



OFFICE OF INSPECTOR GENERAL

AUDIT OF USAID/LEBANON'S WATER AND WASTEWATER SECTOR SUPPORT PROGRAM

AUDIT REPORT NO. 6-268-13-014-P
JUNE 23, 2013

CAIRO, EGYPT



Office of Inspector General

June 23, 2013

MEMORANDUM

TO: USAID/Lebanon Mission Director, Azza El-Abd
USAID/Egypt Mission Director, Mary Ott

FROM: Regional Inspector General, Catherine Trujillo /s/

SUBJECT: Audit of USAID/Lebanon's Water and Wastewater Sector Support Program
(Report No. 6-268-13-014-P)

This memorandum transmits our final report on the subject audit. We have considered your comments on the draft report and included them, without attachments, in Appendix II.

The final report includes seven recommendations to improve the management of USAID/Lebanon's Water and Wastewater Sector Support Program. Based on management's comments on the draft report and other information provided, we acknowledge that the mission made management decisions on Recommendations 1 through 4 and 7. We will acknowledge a management decision for Recommendations 5 and 6 when the contracting officer specifies the amount of unsupported questioned costs and fixed fee allowed and/or disallowed and sets a target date for collection of any disallowed costs. Please have the responsible official provide us with written notice within 30 days on actions planned or taken regarding Recommendations 5 and 6.

Please provide the Audit Performance and Compliance Division with the necessary documentation to achieve final action on Recommendations 1 and 3. Recommendations 2, 4, and 7 are closed upon the issuance of this report.

Thank you for the cooperation and courtesy extended to the audit team during this audit.

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Abbreviations

The following abbreviations appear in this report:

A&E	architect and engineer
ADS	Automated Directives System
BMLWE	Beirut-Mount Lebanon Water Establishment
BWE	Beka’a Water Establishment
COR	contracting officer’s representative
DAI	Development Alternatives Inc.
ERP	enterprise resource planning
FY	fiscal year
MOEW	Ministry of Energy and Water
RIG	Regional Inspector General
SLWE	South Lebanon Water Establishment
UNICEF	United Nations Children’s Fund

SUMMARY OF RESULTS

When Lebanon's 15-year civil war ended in 1990, the country began an arduous reconstruction. Intermittent sectarian violence hindered the process, however, and problems with basic infrastructure and government services continue.

They have been particularly pronounced in the water and wastewater treatment sectors. Because of Lebanon's mountainous topography, pumping stations are needed to deliver water. However, they do not always work because of the country's unreliable power system. Intermittent outages also have had an impact on the nation's few wastewater treatment plants; the level of sewage that flows into streams and the Mediterranean Sea causes environmental and public health problems.

According to the World Health Organization and United Nations Children's Fund (UNICEF), only 46 percent of Lebanese were connected to a public water supply network in 2007.¹ Because the country's public water supply system is erratic, many Lebanese must get water from other sources, including private networks, wells, springs, bottled water, and water trucks.

To address these problems, USAID/Lebanon implemented the Lebanon Water and Wastewater Sector Support Program. The goal was to help the four government entities in charge of those sectors—Beirut-Mount Lebanon Water Establishment (BMLWE), North Lebanon Water Establishment, Beka'a Water Establishment (BWE), and South Lebanon Water Establishment (SLWE)—improve water and wastewater services. The establishments are funded and regulated by the Ministry of Energy and Water (MOEW).

USAID/Lebanon awarded a \$34.4 million cost-plus-fixed-fee contract to Development Alternatives Inc. (DAI) effective from September 30, 2009, to April 30, 2015. It was to complete seven tasks.

1. Complete an initial assessment that included a detailed list of proposed deliverables, activities, and tasks, as well as a plan identifying the equipment and infrastructure needs of each water establishment and MOEW.
2. Strengthen the water establishments' managerial, technical, and operational capacities.
3. Increase the capacity of the establishments' employees to manage financial systems and help each establishment adopt improved commercial practices.
4. Increase the establishments' capacity in capital investment planning and project management.
5. Provide equipment to improve the water establishments' performance.
6. Implement small- to medium-scale water and wastewater projects.
7. Improve customer service and relations.

¹ World Health Organization and UNICEF Joint Monitoring Programme for Water Supply and Sanitation, *Estimates for the use of Improved Drinking-Water Sources: Lebanon*, March 2012.

As of December 31, 2012, USAID/Lebanon had obligated \$20.6 million and disbursed \$11.6 million.

The Regional Inspector General/Cairo (RIG/Cairo) conducted this audit as part of its fiscal year (FY) 2013 audit plan to determine whether USAID/Lebanon's Water and Wastewater Sector Support Program was improving water and wastewater treatment services in Lebanon. The audit also reviewed USAID/Egypt's regional contracting office and financial management office's support services provided to USAID/Lebanon to manage and administer its contract.

We found that the program is achieving its goal to improve water services, but not in the case of wastewater. After the program was under way, the mission and DAI realized it was not a priority for the Lebanese Government (page 4).

