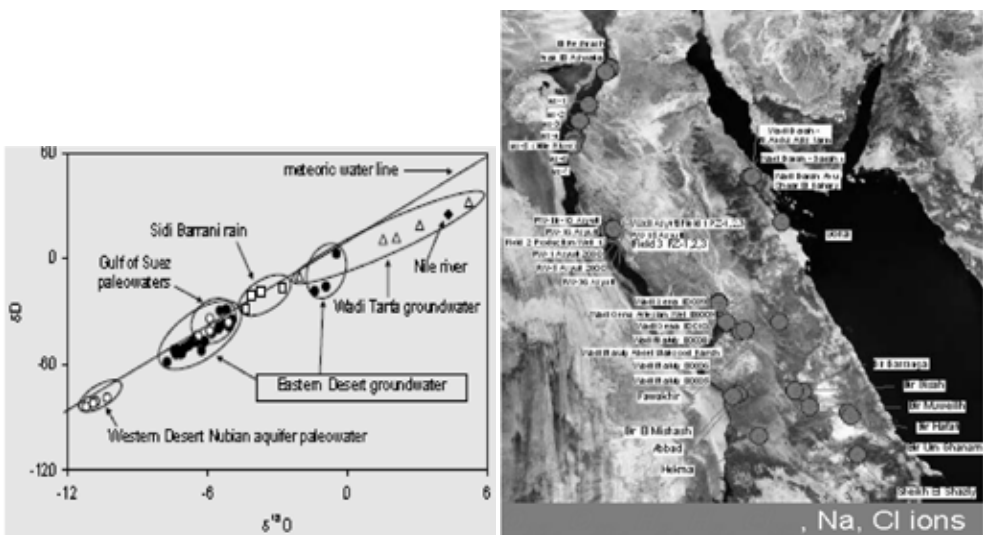
Rainfall Analysis



- Meteorological approach.
- Statistical approach.
- RS-derived precipitation TRMM
- SWAT analysis
- Classification of storms.
- Precipitation patterns.
- Design storms

Age & Origin of Groundwater

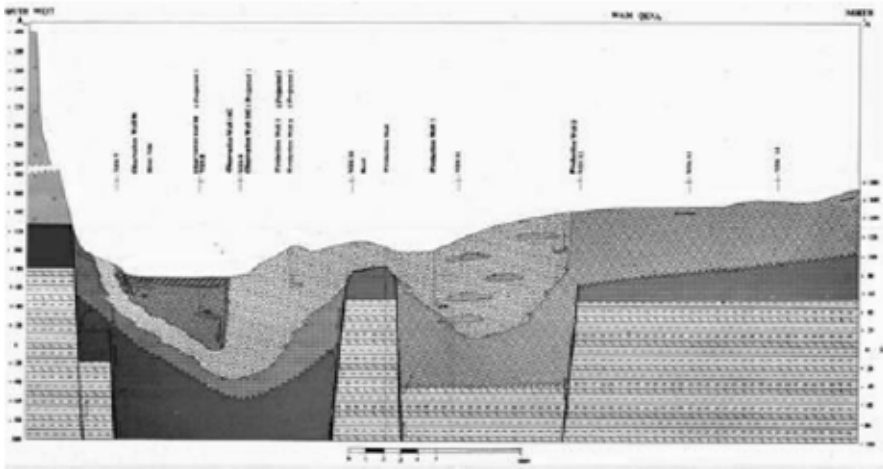
Twelve wadies are sampled, through 7 field trips, for geochemical /isotopic analysis



Renewability potential is determined using stable / unstable isotopes

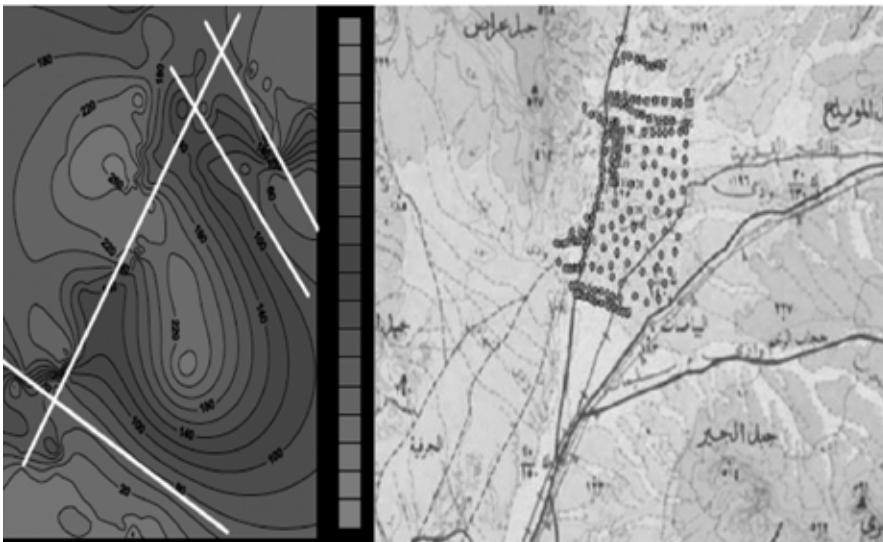
Geophysical Tests

- Electrical Resistivity Soundings (VES)
- Electrical resistivity Profiling
- Electromagnetic Induction (VLF)
- Magnetic soundings
- VI. Well logging
- Ground Penetrating Radar (GPR)PR



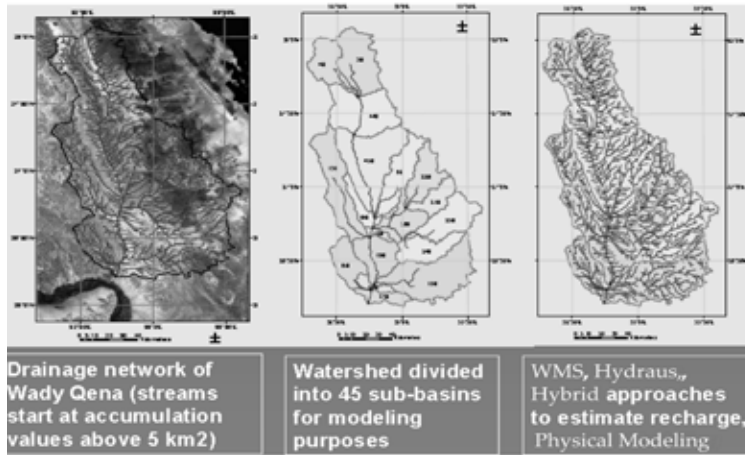
Piloting Tasks for Wady Qena

Magnetic map

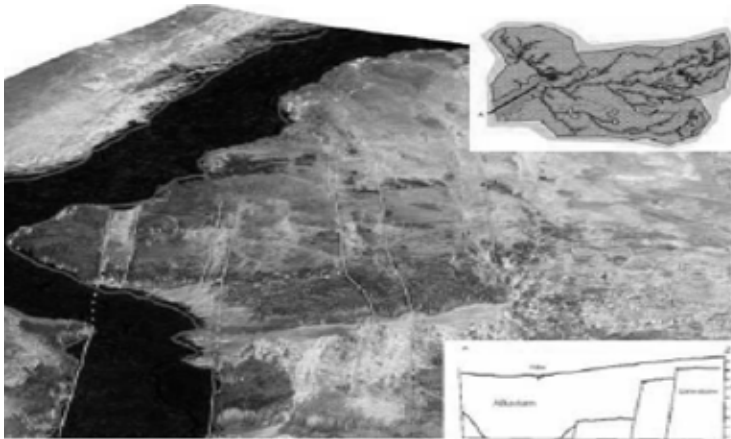


Location of field magnetic station

Surface Water Modelling



Groundwater Modelling (GMS)



Elements of Asuity groundwater flow model: (a) groups of wells used for steady-state calibration, (b) model boundaries and external stress through faults, (c) postulated recharge areas, and (d) spatial variations in hydraulic conductivities.





