



OFFICE OF INSPECTOR GENERAL

AUDIT OF USAID/PAKISTAN'S GOMAL ZAM MULTIPURPOSE DAM PROJECT

AUDIT REPORT NO. G-391-12-008-P
AUGUST 24, 2012

ISLAMABAD, PAKISTAN



Office of Inspector General

August 24, 2012

MEMORANDUM

TO: USAID/Pakistan Mission Director, Jonathan M. Conly

FROM: OIG/Pakistan Director, Joseph Farinella /s/

SUBJECT: Audit of USAID/Pakistan's Gomal Zam Multipurpose Dam Project
(Report No. G-391-12-008-P)

This memorandum transmits our final report on the subject audit. In finalizing the report, we considered your comments and included your response in Appendix II.

The report contains one recommendation to help improve the Gomal Zam Multipurpose Dam Project. Based on information provided by the mission, a management decision has been reached on the report's recommendation. Please coordinate final action with the Audit Performance and Compliance Division in the Office of the Chief Financial Officer.

I want to thank you and your staff for the cooperation and courtesies extended to us during this audit.

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SUMMARY OF RESULTS

Pakistan's chronic, severe electricity shortages and looming water scarcity threaten the country's political and economic stability. In particular, the southern belt of Khyber Pakhtunkhwa, an underdeveloped yet strategically important area vulnerable to extremism, lacks electricity and water for agriculture. To provide stability and economic opportunity, the government has chosen hydropower to help generate electricity in South Waziristan, Dera Ismail Khan, and Tank and to irrigate and cultivate land in the latter two.

In 2002, Pakistan's Water and Power Development Authority (WAPDA), a government-owned public utility, began dam construction on the Gomal River in South Waziristan. The tribal elders of South Waziristan provided the land for the main dam and water storage area. However, work was suspended in 2004 because of the kidnapping and subsequent killing of an employee of WAPDA's foreign contractor. WAPDA resolved the security problem in 2007 by awarding a contract for the dam project to Frontier Works Organization, a construction and military engineering branch of the Pakistani Army. Frontier Works agreed to provide the necessary security in the project area and subcontracted the construction work to foreign contractors, one for the dam and the other for the irrigation system. Because WAPDA ran out of funding for the project, construction progress was slow, and on June 24, 2010, the subcontractor building the dam issued a notice of suspension for nonpayment of its invoices.

The Government of Pakistan approached USAID/Pakistan for financial support, and in January 2011, USAID/Pakistan entered into a fixed-amount reimbursement agreement with WAPDA (according to which USAID reimburses WAPDA for expenses only after agreed-upon milestones have been certified by monitoring firms hired by USAID). USAID agreed to provide \$40 million to complete the Gomal Zam Dam, which was 88 percent complete and included the dam structure, the hydropower and switchgear component, and the transmission line. In October 2011, USAID/Pakistan amended the agreement to include an additional \$40 million to fund the irrigation component of the project, which was then 23 percent complete and included a main canal, distributaries, a barrage, and floodwater channels. As of July 2012, USAID/Pakistan had obligated approximately \$80 million and spent \$55 million for the project.

The main objectives of the project are to help the Government of Pakistan (1) meet more demand for electricity by adding power to the national power grid, (2) store water to provide a reliable source for irrigation, and (3) provide for flood control. When complete, the project is expected to use the water resources of the Gomal and Zhob Rivers to provide electricity to 25,000 households, irrigate 163,000 acres of land to generate economic activity, and control flooding.

The Office of Inspector General (OIG) conducted this audit to determine whether USAID/Pakistan's funding to complete the Gomal Zam Multipurpose Dam Project was contributing to achieving the project goals of power generation, irrigation, and flood control. Audit findings follow:

- The audit confirmed that USAID's timely funding of Gomal Zam Multipurpose Dam was contributing to achieving the project goals of power generation, irrigation, and flood control (page 3). The dam was 98 percent complete. The irrigation component was 45 percent complete and on schedule. During the audit, OIG visited the dam site and the areas that benefit from the irrigation system. OIG noted that the southern districts of Khyber

Pakhtunkhwa need water and energy, and that construction of the dam and the irrigation system should help meet these needs. In addition, OIG learned from local stakeholders that the dam construction helped mitigate flood damage in 2011.

