

**RECORD OF NOTE / PROCEEDINGS ON
PAKISTAN-UNITED STATES STRATEGIC DIALOGUE WATER WORKING GROUP HELD ON
June 17, 2010 at Islamabad (Pakistan)**

As a part of the Strategic Dialogue in different sectors, technical experts from Pakistan and US met on June-17 in Islamabad to discuss the challenges and management of Pakistan's Water Resources. The dialogue also underscored the commitment of the United States to a long-term partnership with Pakistan, focused on improving the water and energy availability for the Pakistani people through institutional development and regulatory capacities dealing with drinking and irrigation water use.

The Government of Pakistan delegation was led by Raja Pervez Ashraf, Minister of Water and Power, with Mr. Kamal Majidulla, Special Assistant to Prime Minister on Water Resources and Agriculture, Mr. Shahid Rafi, Secretary Ministry of Water and Power, and Mr. Shakil Durrani, Chairman of the Water and Power Development Authority, formed the part of team. The U.S. Delegation was led by Ms. Maria Otero, Undersecretary for Democracy and Global Affairs at the Department of State, and included Mr. David Lipton, Special Assistant to the President and Senior Director for International Economics at the National Security Council.

Raja Pervaiz Ashraf, Federal Minister for Water & Power, in his inaugural speech on behalf of Government of Pakistan welcomed the participants to the Strategic Dialogue on Water Challenges. He stated that Pakistan faced a number of daunting challenges of water shortage and the adverse effects of these shortages in terms of loss in agricultural and industrial productivity; unemployment; slow growth in the GDP and the limited availability of water and power for the people of Pakistan was a matter of serious concern. He further briefed that of all challenges confronting us in the country the one relating to water availability and water productivity was the most serious. The per capita availability of water was barely 1000 cubic meter per capita which was a five-fold reduction experienced over the past fifty years. Pakistan has almost reached a stage where it is not only a water-stressed but could

soon be a water starved country. Besides, its use for irrigation the provision of clean drinking water is a priority for the Government. He further explained that the choice before the country was quite obvious, since availability of water was limited and finite but it must be ensured that not only the construction of adequate storages was undertaken but also to ensure judicious use and efficient water utilization.

Ms Maria Otero, Undersecretary of State/head of US delegation thanked the Government of Pakistan for making arrangements for the Strategic Water Dialogue. She explained that this was an issue of very great importance. She agreed with the views of the leader of Pakistan delegation that major institutional improvements were required to address issues relating to sustainability of water availability and optimum use of water. She further informed that US delegation would hear from Pakistan side about water related issues and possible steps to resolve these. She assured US support for assisting in resolving these issues. She mentioned that she had come to Pakistan under the guidance of Mrs. Clinton, Secretary of State and Mr. Holbrooke to listen to the problems and determine how to support Pakistan in resolving its water sector problems.

She explained United States commitment for policy reforms and for introducing measures so that Pakistan may get safe water for drinking and sanitation purposes and to improve the efficiencies in irrigation productivity to enhance agriculture production, develop means to sustain the infrastructure and to adopt measures to meet the challenges of climate change. She mentioned three priorities for the strategic dialogue apart from what was raised by Pakistan:

- (1) US will get a better opportunity to know the water sector challenges being faced in Pakistan.
- (2) To develop priorities of partnership in a concrete manner with Pakistan.
- (3) To identify the concrete activity in the areas, focused in this strategic dialogue which will be discussed in the second meeting to be held in next six months.

Subsequently, the following made the presentations:

Pakistan Side

- Mr. Shakil Durrani, Chairman WAPDA
(*Water Sector Challenges*)
- Mr. Shafqat Rasool, Member, Indus River System Authority
(*Water Issues*)
- Sardar Muhammad Tariq, Executive Director, Pakistan Water Partnership
(*Water Issues & Infrastructure Challenges of Pakistan*)
- Mr. Qaiser, Director General (Irrigation), Khyber Pakhtoon Khwa
(*Strategic Dialogue – Water Challenges*)
- S. Raghbir Abbas Shah, Member (Water) WAPDA
(*Water Flows & Efficiency*)
- Mr. Rab Nawaz, Secretary I&P, Punjab
(*Water Issues, Economic Sustainability of Water Efficiency*)
- Mr. Shuja Junejo, Secretary I&P, Sindh
(*Strategic Dialogue – Water Issues*)
- Mr. Ali Muhammad Shah, Secretary I&P, Balochistan
(*Strategic Dialogue – Water Issues*)
- Mr. Akram Sohail, Secretary I&P, AJK
(*Water Challenges in Pakistan*)