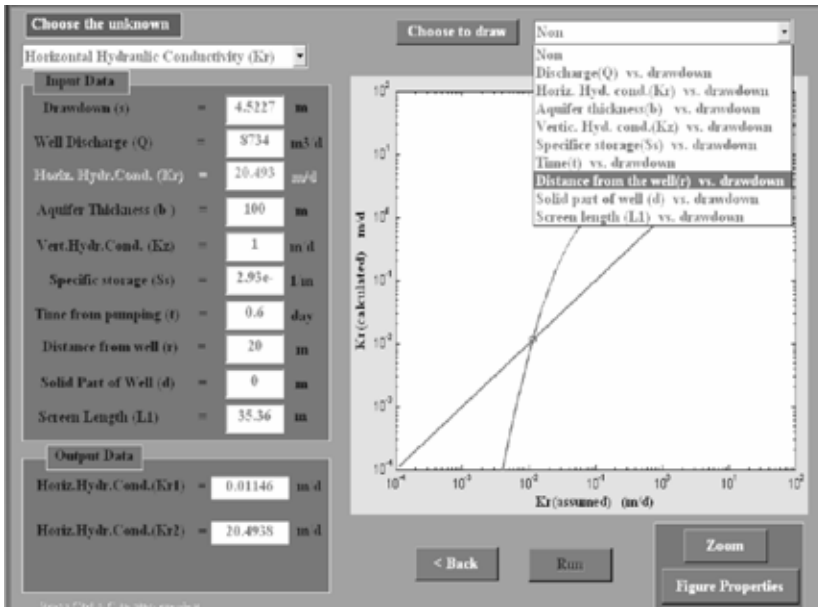
Landsat TM image band 4 for the Wadi Asuity draped on digital topography.

Upper right inset: Asuity watershed flowing from Red Sea Hill towards the Nile River Valley; main rock units are Quaternary alluvial deposits (yellow) and Tertiary Limestone. Lower right inset: cross section along traverse A-A' based on the calibrated model

Vegetation Dynamics Assisted Modelling for Wady Degla

Different types of patched vegetation patterns (after Meron, 2007)

Well Hydraulics Program



An easy to use computer program to assist those who are concerned with groundwater management / use in rapid decision making

Confined Aquifer - Partially Penetrating Well - Steady State Case.

Handush Equation :

$$s = \frac{Q}{4\pi L b} \left\{ W(u) + f \left(u, \frac{a r}{b}, \frac{d}{b}, \frac{L}{b}, \frac{z}{b} \right) \right\} \quad a = \sqrt{\frac{K_c}{K_a}} \cdot u = \frac{r^2 L_c b}{4 K b t} \quad Y_s = \frac{\pi r a r}{b}$$

$$f \left(u, \frac{a r}{b}, \frac{d}{b}, \frac{L}{b}, \frac{z}{b} \right) = \frac{4b}{\pi(L-d)} \sum_{n=1}^{\infty} \frac{1}{n} \left[\sin \left(\frac{n\pi L}{b} \right) - \sin \left(\frac{n\pi d}{b} \right) \right] \cos \left(\frac{n\pi z}{b} \right) K_c(X_n)$$

Where

- s : Drawdown at distance r (m).
- Q : Well discharge (m³ d).
- K_a : Horiz.Hydr.Cond.of aquifer (m d).
- b : Thickness of the aquifer (m).
- K_c : Vertical hydr.Cond.of aquifer (m d).
- r : Distance from the well (m).
- K : Vertical Hydr.cond. of confining layer (m d).
- S_i : Specific storage (1 m).
- b' : Thickness of confining layer (m).
- d : Solid part of well (m).
- z : Elevation measured from aquifer top (m).
- L : istance between aquifer top and bottom of well screen (m).

Handush Assumptions

Illustration figure

< Back Next >

Capture Zone Analysis

Number of wells : One well Two wells Three wells

Well properties

Well discharge = 14400 m³ d

Hydr.Conductivity = 1 m d

X1 = 0.0 m & Y1 = 5 m

X2 = 0.0 m & Y2 = 0.0 m

X3 = 0.0 m & Y3 = -5 m

Properties of uniform flow

Direction of uniform flow: From East

Confined aquifer

Flow gradient (i) = 0.1

Aquifer thickness (b) = 100 m

Unconfined aquifer

Hydraulic head at point 1 = 0.0 m

Hydraulic head at point 2 = 0.0 m

Distance bet. point 1,2 = 0.0 m

< Back Plot Property Zoom

Data Processing / Sharing

Interactive Web Site for the EDP

Figure 21 Arc IMS Framework

http://www.ims.esrs.wmich.edu/website/IMS_UNDP

Data Processing / Sharing

- GIS Data Base hosting all layers/products
- Web-based GIS

ID	Name	Location	Date	Other Data
1	Sample 1	Location 1	2005-01-01	...
2	Sample 2	Location 2	2005-02-01	...
3	Sample 3	Location 3	2005-03-01	...

GW Development Potential

GW Potential Development Model Four Major Types Identified:

- 1) Nubian aquifer groundwater residing in shallow alluvial aquifers,
- 2) Meteoric groundwater reservoirs in fractured basement rocks,
- 3) Alluvial aquifers recharged by modern meteoric precipitation,
- 4) Meteoric groundwater reservoirs related to dyke swarms.

Type (1): Fossil Water in Shallow Aquifers

a. Thick alluvial deposits in valleys proximal to the Nile Graben.

- Isotopic composition of shallow aquifer water shows major contribution from deep Nubian aquifer.
- Major intersecting NW sub-vertical Faults and NE reactivated faults connecting the deep nubian aquifer to the shallow alluvium aquifer

b. Gulf of Suez Coastal Planes.

Potential Wells identified within the Gulf coastal plain

Wadi Dara:

$$\delta D = -52 \text{ ‰} ,$$

$$\delta^{18}O = -7 \text{ ‰}$$

Type (2): Fractured Basement Meteoric Aquifers

- Precipitation is channeled as surface run-off and sub surface groundwater flow in the alluvial sediments flooring the valleys (wadis).
- A portion of the runoff gets trapped within the underlying fractured basement before draining into Red Sea or River Nile.
- Basement rocks are massive and lack porosity. **Faults** and **shear zones** induce porosity.

Criteria

- Presence of intersecting faults and shear zone.
- Presence of rocks like serpentinites which induce porosity.

- Size of the drainage network.
- Amount of precipitation.
- Presence of kinks in the valleys.
- Isotopic composition similar to the modern water.
- Low percent alluvial

Type (4): Meteoric groundwater intercepted by dykes

Criteria Developed

- Dykes intersecting drainage networks.
- Large drainage network.
- Isotopic composition of groundwater similar to modern precipitation.
- Thick, long and impermeable dykes.
- Amount of precipitation % of alluvial sediments

Mapping of Potential Wells across the Entire Eastern Desert

- Developed set of 10 digital products.

- Generated Web-based GIS to host these datasets

<http://ims.esrs.wmich.edu/websitey> MS UNDP/

- Identified Groundwater potential locations for the following:

- Fossil Water - 63 locations
- Fractured Basement - 68 location:
- Alluvial Sediment - 14 locations
- Dykes Related - 23 locations

Water for Life

Hybrid Approach for Climate Adaptation in the Water Sector

- Development potential (semi-brackish; TDS = 5000-10,000 ppm)
- Well field design
- Wind driven / Solar cell generator/pump assembly
- Desalination (Solar)
- Salt tolerant - Tissue culture - added value crops
- Organic cultivation
- Marketing

Finally.....

- Integrated Work
- Multidisciplinary
- Research
- Development
- Practical methodology and replicable model that may augment policies.
- We really hope that by the end of the project we will have contributed an output that really serves the best for our people and our environment.

