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CJTF101 Afghanistan holds Power and Water Conference in Kabul

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Brig. Gen. James C. McConville, CJTF101 Deputy Commander (Support), welcomes government and donor representatives from around the world to a power and water conference to discuss the way ahead for Afghanistan's power and water sectors. [USACE Photo by Bruce Huffman]

Kabul, Afghanistan-- Capacity building, energy production and distribution, clean drinking water, irrigation, and erosion were just a few of the topics discussed during the Combined Joint Task Force 101 (CJTF101) Power and Water Conference that was hosted by the Corps of Engineers Afghanistan Engineer District (AED) at their headquarters in Kabul 30 August 2008. Brig.Gen. James C. McConville, CJTF101 Deputy Commander (Support), was joined by government and donor representatives from around the world to discuss Afghanistan's power and water issues and share each organization's vision with the 68 people who attended the conference. Among the guest speakers were Wali Shairzay, Afghanistan's Deputy Minister of Energy, and Engineer Shojaudin Ziaie, Afghanistan's Deputy Minister of Water, who were joined by their colleagues from the Ministry along with represen-



An Engineer Cadet from the National Military Academy Afghanistan listens intently during the CJTF101 Power & Water Conference [USACE Photo by Bruce Huffman].

tatives from the U.S. Army Corps of Engineers, World Bank, Asian Development Bank, the United States Agency for International Development (USAID), the Canadian International Development Agency, and the United States Department of Agriculture (USDA).

"It's a myth that people in developing countries become immune to drinking contaminated water," said Colonel Thomas E. O'Donovan, AED Commander. "Improving the quality of Afghanistan's drinking water is vital to the nation's health, well-being and future development." O'Donovan took command of AED after commanding the Portland District, the Corps of Engineers' center of expertise for hydropower and pump station engineering, so naturally water is foremost in his mind. "We are very anxious and excited about bringing the Corps' expertise in water to Afghanistan," he said. O'Donovan is working to stand up a Water and Infrastructure Branch of highly trained technical professionals at AED who will work with their customers, the donor community, and the Afghan government to plan and develop water resource projects here.

High temperatures and long periods of draught have greatly impacted Afghanistan's water availability. "The water issue in Afghanistan is dire, and they must realize they will not be able to drill their way out of the water supply problem," said Kathryn Carpenter, AED Water Program Manager. "Afghanistan will have to build its way out of this problem, because the ground water is being depleted and contaminated and is not sustainable. Afghanistan has more than enough surface water and snow pack to meet its water supply needs, but they need to invest in water storage systems in order to meet power, irrigation and drinking water supply demands. They also need to address wastewater treatment and re-use to prevent further contamination of groundwater," said Carpenter.

According to Carpenter, the end goal is to have the government of Afghanistan manage water resources in a sustainable manner. "Currently the Afghan govt. does not have the capacity to manage the resources it has," she said. "There are not enough trained geologists, hydro-geologists, chemists, and engineers to maintain their current assets, much less provide oversight to develop new infrastructure projects that will address the long term demand for power, irrigation, and drinking water." Capacity development is a long-term investment, and here in Afghanistan, you have to balance the need for security and development missions to reach this goal, said Carpenter. The Corps of Engineers has been building Afghan National Army (ANA) and Police (ANP) facilities for a few years to help establish security, but infrastructure projects like roads and those to establish power and water to the public are progressing slower. One way AED is helping Afghanistan's water and security problems simultaneously is by equipping the ANA and ANP facilities it builds with sand filtration systems that treat and re-use grey-water for wash-racks to clean vehicles and for irrigation on the base. According to Jon Allen, AED Construction Representative at Forward Operating Base Gardez, the Afghans have been reluctant to use the recycled water, so an education campaign will have to be developed explaining the necessity for water conservation and re-use, and explaining that grey water is safe for cleaning vehicles and irrigation. "To establish long term power and water systems in Afghanistan, you start by bringing in highly skilled personnel from overseas who can do the work, while educating and mentoring the Afghans," Said Carpenter. "It's a lot harder to train a scientist or an engineer than a soldier, so this process will take time."

Power generation and distribution was also discussed at the conference. Currently only 15% of Afghanistan's population has electricity. After 30 years of war, Afghanistan's power generation systems are in ruins and only operating at 55% capacity. There is also no adequate fee collection system, which is needed to sustain the services, said Carpenter. Afghanistan relies heavily on imported diesel fuel for generators, which is not sustainable. The Afghan government has been working with Coalition partners and world donors to establish a combination of imported power from neighboring countries combined with domestically generated power from hydro, solar, wind and coal. "The short-term, wise investment is to rehab existing infrastructure that is already here such as dams and hydro power systems," said Carpenter.

CJTF101 has provided AED with Commander's Emergency Relief Program (CERP) funding for micro-hydro projects in rural areas where there is no power. A micro-hydro installation can produce up to 100 kW of power, providing a rural Afghan village with lights and enough power to grind meal at a centrally located mill. "Weighing the number of people serviced against the cost for power generation, AED determines where the best location is to construct the micro-hydro power station," said Kevin Sanchez, AED Civil Engineer. "Then the contractor trains someone from the village to run the power station and advises the village how to construct the canals and powerhouse themselves, utilizing free labor." After the canals and powerhouse are built, the contractor installs the micro-hydro system, utility poles and wires each house for service. "So far about 40 micro-hydro projects have been completed under this program, most of which are in Regional Command East," said Sanchez. "There are about 60 more in various stages of construction to be completed under the program," he said. AED hires Afghan local nationals for quality control on the projects, who inspect the work and send photos back to AED. "Not only are we putting an Afghan face on the program, but it's easier for Afghans to travel to-and-from the project to inspect the work than it is for an American," said Sanchez.

Later during the conference, Ms. Kathleen Dobler from the U.S. Dept. of Agriculture, Natural Resources and Conservation Service (USDA NRCS) explained how her agency has been working with the Provincial Reconstruction Teams (PRT's) to build check dams which help slow down run-off water, decrease erosion, increase infiltration and recharge, trap sediment and reduce flooding during the rainy season. The crowd listened intently as she gave examples on how to harness Afghanistan's surface water, stop erosion and reduce dependence on groundwater.

The purpose of the conference was to provide a forum for each organization to discuss their vision, current and future projects, and provide a way ahead for the power and water sectors. Participants were encouraged to become familiar with other agencies and their goals, develop points of contact and supportive resources, determine mutual needs, and established unifying goals. Brig. Gen. McConville closed the conference by presenting certificates of appreciation to Colonel O'Donovan and Ms. Kathryn Carpenter for their role in hosting the conference. For more information on upcoming power and water conferences, please contact Ms. Kathryn Carpenter at: Afghan cell 079-703-7176 or email at: kathryn.a.carpenter@usace.army.mil