The water establishment directors general and employees were pleased with the assistance provided and said the program met their needs. They also were satisfied generally with the training even though not all the employees were applying procedures taught during trainings. DAI increased the capacity of the water establishments by training 106 establishment employees in FY 2011 and 144 employees in FY 2012 on lab equipment, enterprise resource planning (ERP) systems,² and operations and maintenance. DAI also installed 70 to 80 percent of the ERP software components at two water establishments.

The program implemented small- and medium-scale water projects. In the town of Jeita, DAI redesigned the water pump station and purchased pumps and motors. In addition, DAI began constructing walls and manhole covers to protect meters that measure the flow of water at a water source. DAI expects to finish the construction and install the meters by September 2013. The photos below show the pumps and motors that DAI replaced and BMLWE installed at Jeita.



When DAI renovated the Jeita water pump station, it helped replace the pumps and motors (left) with new, more efficient ones (right). (Photos by USAID/Lebanon, May 16, 2010, and RIG/Cairo, March 21, 2013)

DAI also provided adequate oversight of the quality of the infrastructure projects (page 4). However, the audit identified the following problems.

² ERP is software that helps companies manage their business processes, including procurement, human resources, and financial processes.

- The sustainability of equipment and infrastructure projects was uncertain because of staff shortages and the water establishments' inability to hire enough competent people who could operate and maintain the equipment (page 5).
- The contractor's expenditures exceeded approved budgets by \$7.1 million for subcontract costs, and invoices were not accurate, with discrepancies totaling \$1.3 million (page 8).
- The contractor received a full budgeted fixed fee of \$32,272 for two deliverables that did not meet the contract's requirements (page 10).
- The program set unrealistic performance targets and reported inaccurate results (page 11).

To address these problems and strengthen the effectiveness of USAID/Lebanon's Water and Wastewater Sector Support Program, we recommend that:

1. USAID/Egypt's regional contracting office, in coordination with USAID/Lebanon, modify the contract to state that the program's primary focus is on potable water activities and not wastewater activities, and adjust the deliverables³ accordingly (page 5).
2. USAID/Lebanon implement a plan to help each water establishment develop written scopes of work and/or other contracting procedures so they can sign operation and maintenance contracts with firms and individuals before USAID/Lebanon finishes a construction activity or an infrastructure improvement (page 8).
3. USAID/Egypt's regional contracting office, in coordination with USAID/Lebanon, realign the program budget to include all \$12.1 million subcontract costs in one budget category (page 10).
4. USAID/Egypt's financial management office, in coordination with USAID/Lebanon, specify in writing the voucher examiner's and contracting officer's representative's responsibilities and the type of documents they must verify (page 10).
5. USAID/Egypt's regional contracting office determine the allowability of \$1,322,281 in unsupported questioned costs and recover from Development Alternatives Inc. any amount determined to be unallowable (page 10).
6. USAID/Egypt's regional contracting office determine the allowability of the fixed fee of \$32,272 and recover from Development Alternatives Inc. any amount determined to be unallowable (page 11).
7. USAID/Lebanon, in coordination with Development Alternatives Inc., adjust targets, indicator definitions, and reported results in writing to measure the results of the program more accurately (page 13).

Detailed findings are included in the following section. Appendix I contains information on the scope and methodology. Management comments, without attachments, are in Appendix II, and our evaluation of them is on page 14.

³ A deliverable is an end product such as a report or a business plan.

AUDIT FINDINGS

Contractor Ensured Quality Assurance Over Infrastructure Projects

The contract stipulated that for activities including construction and equipment procurement, DAI would act as architect and engineer (A&E) to supervise work activities in the design, award, and implementation phases.

To meet this requirement, DAI subcontracted with CDM Smith Inc. from December 2009 to April 2015 for \$3.6 million. CDM Smith provided technical experience on the design and specifications of pump equipment procured for the Jeita pump station, and provided oversight of construction activities for chlorinator installations and source-meter walls and manhole covers.

DAI subcontracted with CDM Smith because DAI was not qualified to provide technical oversight, and USAID/Lebanon had no direct contracting relationship with the A&E firm and did not have an engineer on staff who could provide daily oversight. Because DAI subcontracted with CDM Smith during the first year of the program, it was able to make sure that there was an engineer to oversee the quality of the construction activities during the design, award, and implementation phases. In addition, CDM Smith hired an engineer responsible for most of the oversight who knew about Lebanon's water sector and pump station operations. He also provided technical assistance that benefitted the water establishments, USAID/Lebanon, and DAI.

Using a less qualified A&E firm—or not using one at all—could have resulted in poor oversight of construction and procurement activities. This could have affected the long-term quality of equipment purchased, led to poor construction projects, and delayed construction.

It is important to have a subcontract for this service or have the mission contract directly with an A&E firm to provide oversight of all construction activities for multiple programs. According to USAID's *Basic Engineering Construction Oversight Principles For Development Professionals: A Primer*, the cost of procuring an A&E firm will likely be offset by the quality of the construction, fewer cost overruns, timely completion of the project, and fewer claims and costly litigation. Mission officials said there are ongoing discussions to hire an A&E firm directly to oversee other construction activities under a follow-on program called Water Infrastructure Support and Enhancement. The mission's plan to contract with an A&E firm is in line with best practices.