Summary of Presentation on National Policy Dialogues on Integrated Water Resources Management under the EU Water Initiative

**Dr. Marco Keiner, Director Environment Housing and Land
Management Division, UNECE**

National Policy Dialogues (NPD) on integrated water resources management and water supply and sanitation is the main operational instrument of the European Union Water Initiative (EUWI).

The Initiative, including its component for the countries in Eastern Europe, the Caucasus and Central Asia (EECCA), was launched at the Johannesburg World Summit on Sustainable Development in 2002.

NPDs as the main operational instrument of the EU Water Initiative means:

- UNECE is key strategic partner on IWRM, transboundary waters;
- OECD is key strategic partner on water supply and sanitation as well as financing;
- NPDs is a joint process implemented in a consultation and cooperation with other donors, UNECE member states, NGOs, research organisations.

The focus of the UNECE policy dialogue is on practical assistance to strengthen integrated water resources management in line with the principles of the UNECE Water Convention, the Protocol on Water and Health, the EU Water Framework Directive and other UNECE and European Union instruments.

Their main outcome are “policy packages”, which include legislative acts, strategies, ministerial orders, and plans of implementation.

NPDs IWRM aim at integrating three „Es“ *

- Economic efficiency in water use;
- Equity – providing access to water of adequate quantity and quality to all people;
- Environmental and ecological sustainability.

* Source: GWP Toolbox website

NPDs IWRM in countries of Eastern Europe, Caucasus and Central Asia

Since 2006, UNECE has been carrying out National Policy Dialogues on IWRM in four countries: Armenia, Kyrgyzstan, the Republic of Moldova and Ukraine.

In 2010, the policy dialogues are starting in Azerbaijan, Georgia, Tajikistan, Turkmenistan and Uzbekistan.

Instruments/frameworks	UZ	KG	TJ	TM	KZ
WFD principles					
Water Convention principles	X	X	X	X	
Protocol Water & Health	X	X	P	X	
Urban Wastewater Directive					
Climate change adaptation (EU and UNECE instruments)		X	?		
Flood Directive/UNECE instruments					
Institutional frameworks (e.g. RBC)		x			

Current NPD-IWRM activities – Central Asia

Instruments/frameworks	UZ	KG	TJ	TM	KZ
WFD principles					
Water Convention principles	X	X	X	X	
Protocol Water & Health	X	X	P	X	
Urban Wastewater Directive					
Climate change adaptation (EU and UNECE instruments)		X	?		
Flood Directive/UNECE instruments					
Institutional frameworks (e.g. RBC)		x			

NPD IWRM supported in 2009 – 2012

- The European Union Water Initiative
- Government of Switzerland – Uzbekistan NPD
- Government of Finland - confirmed support to Kyrgyzstan and Georgia
- Proposal for Turkmenistan support to Norwegian Government

CONCLUSIONS

- NPDs are the dialogues on policy development and implementation
- They are aimed at integrating IWRM principles into policies in target countries,
- NPDs follow the national needs and are context specific – show the practical outcome, not just a “chat room”,

Important combination of the policy discussion and practical technical assistance.

Summary Presentation on the FAO perspectives Ms. Fernanda Guerrieri, Assistant Director-General/Regional Representative for Europe and Central Asia, FAO

FAO is engaged and committed in all these areas:

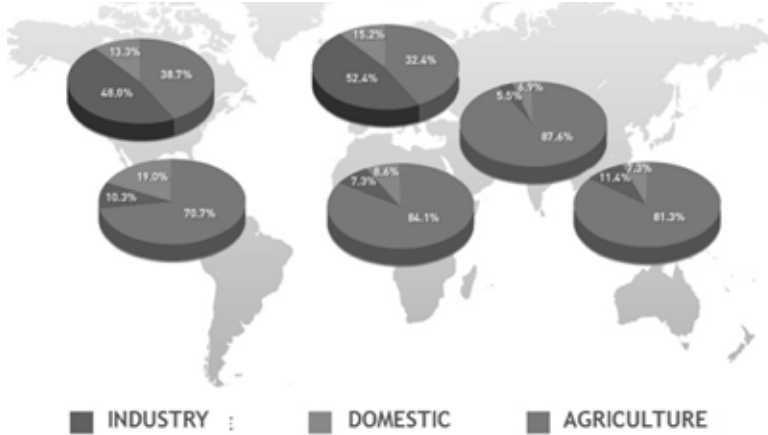
- **IWRM:** through UN Water, but also through Multiple Uses of Water (MUS)
- **Energy:** Biofuel, bioenergy & energy requirements for agriculture.
- **Agriculture and Food Security:** central for FAO

Mapping advances and gaps in targets/progress in IWRM: outputs of the UN-Water report (2008)

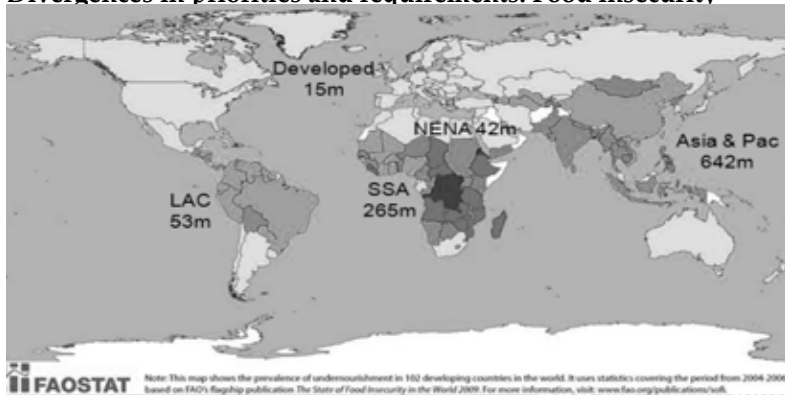
Conceptually widely accepted IWRM is slowly put into actions:

- only 6 out of 27 developed countries have fully implemented national IWRM plans
- 38 % of the surveyed developing countries have plans completed or under implementation.
- Water efficiency should be more explicitly included in IWRM plans

Divergences in priorities and requirements: Water Uses



Divergences in priorities and requirements: Food insecurity



FAO estimates that 1.02 billion people were chronically undernourished in 2009. The prevalence of undernourishment was highest in Sub-Saharan Africa, but the number of undernourished people was highest in Asia.

After several decades of progress in hunger reduction, the number of undernourished people in the world has risen sharply in recent years, due in part to the food price crisis and the global financial and economic crisis. During 2006-2008 food prices rose sharply as a result of poor harvests in several important exporting countries, rising energy prices, increased use of agricultural commodities for biofuels and several other factors. Since 2008 many people around the world have suffered from the effects of reduced employment, incomes, remittances, trade and access to credit.

The number of undernourished people is expected to fall again after the economic crisis has passed, but even then, hundreds of millions of people will remain hungry, and the challenge will increase in the future as demand for food rises with incomes, particularly in the developing countries.

Food security and trade

- Linked through the concept of virtual water trade
- Importing virtual water through food imports might save precious water in water scarce countries
- Food trade generates huge water savings at global level
- The limit though is that importing does not create security of supply. This option is constrained by global trade agreements
- Countries thus might prefer investing in infrastructure to reach a fair level of self sufficiency instead of relying on the international market

Efficiency vs Productivity of agriculture water ?

OUTPUT

e = ----- engineering meaning

INPUT

YIELD

WP = ----- agronomic/economic meaning

WATER

Efficiency does not account for recycling of “water losses”

It is often preferable to assess water use by its productivity

Shift from centralized supply driven to local demand driven for irrigation systems

Irrigation management transfer:

- Massive creation of WUAs
- But often WUAs do not performed as planned

Cost and benefits of integration Vs independence?