- Notwithstanding this progress, completion of the dam was at least 3 months behind schedule (page 4). The subcontractor was assembling a key part offshore and still petitioning for outstanding payments.

Therefore, the report recommends that USAID/Pakistan:

1. Implement a coordinated action plan with WAPDA for the timely completion of the dam (page 5).

Detailed findings appear in the following section. The audit scope and methodology are described in Appendix I. Full text of management comments appears in Appendix II, and our evaluation of management comments is included on page 6.

AUDIT FINDINGS

USAID's Timely Intervention Advanced Project Goals

USAID committed funding to the Gomal Zam Multipurpose Dam Project to complete the dam and build an efficient irrigation and drainage system.

Auditors determined that USAID funding was contributing to achieving the project goals of power generation, irrigation, and flood control. As of July 2012, the dam was 98 percent complete, with only the switchgear and the wiring of the transmission line to the grid station unfinished. Almost 45 percent of the irrigation system had been constructed, and the work was on schedule.

As of July 2012, USAID funding allowed for the completion of the main dam structure, testing of equipment, and assembly of 194 of 201 transmission towers from the dam site in South Waziristan to the grid station 55 kilometers east in Tank. The dam is designed to produce 17.4 megawatts of electricity, serving the needs of at least 25,000 households; at the time of OIG site visits, the water level in the reservoir (shown below) was at 81 meters or approximately 65 percent of capacity.



Water from the reservoir (left) pours through the dam (right). (Photos by OIG, June 2012)

During visits to the dam and irrigation construction sites, OIG interviewed Government of Pakistan representatives, local workers, and other stakeholders and verified project implementation. OIG noted that the southern belt of Khyber Pakhtunkhwa needs energy and water, and the construction of the dam and irrigation system should help meet these needs.

OIG discussed with local farmers the irrigation techniques they were using—like storing floodwater on the fields—and the drawbacks of these techniques. The reservoir and irrigation system being built (pictured on the next page) should make water available to farmers and help irrigate 163,000 acres of land, increasing the economic benefits of 30,000 households. Further, local stakeholders noted that, even while under construction, the dam protected the area in



Irrigation work under way includes a barrage for water diversion (left) and canal distributaries like the one above (right). (Photos by OIG, June 2012)

2011 by storing monsoon floodwaters. In the future, floodwater channels will carry excess water downstream to dry areas for irrigation.

Auditors noted that USAID's intervention was timely because WAPDA had run out of funds to complete the project. Although the project began in 2002, security problems and financial constraints slowed progress. Before USAID's involvement, construction had almost halted with the dam 88 percent complete. The foreign subcontractor, which had not been paid what it was owed, had started demobilizing its workforce. Had USAID not agreed in January 2011 to contribute \$40 million to complete the dam, the project might have folded.

Despite the positive developments, the dam had not started generating power because the switchgear had not been installed. This issue is discussed below.

Completion of the Dam Was Behind Schedule

The agreement signed in January 2011 had a target end date of May 2011 for the completion of the switchgear component of the Gomal Zam Multipurpose Dam Project. The mission extended the deadline to June 30, 2012, in a revision dated December 2011.

As of July 2012, the switchgear component had not been installed, and completion of the dam was at least 3 months behind schedule. During site visits, OIG observed that the switchyard structure, which contains the switchgear, was only partially built. Completing the switchyard and installing the switchgear component are necessary to begin generating electricity.

According to WAPDA officials, the switchyard was 91 percent complete when it was buried under a landslide caused by excessive rain in 2010. A new switchyard location was selected, and new equipment had to be ordered. Because the switchgear component is being custom-made outside the country, procuring it has taken more time than expected. Additionally, the subcontractor was still seeking compensation for an outstanding payment, and this was impeding progress. Further, the subcontractor had not reassembled the salvaged switchyard generating units (which were cleaned after the landslide), in spite of repeated instructions by WAPDA to do so.

WAPDA's delayed payment to its subcontractor is not covered by USAID funding; however, completing the switchyard and reassembling its components (shown below) are. WAPDA officials said they were working with the subcontractor to resolve these problems. Nevertheless, they estimated the interruptions have cost about \$10.5 million in labor, engineering fees, and security.