USAID/Lebanon Did Not Improve Wastewater Services

According to the contract, the purpose of the program was to improve water and wastewater services in Lebanon.

Although the program was achieving its goal to improve water services, that was not the case for wastewater. As of December 2012, DAI had implemented only two major activities in the wastewater sector, and they had a limited effect. Additionally, the contractor included an

indicator to measure the number of renovated wastewater treatment plants. However, it had not set any targets for this indicator since the program began in 2009.

For the first activity, DAI developed—at USAID/Lebanon’s request—a draft service agreement between the municipalities operating three wastewater treatment plants completed under an earlier program and BWE, which is legally responsible for operating the plants. However, municipality officials were not interested in signing agreements with BWE because they did not think it had enough money to operate and maintain the plants. The BWE director general admitted this and added that BWE did not have the staff to maintain the plants either.

For the second activity, DAI installed ERP software components, which the water establishments can use to account for wastewater tariffs if they ever decide to track them.

Water establishment officials said the wastewater sector was a priority and a necessary legal obligation for the establishments. However, DAI officials said they did not focus on wastewater because as they started implementing activities, they realized that this sector, in reality, was not a priority for the Lebanese Government. The chief of party said DAI did what was feasible in the environment in which it was working. Moreover, mission officials said that since wastewater projects may not be sustainable, the mission decided to focus on potable water projects and technical assistance as it related to overall management of potable water, and, to a lesser degree, irrigation and wastewater.

Since the mission decided to refocus its efforts, we make the following recommendation.

***Recommendation 1.** We recommend that USAID/Egypt’s regional contracting office, in coordination with USAID/Lebanon, modify the contract, indicating that the primary focus of the program is on potable water activities and not wastewater activities, and adjust the contract deliverables accordingly.*

Sustainability of Equipment and Infrastructure Projects Was Not Certain

According to the Foreign Assistance Act of 1961, Section 611(e), the Agency head must take into consideration a mission director’s certification regarding a country’s financial and human resource ability to effectively maintain and use capital assistance projects worth more than \$1 million.

The contract states that USAID/Lebanon will extend its support to all four Lebanon water establishments that MOEW oversees and funds by leading them toward financial and operational sustainability. The contract also lists five challenges that might affect each establishment’s long-term sustainability, including:

1. Crippling staff shortages and an aging workforce due to a government-wide hiring freeze.⁴
2. Low flat-rate fees.

⁴ To hire employees, the water establishments need approval from the Council of Ministers within the central government. However, the government was not hiring and had no initiative to do so. As a result, the water establishments were obliged to outsource the operations and maintenance of equipment to short-term contractors (limited to 1-year renewable contracts).

3. Lack of meters.
4. Poor customer relations.
5. Lack of public funding for rehabilitating and expanding existing water systems.

While the program addressed or partially addressed the last three challenges, the audit identified concerns related to the Lebanese Government's overall ability to sustain the program's accomplishments.

Chlorination Systems. The water establishments asked that the program install chlorination systems and train operators how to use the equipment. The program subcontracted Sanabel s.a.r.l., a local firm, for \$245,000 to install chlorination systems that UNICEF donated to BWE and train the operators. The program identified 14 sites to install 15 of the systems (one site had 2 systems). The audit team visited 11 of the sites covering 12 systems and observed the following:

- Four systems were operating normally.
- Four were not operating because of daily power shortages. The equipment operators said the systems would have been functioning normally had there been power. One of the directors general said using back-up generators to supply power was not possible because of the high cost of diesel fuel.
- Three systems were not operating because of broken valves, pipes, or other parts as shown in the photo on the following page. Two of the operators said they contacted BWE for replacement parts at least 1 to 3 days prior. However, in one case, BWE's regional operator, who is also responsible for maintaining the chlorination systems, said he did not know about the broken pipes until the audit team's site visit.
- One system had not been operating for 2 months because there was an alternate water source for the village. Therefore, BWE no longer used the chlorination system at the pump station.

Moreover, although all the operators interviewed said they had been trained on the chlorination systems, many of them were not using the daily logs to record pH⁵ and chlorine readings. At least two stopped recording readings after the subcontractor's technical assistance ended in October 2012. Moreover, the BWE director general said he did not have enough operators onsite regularly to oversee the chlorination systems.

Pump Stations. In BMLWE's jurisdiction, DAI procured pumps and motors at the Jeita pump station for more than \$2.2 million. Even though the contractor provided training, mission officials told their counterparts at the establishment that they needed more skilled pump operators.

ERP Systems. In BWE and BMLWE, a subcontractor installed an ERP system consisting of various software components—including those for human resources, payroll, and purchasing—and provided on-the-job technical support for \$651,000.