- The transaction costs to implement IWRM at national/basin levels are high and often under estimated
- Not enough attention is given to local practices: an attempt to do it is Multiple Uses of Water (a local IWRM implementation modality). It has proven to be of great value for local communities and a cost-effective way to provide several essential waters services

A few numbers

Water needed to produce:

- 1 kilo of wheat: 1 000 litres
- 1 kilo of meat (beef): 15 000 litres

Daily water requirements per person:

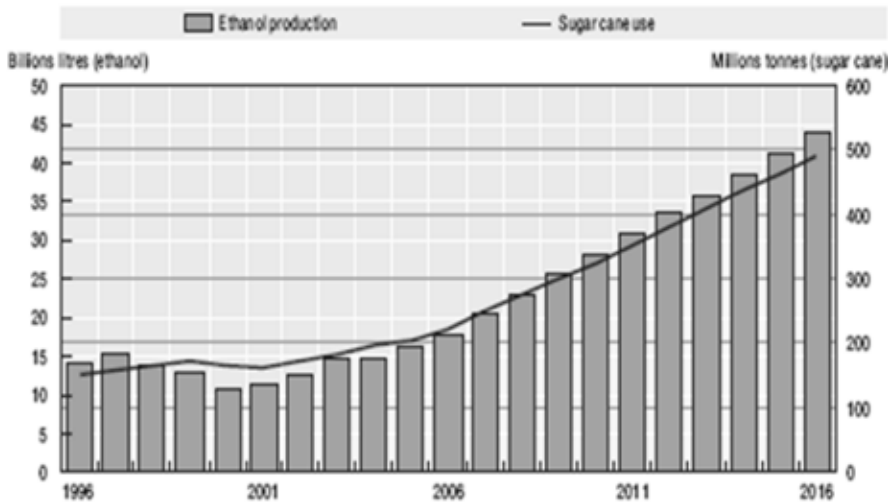
- Drinking: 2-3 litres
- Domestic needs: 20–300 litres
- Food: 2 000-3 000 litres

With 2 500 litres of water, we can produce:

- food for one person for one day
- 1 litre of biofuel Energy

The issues of Energy: Biofuel, hydro-power, energy for agriculture

Figure 1.6. Continued growth in Brazil cane-based ethanol production



Source: OECD and FAO Secretariats.

Potential for biofuel production

- Current transport fuels needs: 77 EJ
- Biofuels

Ethanol (2004) 0.84 EJ 9.5 Mha

Bio diesel (2003) 0.06 EJ 0.5 Mha

856 Mha would be required to meet current fuel needs

1. The current needs for transport fuels are around 77 EJ, which is already more than the 53 EJ that are estimated to be potentially economically viable to explore in 2050

2. At the moment biofuels for transport play globally a very modest role. Ethanol and biodiesel together only provide 0.9 EJ of energy, which is only slightly more than 1 % of the total demand of transport fuel.

3. Still a lot of land is necessary to produce these biofuels. Currently around 10 million ha of crop land is being used for the production of biofuels. Assuming current yields, technology and crop composition this would mean that 856 million ha would be required to meet current fuel needs.

Land suitable for agricultural production *

Total used	2004	1540 Mha
Industrialized countries	2004	636 Mha
Developing countries	2004	904 Mha
Total suitable		4188 Mha
Industrialised countries		1406 Mha
Developing countries		2782 Mha

* excludes protected areas and closed forests and have specific crop, the total land suitable for agriculture is not necessarily suitable for biofuel crops.

1. As a comparison, 856 million ha of land would be more than half of the current total global crop land and it is in the same order of magnitude of all the crop land available in developing countries.

2. Land suitable for agriculture as presented over here is defined as land with rainfed crop production potential as used in FAO's perspective study "World agriculture: towards 2015/2030". The production potential excludes protected areas and closed forests and is crop specific, so the total land suitable for agriculture is not necessarily suitable for biofuel crops.

Globally there is quite some land suitable for agriculture, around 35% of land suitable for agriculture is currently under cultivation. Especially in developing countries there is still quite some land potential for expansion of agriculture. Currently about 32% of the land suitable for agriculture is under cultivation in developing countries compared to 45% in industrialised countries.

Biofuel and water use (2005)

Bio-ethanol	bioethanol million liters ^a	main feedstock crop	feedstock used million tons ^b	area biofuel crop (million ha)	% total cropped area used for biofuels ^c	crop water ET (km3) ^d	% of total ET used for biofuel	irrigation withdrawals for biofuel crops (km ³)	% of total irrigation withdrawals for biofuels ^e
Brazil	15,098	sugarcane	167.8	2.4	5.0%	46.02	10.7%	1.31	3.5%
USA	12,907	maize	33.1	3.8	3.5%	22.39	4.0%	5.44	2.7%
Canada	231	wheat	0.6	0.3	1.1%	1.07	1.1%	0.08	1.4%
Germany	269	wheat	0.7	0.1	1.1%	0.36	1.2%	-	0.0%
France	829	sugarbeet	11.1	0.2	1.2%	0.90	1.8%	-	0.0%
ITALY	151	wheat	0.4	0.1	1.7%	0.60	1.7%	-	0.0%
Spain	299	wheat	0.8	0.3	2.2%	1.31	2.3%	-	0.0%
Sweden	98	wheat	0.3	0.0	1.3%	0.34	1.6%	-	0.0%
UK	401	sugarbeet	5.3	0.1	2.4%	0.44	2.5%	-	0.0%
China	3,649	maize	9.4	1.9	1.1%	14.35	1.5%	9.43	2.2%
India	1,749	sugarcane	19.4	0.3	0.2%	5.33	0.5%	6.48	1.2%
Thailand	280	sugarcane	3.1	0.0	0.3%	1.39	0.8%	1.55	1.9%
Indonesia	167	sugarcane	1.9	0.0	0.1%	0.64	0.3%	0.91	1.2%
S-Africa	416	sugarcane	4.6	0.1	1.1%	0.94	2.8%	1.08	9.8%
world ethanol	36,800			10.0	0.8%	98.0	1.4%	30.6	2.0%
biodiesel	1,980			1.2		4.7			0.0%
ethanol plus diesel	38,780			11.2	0.9%	102.7	1.4%	0	1.1%

Projections for water demand – 2030

	biofuel in billion liters	main feedstock crop	feedstock in million ton	national production for food and feed, 2030*	additional production for biofuels in %	area for biofuel crops million ha	% of total cropped area for biofuels*	crop ET for biofuels km ³	% total crop ET for biofuels*	irrigation withdrawals for biofuel crops(km ³)	% of total irrigation withdrawals for biofuels d
USA, Canada	51.3	maize	131	316	42%	14.1	9%	76.0	11%	36.8	20%
EU	23.0	rapeseed	51	21	242%	14.6	28%	30.1	17%	0.5	1%
China	17.7	maize	45	175	26%	7.8	4%	43.6	4%	35.1	7%
India	9.1	sugarcane	101	613	16%	1.1	1%	21.6	3%	29.1	5%
S-Africa	1.8	sugarcane	20	29	70%	0.2		3.9	12%	5.1	30%
Brazil	34.5	sugarcane	384	513	75%	4.4	7%	86.3	14%	2.5	8%
Indonesia	0.8	sugarcane	9	41	21%	0.1	0%	2.5	1%	3.9	7%
World	141.2					42.2	3%	261.5	3%	128.4	4%