United States Side

- Mr. Christian Holmes, Senior Advisor, Energy & Environment, US Agency for International Development.
(*(i) Water Utility, Cost Recovery and Regulatory Reforms, (ii) Climate Change & Water, (iii) Murray-Darling Basin – A Case Study*)
- Ms. Sylvana Li, Foreign Agricultural Service, US Department of Agriculture
(*Water Use Efficiency, Productivity and Quality*)

The major presentation on water challenges was made by Chairman WAPDA. The Chairman WAPDA stated that 5,260 cubic meter per capita water was available in 1951 for a population of 34 million which has now reduced to 1,038 cubic meters in the year 2010 for a population of 172 million. This will further reduce to 809 cubic

meters for an estimated population of 221 million in the year 2025. The reservoir capacities have been reduced by 27% from 15.7 MAF to 11.7 MAF due to sedimentation by the year 2010. During the presentation, he explained that the water challenges being faced by Pakistan are: depleted and polluted groundwater aquifer; wastage of water through flood irrigation system; inequitable water availability among users; water allowance discrepancies; water-logging/salinity; insufficient maintenance of irrigation water infrastructures; unsustainable O&M model with backlog of maintenance in the face of depreciating infrastructure; underinvestment and lack of funds due to low cost recovery/financial non-sustainability; weak project management capabilities resulting in cost overruns/ delays; non-optimum utilization of available water, etc. Subsequently, Chairman WAPDA gave the following recommendations:

- Water Regulatory Authority (WRA) consisting of Federal and Provincial Governments representatives be created to regulate optimum water use and balance in different basins under enabling legislation
- Establishment of replacement storages to increase water availability.
- Minimize seepage losses especially in saline areas by canal lining to increase water availability.
- Training and Capacity Building of Federal / Provincial institutions dealing with water
- Use of technology – drip/sprinkler/rainwater harvesting / telemetry etc.
- Crop substitution – right crops for mere commensurate with water availability
- Initiatives for water quality management for irrigation/municipal use
- Reduction in Government subsidies and full cost recovery of all prices that reflect its scarcity.
- Conducting studies to determine anticipated water shortages due to climate change / glacial melt effects
- Need for media awareness campaign for water conservation
- Improvement in integrated management of water resources and ensuring transparency by associating all the water users/stakeholders involved.

Mr. Shafqat Rasool, Member, IRSA in his presentation compared the present, past and future Water Accounts of Pakistan. He was concerned about challenges of food security, lack of mutual trust, environmental degradation, climate change and future water availability. He proposed: establishment of National Water Commission to act as Think-Tank on Water Issues; establishment of a trustworthy Telemetry System, foolproof monitoring, accounting and audit of River Flows and Rainfalls; capacity building of federal/provincial institutions dealing with water.

Sardar Muhammad Tariq, Executive Director, Pakistan Water Partnership, covered the global as well as Pakistani perspective on water issues. He noted the big differences while comparing the water resources of Pakistan with that of other developed/developing countries. He cautioned that Pakistan's dependence on single river system (Indus River) is highly vulnerable and there is no additional water for injecting to the system. He was of the opinion that Indus Water Treaty should be honoured in letter and spirit and Pakistan should demand minimum environmental flows in the eastern rivers to save biodiversity. He also urged the need for introducing hardware/software solutions to the problem of water management.