While DAI's subcontract with BWE had not yet ended as of March 2013, DAI expected the subcontractor to stop providing support to BMLWE by then. However, as of late March 2013, BMLWE's finance director said her staff still needed training because, due to staff shortages,

⁵ The term "pH" is defined as a number from 0 to 14 that measures the composition of a chemical.

they had many responsibilities and were reluctant to take on additional ones related to ERP. In addition, older employees were even more reluctant to learn and less flexible in adjusting to new technologies like ERP.

Meters. The chief of party said DAI installed 33 meters, measuring the flow of water in various areas throughout SLWE, with walls and manhole covers; plumbing; and valves that had been installed under a prior USAID/Lebanon water program.⁶ However, the head of operations for water supply told the chief of party that none of the meters were working or being read, and that SLWE did not have the funds to repair or replace them. Under the current program, DAI is assisting the establishment by installing source meters at a cost of \$1.4 million for 185 sites.

When the current program was being organized, a special assistant to the administrator for USAID's Middle East bureau took into consideration the previous mission director's Foreign Assistance Act 611(e) certification of the Lebanese Government's human resource and financial capacity. However, the mission did not base this certification on any assessments of MOEW or water establishments; instead, it was based on letters from the establishments, stating that they would operate and maintain systems that USAID/Lebanon supplied, and provide the staff needed for maintenance.

Despite these written commitments, two establishments did not sign operations and maintenance contracts in a timely manner to ensure they continued to maintain USAID-funded equipment. This could indicate that the equipment is not maintained.



This chlorinator system is not working due to a break in the switch causing water to leak. (Photo by RIG/Cairo, March 20, 2013)

To address the staffing problems, the adviser to the Minister of Energy and Water told the audit team that USAID/Lebanon might be able to engage directly with the ministry and Lebanese Government to help reform the hiring freeze. However, U.S. foreign policy currently restricts USAID/Lebanon's ability to engage directly with the Lebanese central government.

⁶ DAI also implemented USAID's Lebanon Water Policy Program from 2002 to 2007.

Staff shortages and the water establishments' inability to hire competent long-term staff may inevitably cost each water establishment more money in future operations and maintenance. It may even result in USAID/Lebanon's follow-on program, Water Infrastructure Support and Enhancement, having to provide the same technical assistance that was already provided under this program.

Because of current U.S. Government policy, we are not making a recommendation to work directly with MOEW at this time. Therefore, the audit makes the following recommendation.

***Recommendation 2.** We recommend that USAID/Lebanon implement a plan to help each water establishment develop written scopes of work and/or other contracting procedures so they can sign operation and maintenance contracts with firms and individuals before USAID/Lebanon finishes a construction activity or an infrastructure improvement.*

Contractor's Expenditures Exceeded Budgets, and Invoices Were Not Accurate

The contract includes two budgets. One set the budgeted costs for the different categories, such as authorized salary levels, subcontractors, and other direct costs. The second budget set the budgeted costs for each contract component. According to the policy group in USAID/Washington's Office of Acquisition and Assistance, contractors are required to adhere strictly to all contract requirements and are not given the flexibility to make budget adjustments. As a result, any changes to the budget require a contract modification.

To make sure a contractor's invoices are correct, USAID's administrative approval form for payments to the contractor states that it is the financial management office's responsibility to verify mathematical accuracy of invoices. USAID/Egypt's financial management office is responsible for processing payments for USAID/Lebanon.

DAI exceeded its authorized budgets, and it submitted invoices to USAID/Egypt that were not accurate.

Budget Exceeded for Subcontracts. According to the realigned budget in modification 3, DAI's subcontract budget was \$5 million. However, the contractor provided a list of at least 18 subcontracts worth more than \$12.1 million, more than twice the budget. Based on a limited review of the contractor's invoices, the audit team determined that DAI charged some subcontractor activities to "other direct costs" rather than the subcontractor budget line item. DAI's home office project manager said this discrepancy occurred because the contractor only included subcontractors paid by the home office under the subcontractor line item and included subcontractors paid by the Lebanon field office under "other direct costs."

The mission's contracting officer said DAI should be charging all subcontracts⁷ in the subcontractor line item. Therefore, DAI exceeded its subcontract budget by \$7.1 million.

⁷ Subcontracts requiring the contracting officer's consent include fixed-price contracts worth more than \$150,000 and all cost-reimbursable contracts.

Budget Exceeded for Component. As of December 2012, DAI exceeded its budget under Component 5 for equipment by \$244,000. The project manager in DAI's home office said the cost overrun occurred because the costs increased steadily during 2012 as the contractor adjusted work plan activities to meet the needs of the beneficiaries and USAID/Lebanon. Moreover, the chief of party said he focused on the program's overall cost instead of the component line-item budget. He said program activities, which change annually, should dictate the budget, and that should be aligned accordingly.

The contracting officer's representative (COR) suspended the payment for the cost overrun until DAI makes appropriate corrections.

Inaccurate Invoices Submitted. DAI submitted detailed invoices to USAID/Egypt for reimbursement that were not calculated correctly. In each month it reported invoice expenses to be reimbursed for the current month and cumulative costs incurred through the invoice date. USAID/Egypt overpaid \$1,239 for expenses because neither DAI nor the mission calculated all the expenses correctly for two of six invoices reviewed—Invoice 28 (December 2011) and Invoice 33 (May 2012).