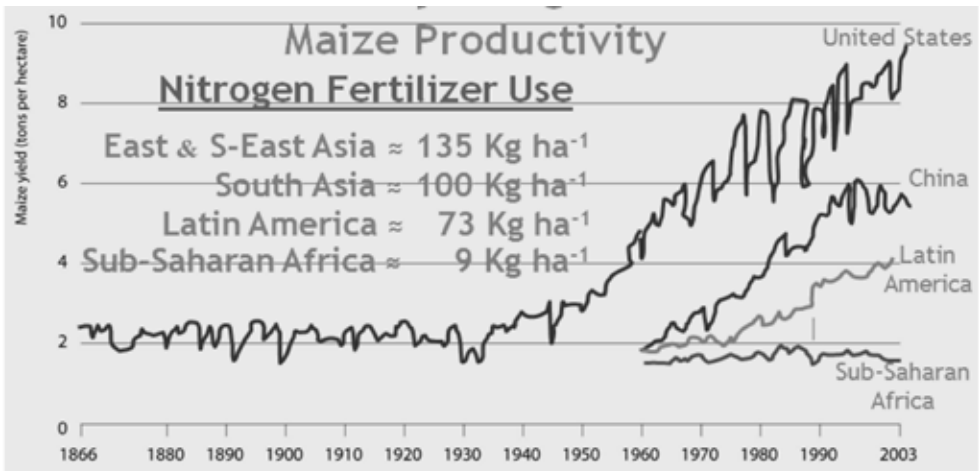
* total food-feed demand estimated from WATERSIM model CA scenario (see Fralure 2006, and Fralure et al. forthcoming)

** total cropped area is estimated from WATERSIM model CA scenario (ibid)

*** total ET is estimated from WATERSIM model CA scenario (ibid)

**** total irrigation withdrawals is estimated from WATERSIM CA scenario (ibid)

Increase efficiency in agriculture



Thank You

Summary of Presentation on situation in global scale Ms. Nino Chkhobadze, Chair of GWP CACENA

Water is a prerequisite for existence of life.

Water is vulnerable and finite resource.

Water also brings destructions.

Water is a necessary element of food security and human welfare.

Global problems are connected with water.

Global Water Partnership

• Global Water Partnership (GWP) – dynamic, non-commercial network including more than 1,800 partner organizations all over the world.

- GWP was established in 1996.
- The principal task is to facilitate processes of social and economic changes in developing countries promoting sustainable management and development of their water resources.
- For the last decades GWP successfully helped change dominant opinion regarding water issues through propaganda and application of methods of integrated water resources management (IWRM).

Global water partnership in Central Asia and Caucasus

- GWP in Central Asia and Caucasus is a network including the best organizations from countries of our region.
- All organizations have good experience both in development of national plans (Kazakhstan, Armenia) and implementation of separate elements of IWRM (Ferghana valley – Kyrgyzstan, Tajikistan and Uzbekistan).

Global water partnership in Central Asia and Caucasus

- According to Johannesburg declaration (2002), ultimate goal of activity of Partner network in Central Asia and Caucasus is assistance to states of the region in implementation of principles of IWRM in achieving MDGs regarding water issues.
- This process is considered as support of political dialogue with involvement of the public in processes of making decisions, strengthening of inter-sectoral cooperation and initiatives on achieving mutual understanding among all interested parties as well as with assistance to practical on-site work through national partnerships.

Global water partnership in Central Asia and Caucasus

- Consolidation of country water partnerships in the region for securing of existing results (achieved during previous period 2003-2008) on promotion of IWRM conception in the way of sustainable development of all eight countries and support of their opportunities for cooperation (taking into account the specific features of two sub-regions – Central Asia and South Caucasus).

Integrated water resources management

- For GWP IWRM is first of all institutional aspects of water resources management, capacity building – on all these issues of IWRM.

Integrated water resources management

- GWP CAC has many publications and materials, methods on IWRM.

Pakhage

Thank you for attention!

Summary of Round Table 6 Integrated Water Resources Management (IWRM), Energy, Agriculture and Food Security

This was a lively session with excellent presentations and very helpful statements and observations. Let us remind us.

The major goal of the International Decade for Action “Water for Life» is to promote efforts on implementation of the international commitments on water and water issues by 2015 and make it a decade of action And the specific objective of this Round Table 6 was to assess progress in the application of IWRM, in the context of energy, agriculture and food security, at local, national and regional level.

It is quite a challenge to achieve the very objective of the conference - which is to undertake a mid-term review about progress as only very few objectively verifiable data are at our disposal.

This is particularly true for assessing the status of countries embarking or having already embarked on IWRM.

1. Panel Presentations:

- An overview was given about key questions governing the application of IWRM, such as how to ensure integration or how to replace supply driven management to local integrated management);
- New technologies of groundwater assessment were presented, focusing on vegetation dynamics assisted groundwater modeling;
- The importance of the contribution of national policy packages (NPSs) to IWRM was emphasized, especially for regional basin management;
- Mechanism, tools and instruments for IRWM were considered to be crucial for successful implantation of IWRM - including the avoidance of «mis-conceptions or simplifications (as in the case of irrigation efficiency)»;
- Only a small fraction of countries has at present implemented IWRM plans and only o few dozens of countries have started to apply IWRM principles;
- The potential of bio-fuel production is limited as it competes suitable areas for bio-fuel production compete with those suitable for food crops. Therefore, we have to have a clear idea what we want, and then give priority accordingly; and
- The Global Water Partnership (GWP) is promoting sustainable water use through compliance with IWRM principles; among eight selected countries from ECA, two of them have now a legal base for IWRM;

2. Statements and Observations

- The national water policy of India stipulates the application of IWRM principles, including consumptive use of water resources which should be an integrated part of water resources management;

- In order to improve governance, there is a need of more participatory actions and involvement of NGOs, civil society and other key stakeholders;
- River basin management, river basin organizations, and a holistic;
- Approach to water resources management is now considered to be best practice;
- Climate adaptation measures have to be included when applying IWRM;
- Learning from crisis and disasters may help to promote the application of IWRM principles and ensure food security;
- Due to high population growth Kyrgyzstan needs new land for irrigation, which requires to increase irrigation water volumes from 13 million m³ at present to 18 million m³ in the future; also the water needs for hydropower production need to be secured;
- The Russian Federation reports progress in IWRM; there is a new water code since 2007, which promotes basin principle, basin councils, and the protection of water resources;
- The importance of regional cooperation was emphasized several times; IWRM is crucial for solving trans-boundary water issues;
- Uzbekistan has introduced water basin management in 2003 and is now trying to practice IWRM;
- It is necessary to include other economic sectors to achieve successful IWRM; and
- It is difficult to underscore a big role and the importance of flow measurement stations as well as rainfall stations as part of a comprehensive hydrological observation network.

3.Considerations:

There are two crucial questions we may pose us before going back to «business as usual»:

Did we agree upon the required benchmarks to assess progress? And:

How do we ensure that next time in 2015 we dispose of sufficient and adequate data to quantify progress?

4. Recommendations

- Agree on SMART indicators (for IWRM, agriculture, energy and food security) suitable for the evaluation of the expected outcomes according to the stipulations of the «Water for Life» Declaration;
- Conduct a baseline survey at national level tailored to measure the expected outcomes in IWRM, agriculture, energy and food security; and
- Follow-up progress annually and undertake corrective measures if incremental results fail to correspond to expected outcomes.

Closing remarks
by the Prime Minister of the Republic of Tajikistan,
His Excellency Mr. Akil Akilov, Chairman of the
Organizing Committee of the Conference

Distinguished participants of the Conference,

Ladies and gentlemen!

The International High-Level Conference on the Midterm Comprehensive Review of the Implementation of the International Decade for Action «Water for Life» 2005 – 2015 comes to an end.

The conference has gathered in the capital of our country about 600 representatives from various countries around the world, UN institutions, several international and regional organizations, financial institutions, NGOs, private sector and the media.

Plenary sessions, round tables, special side events and other activities organized in the margins of the conference were held at a very high level thanks to substantial presentations, interesting statements and constructive discussions of parties. It has once again demonstrated a holistic approaches and concerns of the international community in water resources management, water conservation and an indispensable role of water in sustainable development of all countries and regions.

Dushanbe International High-Level Conference has provided us with a unique opportunity to assess a progress achieved at the national and global levels in implementing the objectives of the International Decade «Water for Life» and other internationally agreed development goals on water and sanitation.