S. Raghbir Abbas Shah, Member(Water) WAPDA, gave presentation on Water Flow Efficiency and highlighted the average annual flows of Indus Basin as well as gap between water availability and demand. His presentation also included impact of climate change on water resources. He recommended: i) construction of reservoirs to store uncontrolled water, ii) usage of high efficiency irrigation techniques and adoption of high value cropping patterns to ensure efficient utilization of water, iii) demand-based water supply; iv) lining of conveyance system; v) treatment of saline water; vi) use of marginal quality water; vii) rainwater harvesting etc for overcoming the water shortage in Pakistan.

Mr. Qaiser, DG(Irrigation), Khyber Pakhtoon Khwa, in his presentation highlighted the major issues like resource constraints, trans-border water issues, insurgency, global warming, competing demands for water and deteriorating water quality,

depletion & un-checked withdrawal of ground water, lack of storages, lack of financial sustainability and inadequate cost recovery, lack of awareness, non-availability of information on water resources and unreliable database, ineffective public sector management of infrastructure and activities and capacity constraints, etc. He further discussed the need of improving water management and cost recovery for operation and maintenance of Irrigation structures so that these become self-sustained.

Mr. Qaiser was of the view that supply based operation of system should be converted into cropped-based irrigation operations; water costing and regulations to supervise water uses; capacity building of water related institutions and farmers associations for improved irrigation.

Mr. Rab Nawaz, Secretary, Irrigation & Power, Govt. of the Punjab, was of the view that water pricing can be used as a tool for efficient usage of water and guiding crops patterns. He proposed building of a water management & regulatory authority based on the experience of IRSA and moving on a more effective water management regulations, apportionment institution and legal framework. He also suggested institutional revamping of Irrigation departments and updating/revision of existing legal framework for canal and irrigation systems.

Mr. Rab Nawaz highlighted the water challenges particularly that of growing water shortages, progressive deterioration of irrigation infrastructure, poor management and sub optimal system operations, low irrigation efficiencies, trust deficit between provider and user, over-exploitation of groundwater and inappropriate water pricing regime, etc. He submitted that the key issues are to ascertain how much water will we have in future and how will this be reallocated among sectors with equity; what strategies would need to be implemented to sustain and optimize resource use; how could we put in place an appropriate water pricing regime; how we can support the political process to deal with these complex issues etc.? He suggested several proposals for overcoming the water shortage such as optimizing

resources through development and conservation; sustaining groundwater use; rationalizing water pricing framework; moving from supply based to demand driven irrigation; improving water productivity and knowledge based management. He suggested to introduce measure for the recovery of water charges and subsequent enhancement in water allowances. He further discussed the need of improving water management and cost recovery for operation and maintenance of Irrigation structures so that these become self-sustained.

Mr. Shuja Junejo, Secretary I&P, Govt. of Sindh made a presentation on water efficiencies, sustainability and cost recovery and hoped that improvements may be brought about by improving/modernizing irrigation and drainage facilities, canal lining, adopting latest technologies, training farmers for optimum water usage, changing cropping patterns and introducing low delta crops and by ensuring proper water management. He also suggested introduction of GIS for assessing crops for accurate recovery of water rate and drainage-cess based on operating expenditure. He also suggested that the farmers be involved in marketing for getting proper economic benefit to them instead of middlemen. He suggested to introduce measure for the recovery of water charges and subsequent enhancement in water allowances. He further discussed the need of improving water management and cost recovery for operation and maintenance of Irrigation structures so that these become self-sustained.

Mr. Ali Muhammad Shah, Secretary, I&P Balochistan, suggested construction of storage dams for conserving flood flows for surface irrigation; construction of "Delay Action Dams" for recharging ground water aquifer and mitigating flood damages; flood dispersal structures for direct irrigation from rain/flood waters; rehabilitation of the existing irrigation system from a better irrigation efficiency. He supported the idea of Water Regulatory Authority to supervise water usages in an appropriate manner. He further discussed the need of improving water management and cost recovery for operation and maintenance of Irrigation structures so that these become self-sustained.