Moreover, for all six invoices reviewed, the contractor's cumulative costs reported did not add up to the total amount that USAID/Egypt paid. For example, DAI reported \$11,639,840 for total costs; the audit calculated a total of \$10,318,798, resulting in a difference of \$1,321,042 for the October 2012 invoice. The audit also added up the subtotals by cost element category, which did not reconcile with DAI's invoices in salaries and wages, other direct costs, and subcontractors, as shown in Table 1.

Table 1. Inaccuracies in DAI's October 2012 Invoice (Unaudited)

Cost Element	Difference in Cumulative Costs (\$)
Salaries and wages (expatriate and local professional labor)	31,439
Fringe benefits	0
Overhead	0
Independent consultants	0
Other direct costs (allowances, subcontractors' other direct costs, travel, and procurement)	-75,835
Subcontractors	247,217
General and administrative	0
Fixed fee	0
Total estimated cost and fixed fee, recalculated by	202,821

These problems were not detected because neither USAID/Egypt's financial management staff nor the COR believed it was their responsibility to verify that the supporting documentation was accurate, and USAID/Egypt's written procedures were not clear. Officials from the mission's financial management office believed the voucher examiners were only responsible for reviewing the certified fiscal reports,⁸ even if the contractor had certified the attachments (i.e.,

⁸ The certified fiscal report summarizes the fees and total costs incurred for each component.

the detailed expenditure reports). However, financial management officials did not communicate this clearly to the COR—who believed it was the voucher examiner’s responsibility to verify DAI’s invoices, as described in the administrative approval form. Consequently, neither the voucher examiners nor the COR used the supporting documentation to verify that DAI was charging the correct amount for its work.

DAI’s project officer said there were errors because they had entered the expenditures in the detailed invoices manually. DAI provided these detailed invoices in response to the COR’s request for a list of expenditures according to the budget in the contract stipulating the costs by cost element (e.g., salaries, direct costs, and travel). The financial management office paid the total amounts that DAI reported even though no one made certain they were accurate.

Furthermore, the financial management office’s written procedures did not specify which documents voucher examiners must review. The procedures did not delineate clearly whether it was the COR or the voucher examiner’s responsibility to review certified supporting documentation like a contractor’s detailed expenditure invoices.

Without proper reviews of vouchers, USAID/Egypt could be making erroneous payments. Therefore, we make the following recommendations.

Recommendation 3. We recommend that USAID/Egypt’s regional contracting office, in coordination with USAID/Lebanon, realign the program budget to include all \$12.1 million subcontract costs in one budget category.

Recommendation 4. We recommend that USAID/Egypt’s financial management office, in coordination with USAID/Lebanon, specify in writing the voucher examiner’s and contracting officer’s representative’s responsibilities and the type of documents each one should verify.

Recommendation 5. We recommend that USAID/Egypt’s regional contracting office determine the allowability of \$1,322,281 in unsupported questioned costs and recover from Development Alternatives Inc. any amount determined to be unallowable.

Contractor Did Not Meet Some Contract Requirements

The contract required DAI to complete two deliverables under Component 1: an initial assessment and a plan identifying the equipment and infrastructure needs for the water establishments and MOEW. DAI was required to include proposed activities, tasks, and deliverables; a time frame for their implementation; and an assessment of the current system and benchmarks used by the water establishments and ministry to monitor performance in the initial assessment. According to the contract, the COR also was required to accept and approve deliverables prior to payment. Moreover, Federal Acquisition Regulation 16.306 states that a completion form contract—the type used for this program—normally requires the contractor to complete and deliver a specified end product within the estimated cost, if possible, as a condition for payment of the entire fixed fee. The fixed fee under the latest realigned budget was \$32,272 for Component 1.

In February 2010 USAID/Lebanon accepted DAI's initial assessment and plan identifying equipment and infrastructure needs even though they did not include all the contractual requirements and the COR had not explicitly approved them.

Contract Requirements Not Met. DAI did not develop or submit any deliverable dates as part of the initial assessment. Nor did it evaluate any of the equipment and infrastructure needs for BWE and the ministry. Moreover, DAI did not include in the initial assessment any discussions about the current system and benchmarks that the directors general of the water establishments and the ministry used to monitor performance.

DAI officials said these deficiencies happened for two reasons. First, the chief of party said the BWE director general was reluctant to commit to activities because he was only temporarily appointed, so DAI did not identify what the establishment needed. Second, the chief of party said the U.S. Embassy in Beirut and USAID/Lebanon did not want DAI to work with any Lebanese ministries early in the program in 2009. However, mission officials said the U.S. Government did not implement a policy of not working with the ministries until 2011.