At left is the incomplete switchyard structure. At right uninstalled hydropower components wait inside the structure. (Photos by OIG, June 2012)

WAPDA and the subcontractor are responsible for resolving the matters discussed above. However, given project cost increases and WAPDA's limited financial resources, if the matters are not resolved, the dam may not be completed, and USAID's contribution of \$80 million may not yield the desired results of power generation, irrigation, and flood control. Therefore, we make the following recommendation.

Recommendation 1. We recommend that USAID/Pakistan implement a coordinated action plan with Water and Power Development Authority for the timely completion of the dam.

EVALUATION OF MANAGEMENT COMMENTS

USAID/Pakistan agreed with the findings and the recommendation in the report.

Recommendation 1. USAID/Pakistan agreed to work with Water and Power Development Authority to implement a coordinated action plan by December 31, 2012, for completing the Gomal Zam Multipurpose Dam. Accordingly, a management decision has been reached on Recommendation 1.

The Audit Performance and Compliance Division will make a determination of final action on completion of the planned corrective actions. The mission's written comments on the draft report are included in their entirety as Appendix II.

SCOPE AND METHODOLOGY

Scope

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions in accordance with our audit objective. We believe that the evidence obtained provides that reasonable basis.

The purpose of this audit was to determine whether USAID/Pakistan's funding to complete the Gomal Zam Multipurpose Dam Project was contributing to achieving the goals of power generation, irrigation, and flood control. The fixed-amount reimbursement agreement for this project was signed in January 2011 and is set to end in September 2013. This audit focused on the contribution made by USAID/Pakistan in completing this project from January 2011 through July 2012. As of July 2012, USAID/Pakistan had obligated \$80 million and expended approximately \$55 million for this project.

The audit team reviewed mission documents concerning project management—agreements, implementation plans, progress reports, the monitoring and evaluation plan, and procedures. Additionally, the audit team interviewed USAID/Pakistan project administrators, Government of Pakistan officials, implementing and monitoring partners, and project beneficiaries.

We reviewed applicable laws and regulations as well as USAID policies and procedures pertaining to USAID/Pakistan's Gomal Zam Multipurpose Dam Project, including Automated Directives System Chapter 317, supplemental guidance. Audit fieldwork was performed at USAID/Pakistan and the monitoring partner's main office in Islamabad from May 14 through July 16, 2012. Fieldwork also included site visits to Dera Ismail Khan, Tank, and the tribal areas of South Waziristan in Khyber Pakhtunkhwa from May 29 through June 1, 2012.

In planning and performing the audit, the audit team assessed relevant controls used by the mission to manage the project and provide adequate oversight of project activities. These controls included maintaining regular contact with the implementing and monitoring partners and reviewing project files.

Methodology

To answer the audit objective, the audit team interviewed officials in the mission's Economic Growth and Agriculture Office and Energy Office, which manage project implementation. We also interviewed officials at the implementing partner's field offices and monitoring partners' offices, as well as local residents. Through interviews and documentation, the audit team obtained an understanding of (1) the project's main goals, (2) how performance indicators, targets, and baseline data were determined to measure the progress of the project, (3) how the mission checks the quality of the data reported by the implementing partner, (4) how the mission monitors the implementation of activities, and (5) whether the mission is aware of any allegations of fraud or other potential illegal acts or noncompliance with laws and regulations.

The audit team reviewed the agreement and amendments, monthly and quarterly progress reports, and benchmark payments. Having reviewed the progress report, the audit team performed site visits of the dam, the barrage, the main canal, four distributaries, and one floodwater channel to verify their completion. We also interviewed local residents to determine the impact of this project.

MANAGEMENT COMMENTS



MEMORANDUM

Date: August 09, 2012

To: Joseph Farinella
Director OIG/Pakistan

From: Jonathan M. Conly /s/
Mission Director USAID/Pakistan

Subject: Management Comments on the Audit of USAID/Pakistan's Gomal Zam
Multipurpose Dam Project

Reference: Report No. G-391-12-00X-P dated July 19, 2012

In response to the referenced draft audit report, please find below Mission management comments on the recommendation included therein.

Recommendation No.1 We recommend that USAID/Pakistan implement a coordinated action plan with Water and Power Development Authority for the timely completion of the dam.

Management Comments:

Mission Management concurs with the recommendation. The Mission is working with Water and Power Development Authority (WAPDA) to develop a coordinated action plan for completion of Gomal Zam Dam. Final action on this recommendation is expected to be completed by December 31, 2012.

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