Mr. Akram Sohail, Secretary, I&P, Govt. of AJK during his presentation that the State of Azad Jammu & Kashmir has great hydropower potential of about 5,000 MW which is not only a cheaper source of electricity but also relieves the Government of heavy expenditure and subsidies on thermal power. He further briefed about the current status of under execution hydropower projects. He explained that clean water and sanitation may be given top priority and awareness and education is top priority as urban garbage is disposed in Neelum/Jhelum River at Muzaffarabad which has become major source of pollution. He further discussed the need of improving water management and cost recovery for operation and maintenance of Irrigation structures so that these become self-sustained.

Mr. Christian Holmes, Senior Advisor, Energy & Environment, US Agency for International Development, in his presentation illustrated the benefits of cost recovery and regulatory reforms for water utility. He demonstrated the examples of both regulated and non-regulated cost recovery to explain the need for water pricing. He also asserted that in order to make the regulation of public companies effective, incentives, accountability and realistic targets are important and this involves corporatization/commercialization and licensing etc. Mr. Holmes also discussed the report of Intergovernmental Panel on Climate Change (IPCC) regarding glacial melt in Asia and its impact on waters. He also demonstrated the case study of Murray-Darling Basin in Australia where a Commission was established to combat the challenges of low rainfall, high temperatures, land-degradation and to increase agricultural productions. The commission had representation from all the four States and Federal Government with a mandate to collect and disseminate information regarding rainfall, inflows, storage and salinity and ensure input from community and stakeholders. The commission was also required to prepare Basin Plan and Basin-wise market for sale/trading of water.

Ms. Sylvana Li, Foreign Agricultural Service, US Department of Agriculture, made presentation on Water Use Efficiency, Productivity and Quality. She described that

focus of Water Activities of the US Department of Agriculture is on irrigation management, water pricing & policy, crop management, watershed rehabilitation and capacity-building & involvement of stakeholders, etc. She also introduced different projects undertaken by US Department of Agriculture for water quality monitoring, Data recording of water & transmission, aqua-culture etc. The success of water recovery costs in Armenia and Uganda were also highlighted.

Mr. Kamal Majidulla, Special Assistant to the Prime Minister of Pakistan on Water Resources & Agriculture, in his concluding remarks appreciated the efforts made by the Ministry of Water & Power and WAPDA for arranging such a good dialogue and thanked the US side in assessing the water issues and helping in resolving these issues. Mr. Kamal Majidulla highlighted the water issues and particularly mentioned the construction of water reservoirs by India on the western rivers thus depriving Pakistan of its due share due to that Pakistan is facing shortage of water. He further mentioned that due to global warming and particularly in the upper Himalaya/ Karakoram Range, we are not sure about water availability in future. The US should take lead to resolve the issues relating to water dispute between India and Pakistan. In this regard, the US may also help Pakistan in building water reservoirs on the pattern of help extended in building Tarbela and Mangla Dams. The US may also help in transfer of technology for the treatment of effluent water in Sindh Province.

After detailed deliberations, the following decisions were made:

1. Both sides discussed the significance of water security, the need for creation of a Water Regulatory Authority and the sustainability, efficiency and sustainably efficient infrastructure.
2. The U.S. side discussed the experience of the United States in the balancing State and Federal interest in water management, as well as other countries' experiences in addressing water management challenges.
3. Both sides discussed river watershed management, conservation, water inefficiency and irrigation, safe drinking water and sanitation, water

productivity and quality, sustainable infrastructure and cost recovery, water storages, integrated water management and the effects of global warming and regional climate change.

4. Both sides also exchanged views on future cooperation with multilateral development banks and the private sectors to improve the management of water resources in Pakistan.
5. Undersecretary Otero invited a group of Pakistani water experts from the federal and provincial governments to visit the United States to meet with water specialists so that capacity building in irrigation and municipal water efficiencies and cost recoveries will be established.
6. This was the first meeting of the Water Working Group of the US-Pakistan Strategic Dialogue; the group plans to meet again in six months. Water management issues were identified as a priority during the visit of the U.S. Secretary of State to Pakistan in October 2009 and were elevated as a key area for increased cooperation during 'the U.S.-Pakistan Dialogue held in Washington D.C. in March 2010.
7. The Secretariat for Strategic Water Dialogue will be based at WAPDA House, Lahore