Deliverables Not Approved. Although the previous COR reviewed and was satisfied with the two deliverables for Component 1, he did not explicitly approve them. Instead, he approved the work plans, which contained some of the proposed activities from the deliverables. This problem occurred because he interpreted the approval of the work plans as approval for the deliverables, and he did not understand that the contract required explicit approvals for each deliverable. DAI finalized the first work plan 8 months after the program had started and 4 months after the Component 1 deliverables were submitted.

Although parts of both deliverables were incorporated into future work plans as intended, including work with BWE, the contractor did not fulfill its contractual requirements and received a fixed fee of \$58,510 for the Component 1 deliverables to which it was not fully entitled. The COR questioned \$26,238 of the fee paid from DAI's December 2012 invoice because it exceeded the Component 1 budget. Therefore, DAI received the remaining full budgeted fixed fee of \$32,272 on the basis that the deliverables were completed and that it fulfilled the contract's requirements when in fact the deliverables were not completed.

Therefore, we make the following recommendation.

***Recommendation 6.** We recommend that USAID/Egypt's regional contracting office determine the allowability of the fixed fee of \$32,272 and recover from Development Alternatives Inc. any amount determined to be unallowable.*

Program Set Unrealistic Performance Targets and Reported Inaccurate Results

USAID's Automated Directives System (ADS) 203.3.9 states that targets are specific, planned levels of results to be achieved within an established time frame. They must be ambitious yet realistic. Additionally, according to ADS 203.3.11.1, data must be valid, precise, and reliable to be credible for reporting.

The program's performance targets were not realistic, and reported results were not accurate.

Unrealistic Targets. DAI developed unrealistic targets for two of ten indicators. For the number of people who gained access to improved drinking water sources in FY 2012, the contractor reported 756,645 people—282 percent of its target of 268,200. For the number of public meetings and consultations the water establishments were supposed to hold, the contractor reported 11 meetings—550 percent of its target of 2.

Although DAI had planned specific activities for each fiscal year, officials there intentionally underestimated the targets for the two performance indicators for what they called “contingency factors.” For example, although the program had targeted roughly 1 million people to gain access to improved drinking water sources over 3 years, DAI arbitrarily reduced this number by 40 percent with no justification.

Inaccurate Results. DAI reported inaccurate data for four of ten indicators for fiscal years 2011 and 2012, as shown in Table 2 below.

Table 2. Reported and Verified Results as of September 30, 2012 (Audited)

Indicator Description	Reported Results	Verified Results
<i>Number of water users trained on efficient water management</i>	11,108	548
<i>Number of public meetings and consultations held by water institutions</i>	11	7
<i>Number of management systems and plans used at water management entities as a result of U.S. Government assistance</i>	14	5
<i>Number of training activities provided to staff from water entities as a result of U.S. Government assistance</i>	22	11

For the number of people trained on efficient water management, DAI did not have attendance sheets from several training events held in schools. In addition, the contractor included outreach activities in this category by estimating the number of people reached through the distribution of booklets and posters. However, such distribution activities did not match USAID’s definition of formal or informal training.

DAI reported the number of meetings between its staff and local municipalities for the indicator measuring the number of public meetings that the water establishments held. However, nobody from the establishments attended these meetings.

DAI established a target for the number of management systems and plans that the water establishments used, and it determined that installing an ERP system would count as one. However, when DAI reported results, it counted and reported 11 components of the system when in fact only 2 ERP systems were used.

Similarly, DAI counted two training activities for the two ERP systems as part of the target for the number of training activities provided to staff from the water establishments. However, the contractor counted and reported training for each ERP software component, resulting in an overstatement of results.

These inaccuracies occurred for several reasons. The chief of party acknowledged that there were mistakes in developing the targets, and he had not proactively reviewed the performance measurement plan as thoroughly as he should have. For the reported results, even though the

mission completed a data quality assessment and the mission's monitoring and evaluation contractor reviewed the performance management plan, they did not find some of problems that the audit found. Moreover, the COR did not review the development of the targets adequately. In addition, she said that when there were discrepancies between the targets and results, she did not ask DAI to revise the targets or results accordingly. She said she believed it was sufficient that DAI provided written justifications for the discrepancies rather than restating its targets or reported results.

While the performance indicators are not the sole indicators of success, the performance management plan is a key tool for monitoring a program's progress. Moreover, the Agency reports overall successes from these plans to Congress and the public. In fact, on World Water Day, March 21, 2013, Administrator Rajiv Shah reported on the number of people who have gained access to improved sources of water to indicate the success of USAID programs. Therefore, we make the following recommendation.

Recommendation 7. *We recommend that USAID/Lebanon, in coordination with Development Alternatives Inc., adjust in writing targets, indicator definitions, and reported results to measure the program's results more accurately.*

EVALUATION OF MANAGEMENT COMMENTS

In its comments on the draft report, USAID/Lebanon agreed with all seven recommendations. Based on our evaluation of management comments on our draft report, we acknowledge management decisions for Recommendations 1, 2, 3, 4, and 7. Final action has been taken on Recommendations 2, 4, and 7, and these are closed upon issuance of the audit report. A detailed evaluation of management comments follows.