We once again became convinced, that water is a vital element which, indeed, all world processes depends on, contributing to the continued existence of the living world and, above all, the man himself. Therefore, water issues have an utmost importance in the agenda of any high-level meetings on sustainable development.

Water demands a careful attitude, proper attention, comprehensive study using the latest achievements of modern science, new technologies and adequate timely response.

Exhibition under the title «Water for Life» that has been convened within the Conference had important cognitive and practical significance. It has showed the availability of huge potential which to be applied more widely in order to address pressing water issues.

Distinguished delegates!

The main final document of this Conference is the Dushanbe Declaration, a draft of which was developed with the direct participation of the UN-Water institutions. We have to also underline an active participation of members of Friends of Water Group, which was established at the suggestion of the mission of Tajikistan to the UN in the multiple discussions and the drafting of the document.

I would like to point out that the main points of the outcomes of various international events on water agenda, in particular, Muscat Declaration of the Group of 77, Final

Document of the high-level event «Sanitation and Water for All, held in April in Washington and the recommendations of the 5th World Water Forum have been taken into account at the process of drafting of Dushanbe Declaration. However, results of discussions held within the interactive high-level dialogue on water, held on 22 March in New York under the chairmanship of the UN General Assembly have served as the core of this document.

As you know, a draft of the Dushanbe Declaration was circulated to member-states through their Permanent Missions to the UN. Organizing Committee received comments and remarks to the draft Declaration from more than 85 UN member-states. Taking this opportunity, on behalf of the Government of Tajikistan and the Organizing Committee I would like to express my sincere appreciation to countries contributed to drafting the Declaration.

Organizers of the Conference, together with colleagues from the UN worked fruitfully during these two days and followed discussions which were held within the Conference. Participants have voiced new ideas, comments and suggestions, which are recorded in the Declaration.

In this context, I believe that it is the time to adopt the Declaration. I propose to adopt it by acclamation.

Distinguished participants of the Conference!

Let me thank you for your support. I hope that the Dushanbe Declaration will be one of the important documents that provide the basis for the successful implementation of noble objectives of the International Water Decade for the remainder of the term.

In conclusion, on behalf of the Government of Tajikistan I would like to once again thank all of you, first of all, representatives of the UN member states, UN agencies, OSCE, South-South News and other international organizations for support and assistance in arranging and conducting this conference.

Tomorrow's program includes a field trip to Nurek hydropower plant with the highest rock-fill dam in the world. It is the largest hydropower facility not only in Tajikistan, but in entire Central Asian region. In 2009, Nurek dam had been given a special award and certificate by the International Commission on Large Dams (ICOLD) as one of the best achievements of engineering thought.

The conference participants will enjoy the beauty and grandeur of this unique facility, which at the same time serves to meet the needs of the county, both in water and energy. This is the flagship of the integrated use of rich water and abundant hydropower resources of our country, further development of which will be a significant contribution of Tajikistan in improving the socio-economic and ecological condition of the Aral Sea.

Once again let me thank everyone for fruitful work and wish all participants a great success in realizing the noble objectives of the International Decade for Action «Water for Life» and the Millennium Development Goals.

We believe that member states, international organizations, whose representatives attended the Dushanbe Conference will continue to actively cooperate with our country and support new initiatives of our President on water issues within the framework of upcoming UN General Assembly session. I thank you and wish you every success!

Dushanbe declaration on water
Outcomes from the High Level International Conference on the
Midterm Comprehensive Review of the Implementation of the
International Decade For Action “Water For Life” 2005-2015 (HLIC)
Dushanbe, Tajikistan, 8-10 June 2010

[1] Upon the invitation of the Government of Tajikistan and as welcomed by the UN General Assembly in its resolution 64/198, Heads of States and Governments, Ministers, Government delegations, Heads of UN entities, Representatives of International and Regional Financial Institutions, civil society and the business community from 75 Countries met in the HLIC convened in Dushanbe from 8 to 10 June 2010.

[2] The High Level International Conference on the Midterm Comprehensive Review of the Implementation of the International Decade for Action “Water for Life 2005-2015” (HLIC) focused its in-depth deliberations on six themes: (i) Accelerating progress towards water-related IADG, including the Millennium Development Goals (MDGs), and ensuring involvement of women; (ii) Transboundary water cooperation; (iii) Water quality; (iv) Water resources and adaptation to climate change, disaster risks reduction; (v) Sustainable financing; and (vi) Integrated Water Resource Management, energy, agriculture and food security. It is also built on the outcomes of the high-level interactive dialogue of the sixty-fourth session of the General Assembly in New York on 22 March 2010, World Water Day.

[3] The outcome of the HLIC consists in a number of important conclusions and recommendations contained in the present Dushanbe Declaration on Water.

[4] The Government of Tajikistan will submit the Dushanbe Declaration on Water to the UN General Assembly at its sixty-fifth session for appropriate consideration.

[5] The Conference reaffirmed the critical importance of water for environmental protection and sustainable development, including poverty and hunger eradication, public health, food security, hydropower, agricultural and rural development. The HLIC renewed the commitments made to achieve the internationally agreed upon goals on water and sanitation, including those contained in the United Nations Millennium Declaration, the provisions of Agenda 21 and the Johannesburg Plan of Implementation, and stressing the need to include water and sanitation as national priorities for the sustainable development and poverty eradication strategies. The HLIC also took note of the Ministerial Declarations of the 5th World Water Forum. The work done within the UN System in support of countries, in order to reach the aforementioned goals, was also recognized. The decisions and resolutions of relevant United Nations organs, organizations and bodies regarding water, sanitation and other related issues were highlighted by the Conference.

[6] The HLIC recognized the importance of multilateral frameworks under the United Nations to address all issues related to water and sanitation to promote cooperation among riparian states both through bilateral and multilateral arrangements and to ensure an appropriate follow-up to those issues, in line with

commitments made in that regard, as reflected, inter alia, in Agenda 21 and the Johannesburg Plan of Implementation.

[7] The HLIC noted the achievements during the first five years of the International Decade for Action “Water for Life” 2005-2015 on the implementation of water-related programmes and projects. These achievements were made possible by various efforts by developing countries, the donor communities and various United Nations and international organizations and civil society organizations. The HLIC also noted many major obstacles resulted from the persisting challenges and newly emerging issues resulting from the recent global crises, including the energy, food and financial crises coupled with the increasing impacts of climate change. In this context, the HLIC highlighted the following:

[8] Sustainable use, management and conservation of surface and ground water resources is vital for achieving progress in all fronts of economic and human development as well as safeguarding water quality and ecosystems, and the life-supporting goods and services they provide to humanity.

[9] Water resources management issues need to be addressed at local, national and, as appropriate, at the regional and international levels. All stakeholders including in governments, international organizations, private sector, civil society and academia should be engaged, as appropriate, taking into account social, economic and environmental factors and paying special attention to the livelihoods of the poor and most vulnerable people. In this context, stakeholders should also strive to ensure the participation of women in water-related development efforts, to work together towards achieving the goals of the International Decade for Action “Water for Life” 2005-2015 as decided by the General Assembly in its resolution 58/217.

[10] In this context, the HLIC recalled Principle 2 of the Rio Declaration on Environment and Development, which states that “States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental and developmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national boundaries”. It is, therefore, the responsibility of national governments to define appropriate policies and sufficient budgetary allocations to the water sector.

[11] Water is central to achieving of the MDGs. Ensuring sustainable and equitable access to water, requires addressing extremes of water availability through proper water management, as well as providing adequate sanitation and wastewater services. Commensurate policies and action on water and sanitation are essential for lifting people out of poverty, for ensuring food and energy security, promoting a healthy society and contributing to sustainable development. Raising awareness of the central role of water resources in achieving Millennium Development Goals calls for continued communication and outreach campaigns.