Recommendation 1. USAID/Lebanon asked USAID/Egypt's regional contracting office to modify the contract, indicating that the primary focus of the program is on potable water activities and not wastewater activities, and adjust the contract deliverables accordingly. The target completion date for this action is June 27, 2013. Therefore, we acknowledge that the mission made a management decision on Recommendation 1.

Recommendation 2. USAID/Lebanon amended the year 4 work plan to require DAI to help each water establishment develop written scopes of work and/or other contracting procedures so they can sign operation and maintenance contracts with firms and individuals before USAID/Lebanon finishes a construction activity or an infrastructure improvement. Based on the mission's comments and supporting documentation provided, we acknowledge that the mission made a management decision and final action has been taken on Recommendation 2.

Recommendation 3. USAID/Lebanon asked USAID/Egypt's regional contracting office to realign the program budget in the contract to include all \$12.1 million subcontract costs in one budget category. The target date for completion is June 27, 2013. Therefore, we acknowledge that the mission made a management decision on Recommendation 3.

Recommendation 4. USAID/Egypt developed a voucher review checklist defining the COR's responsibilities for reviewing supporting documentation. USAID/Egypt also updated its financial management procedures specifying which documents the voucher examiners need to review. Based on the mission's comments and supporting documentation provided, we acknowledge that the mission made a management decision and final action has been taken on Recommendation 4.

Recommendation 5. USAID/Lebanon asked USAID/Egypt's regional contracting office to determine the allowability of the unsupported questioned costs identified in the audit. A management decision will be acknowledged for Recommendation 5 when the contracting officer makes a determination on the costs' allowability, specifies the amount disallowed, and sets a target date for collecting the amount.

Recommendation 6. USAID/Lebanon asked USAID/Egypt's regional contracting office to determine the allowability of the fixed fee identified in the audit. A management decision will be acknowledged for Recommendation 6 when the contracting officer makes a determination on the allowability of the fixed fee, specifies the amount disallowed, and sets a target date for collecting the amount.

Recommendation 7. On June 17, 2013, USAID/Lebanon adjusted in writing targets, indicator definitions, and reported results to measure the program's results more accurately. Based on the mission's comments and supporting documentation provided, we acknowledge that the mission made a management decision and final action has been taken on Recommendation 7.

SCOPE AND METHODOLOGY

Scope

We conducted this performance audit in accordance with generally accepted government auditing standards. They 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/Lebanon's Water and Wastewater Sector Support Program was achieving its goals to improve water and wastewater services. The mission awarded DAI a contract for approximately \$34.4 million from September 30, 2009, to April 30, 2015. As of December 31, 2012, USAID/Lebanon had obligated \$20.6 million and disbursed \$11.6 million. The audit team tested about \$5.4 million, or 46 percent, of that disbursement.

The audit covered the period from September 30, 2009, to December 31, 2012. In planning and performing the audit, we assessed the mission and contractor's significant controls related to monitoring, data verification, reporting, supervisory and management reviews, and approvals of invoices and deliverables.

We conducted fieldwork from March 4, 2013, to April 4, 2013, at USAID/Lebanon, USAID/Egypt, and in the offices of DAI, MOEW, BWE, and BMLWE. We visited activities in Beirut and Mount Lebanon and four sites in South Lebanon, including Tanbourit, Bnaafoul, Al Adousiyeh, and Al Loubyeh. We also visited at least ten sites throughout the Beka'a Valley, including Zahleh.

Methodology

To answer the audit objective, we interviewed personnel from USAID/Lebanon, USAID/Egypt, DAI, and subcontractors; all four water establishment directors general; water establishment staff; and an adviser to the minister of Energy and Water.

We judgmentally selected five subcontracts valued at \$4.3 million that procured water pumps and motors, installed chlorination equipment and ERP software components, procured laboratory equipment, and constructed walls and manhole covers for meter equipment. We assessed the process related to awarding subcontracts, reviewed the initial environmental examination, and verified that environmental mitigation factors were being followed. We conducted site visits to inspect BWE's ERP system, the customer service center, and water analysis laboratory in Zahleh, as well as chlorinators at 11 water stations under BWE's jurisdiction. We also examined new pumps and motors at the Jeita pump station. Last, in the SLWE jurisdiction we examined construction in process at four source-meter sites. The audit team judgmentally selected site visit locations based on the security situation.

We reviewed the contract's budget and reconciled it with what has been disbursed for seven components DAI was supposed to complete. To further verify the accuracy of what was billed to USAID, we judgmentally selected six invoices with high dollar values and recalculated the individual expenses.

We reviewed performance measures and indicators from the program's FY 2012 performance management plan; if data were not available, we used FY 2011 data. We reviewed ten indicators—nine from FY 2012 and one from FY 2011. We established an error rate of 5 percent to determine the reliability of data and then assessed whether the program was meeting its targets.