[12] Progress in achieving goals to halve the number of people without access to safe drinking water, and adequate sanitation is slow and uneven. The HLIC delegates should reconfirm the commitment to make all efforts within our reach to attain these goals. The HLIC delegates should support the “Sustainable Sanitation

- the Five Year Drive to 2015" initiative proposed in the Follow-up Conference on the International Year of Sanitation, January 2010, Tokyo.

[13] The HLIC calls on countries, if they have not done so, to consider setting up national committees and designating focal points in their respective countries to facilitate and promote activities related to the International Decade for Action "Water for Life", 2005-2015 during its second half.

[14] The lack of goals on the sustainable and productive uses of water as well as its management makes it harder for the international community to track progress, further complicated by inadequate and deteriorating networks of data collection and challenges in sharing the data.

[15] The United Nations system has an important role to support countries achieve the goals of the International Decade for Action "Water for Life" 2005-2015, and meet emerging challenges by promoting cooperation at all levels and building capacity in water resources management and in provisioning of drinking water supply and sanitation services. UN-Water will continue to facilitate the coordinated system-wide response necessary for the implementation of activities in support of the "Water for Life" Decade.

[16] Political will and financial commitments both from national governments and development partners should be further strengthened and be granted high priority in order to ensure the attainment of water-related internationally development targets during the remainder of the International Decade for Action "Water for Life" 2005-2015 especially for developing countries despite the persistence of the current global economic and financial crisis. In this regard, countries should appropriately prioritize water and sanitation issues during the upcoming, MDG High-Level Plenary Meeting of the 65th General Assembly in New York, September 2010.

[17] International and regional financial institutions as well as public private partnership are important to mobilizing and facilitating financial flows towards various water related activities and should develop further mechanisms to respond adequately to the increasing demand for financial resources and for technical and institutional capacity building.

[18] South-South, North-South and triangular cooperation initiatives for water resources management should consider the different realities involved in each case. In this regard, cooperation should be fostered not only through traditional financial means but also through a broader approach, that is, by promoting exchange of experiences, best practices and lessons learnt as well as sharing appropriate, environmentally sound technologies and know-how. In this connection partners in development cooperation can focus assistance on areas and countries that are off-track to achieve the MDGs, focusing on water related components of all MDGs and other internationally agreed development goals in accordance with national priorities and development plans.

[19] A gradual and sustained implementation of integrated water resources management at the level of river basins and groundwater systems, is central to meeting social, environmental and economic needs in an equitable manner.

[20] Climate change affects people's livelihoods and well-being mainly through adverse impacts on the hydrological cycle. It is vital to build resilience and reduce vulnerabilities to extreme events, namely floods, droughts and other hydro-climatic hazards. Managing increased variability in hydrological conditions by structural and non-structural measures is essential. It is important to build long-term resilience through strong institutions and water infrastructure, including well-functioning ecosystems, such as forests and wetlands. It is more effective to proceed from reactive and ad-hoc crisis management to proactive disaster preparedness and risk management based on adequate risk mapping and monitoring, all of which require scientific information and new tools for decision making. Thus, the promotion of scientific and technological development and cooperation among countries is essential and should be strengthened. The Hyogo Framework for Action (2005-2015), building the resilience of national and communities to disasters, provides the policy framework and guidance to address these challenges.

[21] The world's existing network of rainfall, snow-pack, glaciers and stream-flow observation and monitoring systems have seriously eroded. In many cases, the density is far below international standards for meaningful prediction or interpretation of data. The shrinking information base reduces the ability to monitor water quantity and quality, predict droughts, forecast floods, understand climate change implications as well as make appropriate water management plans. Enhancing hydrologic, hydrogeologic and meteorological data collection, assessment and dissemination capabilities are crucial and should be strengthened including as part of the implementation of the Global Framework for Climate Services. The improvement of water resource management and scientific understanding of the water cycle through cooperation in joint observation and research, as well as, for this purpose, the promotion of knowledge-sharing and provision of capacity-building and transfer of technology particularly to developing countries and countries with economies in transition, is crucial.

[22] Adapting production and support systems to global environmental change through development and implementation of water-saving methodologies and technologies in all sectors in need of water is of fundamental importance to ensure sustainable and efficient water resources management.

[23] Innovative and modernized efficient irrigation and drainage schemes and management approaches, that are technologically feasible and available for adoption, as well as environmentally sustainable, are often required to improve productivity and efficiency of water use in agriculture in order to ensure food security, eradicate poverty and hunger, and protect the environment.

[24] Water as one of the sources of renewable energy is needed to generate power and power is needed to deliver water as well as many other basic services to populations. Sustainable hydro-energy generation may contribute to important progress in poverty reduction, mitigating climate change, and achieving sustainable development, particularly in developing countries.

[25] Protecting water quality enhances the availability of safe water. Pollution of surface and groundwater ought to be prevented through comprehensive and innovative policies and strategies, including by increasing public awareness and

outreach activities directed to this goal as well as holistic approaches that promote the circular use of water through cost effective approaches, both central and decentralized, to address multiple human and environmental needs.

[26] Desalination and wastewater treatment for reuse can be strategic options in many water short areas. It is essential to make them sustainable, cost-effective and affordable.

[27] Water resources need to be managed with appropriate planning and governance systems to ensure that infrastructural and non-infrastructural measures are effective in ensuring sustainable water use and management. Investment in these areas should be given highest priority.

[28] Mobilizing financial resources from all possible sources for the wide range of water issues and promoting public as well as private investments are of fundamental importance. Targeting financing to areas in greatest need is important. Sustainable and accessible financing strategies including diversified credit and appropriate financial management mechanisms ought to be promoted and implemented by international financial institutions and development partners, with due attention given to the recipient needs and capabilities.

[29] The international donor community, according to national priorities of recipient countries, can further incorporate, as appropriate, water into the broader frameworks of development cooperation and focus assistance on areas and countries that are off-track to achieve the MDGs, focusing on the embedded and often neglected water-related components of all MDGs.

[30] Developing countries should be provided with sustained and predictable financial assistance and technology transfer, on fair and equitable terms, according to the principle of common but differentiated responsibilities, in order to successfully address the challenges related to drinking water, environmental sanitation and the implementation of adaptation measures to climate change at the national level.

[31] It is essential to improve national level water governance through strengthened laws and regulatory frameworks, political and administrative accountability as well as public participation and transparency.

[32] Women and children are known to be the most adversely affected by the lack of access to safe drinking water and sanitation. Women also are rarely sufficiently involved in the decision making processes, hence gender initiatives should be boosted in water resources management.

[33] Access to safe drinking water and sanitation, which is recognized by some countries as a human right, is inextricably linked to life, health, development, food, housing, education, physical security and freedom from inhuman and degrading treatment. The realization of this can be promoted through national efforts, with the appropriate international support.

[34] History has often shown that the vital nature of freshwater is a powerful incentive for cooperation and dialogue, compelling stakeholders to reconcile even the most divergent views. Water more often unites than divides people and societies. Riparian countries should strengthen dialogue and cooperation as well as take measures on mutually beneficial and rational use of transboundary water

resources on the basis of recognized by them norms, principles and legislation. Specific and tangible steps could be undertaken by riparian countries, including through cooperation, in accordance with existing and future agreements. It is possible for parties with divergent interests to benefit from those resources with specific arrangements tailored to a given basin's characteristics.

[35] Recognizing that transboundary water cooperation needs to be guided by regional and international agreements, as well as should be fostered among countries including within existing mechanisms and modalities of water diplomacy.

[36] Acknowledging that water is a cross-cutting issue, the above-mentioned messages should be communicated also to the decision makers and stakeholders outside the water domain to achieve broad endorsement and consensus on a common aim that requires an integrated and well-coordinated approach. Decisions in other sectors and those related to development, growth, security and livelihoods need to incorporate water as an integral component, including responses to climate change, food and energy challenges and disaster management. Synergies should not be lost due to narrow sectoral approaches.

[37] The participants expressed sincere appreciation to the Government of Tajikistan for hosting the conference and for the warm welcome and generous hospitality extended to all participants.

[38] The HLIC also expresses appreciation for the assistance and support provided by the United Nations system organizations, headquarters and country teams, including UN-Water, as well as other regional and international institutions in the preparation of this Conference.

Resolution of the Children Conference on «Water for Life»

We, the pupils of the Republic of Tajikistan - members of the environmental and health clubs, school clubs and school establishments, children's organizations, representing all children in Tajikistan, who are not indifferent to the fate of the planet, ecological problems, including water issues, are gathered at the Children's Conference to sum up the outcomes of previous conferences and outline plans for the future. Our peers took active part in the discussion of vital issues related to water, water sanitation and water supply that were raised at the conferences and forums devoted to the problems of water held in Kioto, Japan in 2003, in Dushanbe, Tajikistan in 2005, at the Oxford Round Table in 2005, in Mexico City in 2006 and in Istanbul in 2009.

At today's conference we have come with our pictures, films and essays on the theme of water. We want to see our country safe, with clean waters and rivers. We want decision makers guarantee our participation, based on the UN Convention on the Rights of the Child, with the view of our protection and development, by providing future generations with humane laws on water and water sanitation. To achieve these goals we recommend the following:

- Take into account the views of children in solving problems related to water and sanitation;
- Provide opportunity to obtain more information about the existing problems of water, both in our region and worldwide;
- Include in the study program issues of water, sanitation and hygiene;
- Conduct more meetings, round tables and conferences for us and our peers from other countries devoted to the issues of water, water-supply, sanitation and hygiene;
- Our educational institutions should be provided with clean drinking water and sanitation facilities suitable for children, especially for girls;
- To continue the parallel conduct of children's activities in the further arrangements undertaken within the framework of the International Decade for Action «Water for Life».

We - the children, are great force, and in support of these goals, we can not only give suggestions to pass Laws on Water and Sanitation, but also take an active part in their implementation.

Dushanbe, 9 June 2010

**Statement by the
Prime Minister of the Republic of Tajikistan, H.E. Mr. Akil
Akilov, Chairman of the Organizing Committee of the Conference
at the press-conference**

Dear representatives of mass media,

Ladies and gentlemen,

The International High-Level Conference on the Midterm Comprehensive Review of the Implementation of the International Decade for Action «Water for Life» 2005-2015 is finished.

As you know, the Conference was conducted in accordance with UN General Assembly Resolution 64/198 of 21 December 2009 on the Midterm Comprehensive Review of the Implementation of the International Decade for Action «Water for Life». The Government of the Republic of Tajikistan has organized a conference in a close cooperation with the United Nations, and in particular, with its UN-Water mechanism specially established to monitor an implementation of the International Water Decade.

The main purpose of the conference was the generalization of the results achieved during the first half of the International Decade for Action «Water for Life» 2005 - 2015, an identification of major issues and development of agreed measures for the successful implementation of the second half and, in general, water agenda of the UN.

The conference was attended by representatives of 80 countries and 70 international and regional organizations. Overall, more than 500 dignitaries and politicians, scientists and experts from different regions of the world - Asia, Africa, America, Europe and Oceania, representing governments, various UN institutions, international and regional organizations, financial institutions, academic establishments, civil society and the private sector in the course of two days have discussed the most pressing water issues of today's rapidly changing world. Nearly 200 representatives of Tajikistan have also attended these discussions.

Two plenary sessions, 6 round tables, 4 special side events, the International Exhibition under the title of «Water for Life», exhibition of children's drawings and photo-exhibition, presentations and other events have been organized on the sidelines of the Conference.

The President of the Republic of Tajikistan Excellency Emomali Rahmon has delivered a statement before participants at the opening ceremony of the Conference. The President has outlined the key aspects of the worsening water issue and vision to help solve it. Certainly, the problems associated with the management, use and protection of water resources in Tajikistan were also raised alongside with those issues.

UN Under Secretary General Mr Sha Zukang has delivered a message of greetings on behalf of the UN Secretary General Excellency Ban Ki-moon to the participants of the Conference, who expressed a confidence that the Dushanbe conference will be another positive step in achieving the goals and objectives of the International Decade for Action «Water for Life».

The President of the Islamic Republic of Iran Excellency Mahmoud Ahmadinejad has also made a statement before the conference participants. A message of the President of France Nicolas Sarkozy has also been conveyed to the participants of the Conference. Speeches by the President and a message from the UN Secretary-General have set a particular tone to the discussions held within the Conference.

Head of more than 40 official delegations have made substantial statements and useful remarks at the plenary sessions of the Conference.

The major discussions took place within the six round tables on the following topics:

1. Accelerating progress towards water-related internationally agreed development goals, including the Millennium Development Goals (MDGs), and ensuring women empowerment;
2. Transboundary water cooperation;
3. Water quality;
4. Water resources and adaptation to climate change and disaster risk reduction;
5. Sustainable financing;
6. Integrated water resources management, energy, agriculture and food security

More than 35 reports of international and regional experts have been presented to the conference participants, which reflected almost all aspects of water problems. Discussions and debates held in the margins of the Conference upon these reports and presentations have affected all regions of the world at all levels, including local, national, regional and global.

On the sidelines of the conference, a number of institutions of the United Nations - UNDP, UNECE, UNESCAP, UN-Water, as well as the Executive Committee of the International Fund for Saving the Aral Sea (IFAS) and the Ministry of Energy and Industry of the Republic of Tajikistan have held special sessions covering such topics as introduction of integrated water resources management, management and use of waste water, problems of the Aral Sea Basin, development of hydropower resources and addressing water and energy challenges.

The International Exhibition «Water for Life» was an important event of the conference, where over 30 international, regional and national organizations have exhibited their works. This event showed an availability of the enormous potential that needs to be wider used to address pressing water issues. An exhibition of paintings, drawn by Tajikistan's children deeply impressed the visitors. It was an exhibition - water world through the eyes of children. It was indeed amazing how our children feel the depth of water problems and their drawings speeding us - adults to more consolidated efforts to address these challenges. A large photo-

exhibition showed an exacerbating water problems in all regions of the world, and especially in the African continent.

The conference was widely covered by you - distinguished representatives of the mass media. Thanks to your efforts and quite clear work, millions of people both in Tajikistan, and abroad, were able to observe the work of this important international event, to obtain necessary information, to keep abreast of ongoing developments in the water world and to some extent, be part of this important event.

The outcome of two-day conference was Dushanbe Declaration, reflecting the key moments of the debate and a number of important conclusions and recommendations. In particular, this document calls for more coordinated and concerted actions by all stakeholders at all levels to integrate water issues into national plans and development programs, increase accountability and commitment of decision makers, capacity building, greater involvement of women in the process, increase funding and enhance cooperation, including development of water diplomacy.

The Dushanbe Declaration also calls upon Member States to consider an opportunity of establishing national committees and the contact points in their respected countries in order to assist and promote activities related to the International Decade for Action «Water for Life» during the second half of the decade, to determine the proper policies and adequate budgetary allocations for water sector, gradually and consistently introduce integrated water resources management at the basin level, to give more attention to the problem of providing safe drinking water and sanitation, to take adaptive measures to ongoing global change, including climate change, improve monitoring system of the glaciers and water resources and take other concrete steps to address the growing water issues.

International organizations, financial institutions and donors are urged to provide countries with adequate support in this area, as well as increase aid to poor and developing nations to achieve the internationally agreed goals on water for the remainder term of the Water Decade.

The Government of Tajikistan will present the Dushanbe Declaration at the 65th session of the UN General Assembly.

Summing up the conference, I would note that it was successful, mostly thanks to the joint and coordinated efforts of all participants, and of course, owing to great contribution of noble goals of the International Decade for Action «Water for Life».

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**International High Level
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