MANAGEMENT COMMENTS



June 17, 2013

MEMORANDUM

To: Regional Inspector General/Cairo, Catherine Trujillo

From: USAID/Lebanon Acting Mission Director, Lyn Dunn/S/

Subject: Audit of USAID/Lebanon's Water and Wastewater Sector Support Program (LWWSS) (Report No. 6-268-13-01X-P)

USAID/Lebanon is in agreement with all of RIG's recommendations and has reached management decisions to address them. USAID/Lebanon's responses to each recommendation are found below:

Recommendation No. 1: We recommend that USAID/Egypt's regional contracting office, in coordination with USAID/Lebanon, modify the contract, indicating that the primary focus of the program is on potable water activities and not wastewater activities, and adjust the contract deliverables accordingly.

Mission Response: On June 12, 2013, the COR submitted GLAAS Requisition "REQM-268-13-000047" to USAID/Egypt's regional contracting office requesting modification of Task Order no. EPP-I-05-04-00023-00 so that the primary focus of the program is on potable water activities and not wastewater activities, and to adjust the contract deliverables accordingly (*Attachment A*).

Target date for completion: June 27, 2013.

Recommendation No. 2: We recommend that USAID/Lebanon implement a plan to help each water establishment develop written scopes of work and/or other contracting procedures so they can sign operation and maintenance contracts with firms and individuals before USAID/Lebanon finishes a construction activity or an infrastructure improvement.

Mission Response: On June 17, 2013, the Mission communicated with the implementer, Development Alternatives Inc., and implemented a plan to help each water establishment

develop written scopes of work and/or other contracting procedures so they can sign operation and maintenance contracts with firms and individuals before USAID/Lebanon finishes a construction activity or an infrastructure improvement (*Attachment B*).

Based on the above, the Mission believes that final action has been completed and requests closure of Audit Recommendation No. 2 upon report issuance.

Recommendation No. 3: We recommend that USAID/Egypt's regional contracting office, in coordination with USAID/Lebanon, realign the program budget to include all \$12.1 million subcontract costs in one budget category.

Mission Response: On June 12, 2013, the COR submitted GLAAS Requisition "REQM-268-13-000047" to USAID/Egypt's regional contracting office, requesting modification of Task Order EPP-I-05-04-00023-00 by realigning the program budget to include all \$12.1 million subcontract costs in one budget category (*Attachment A*).

Target date for completion: June 27, 2013.

Recommendation No. 4: We recommend that USAID/Egypt's financial management office, in coordination with USAID/Lebanon specify in writing the voucher examiner's and contracting officer's representative's responsibilities and the type of documents each one should verify.

Mission Response: On May 29, 2013, the USAID/Egypt's regional contracting office issued a Staff Notice "No. 13-06 "Voucher Review Checklist" defining the responsibilities of the CORs/AORs for reviewing the vouchers' supporting information. USAID/Egypt's financial management office (FM) "Voucher Review" written procedures were revised to clearly define the voucher examiners' and CORs/AORs' responsibility with respect to reviewing claims and supporting documents submitted by the AORs/CORs to Cairo's FM Payable Section for payment processing. The checklist states that only the SF-1034 and the certified financial/fiscal reports should be sent to FM Cairo. Any additional supporting documents (ex: excel sheet) submitted by the contractors/grantees should be sent only to the CORs/AORs for the purpose of reviewing and determining allowable and reasonable costs. The supporting documents should be retained in the AORs/CORs working files, but should not be submitted to USAID/Egypt's financial management office (*Attachment C*). On June 13, 2013, USAID/Lebanon requested that its technical staff abide by the guidance provided by Cairo's regional support staff (*Attachment D*).

Based on the above, the Mission believes that final action has been completed and requests closure of Audit Recommendation No. 4 upon report issuance.

Recommendation No. 5: We recommend that USAID/Egypt's regional contracting office determine the allowability of \$1,322,281 in unsupported questioned costs and recover from Development Alternatives Inc. any amount determined to be unallowable.

Mission Response: On June 12, 2013, the COR sent a written request to USAID/Egypt's regional contracting office to determine the allowability of the \$1,322,281 in unsupported

questioned costs and recover from Development Alternatives Inc. any amount determined to be unallowable (*Attachment E*).

Target date for completion: June 27, 2013.

Recommendation No. 6: We recommend that USAID/Egypt's regional contracting office determine the allowability of the fixed fee \$32,272 and recover from Development Alternatives Inc. any amount determined to be unallowable.

Mission Response: On June 12, 2013, the COR sent a written request to USAID/Egypt's regional contracting office to determine the allowability of the fixed fee \$32,272 and recover from Development Alternatives Inc. any amount determined to be unallowable (*Attachment F*).

Target date for completion: June 27, 2013.

Recommendation 7: We recommend that USAID/Lebanon, in coordination with Development Alternatives Inc., adjust in writing targets, indicator definitions, and reported results to measure the program's results more accurately.

Mission Response: On June 17, 2013, the COR in coordination with the Mission's Monitoring and Evaluation Specialist adjusted in writing targets, indicator definitions, and reported results to measure the program's results more accurately (*Attachment G*).

Based on the above, the Mission believes that final action has been completed and requests closure of Audit Recommendation No. 7 upon report issuance.

List of Attachments

Attachment A: REQM-268-13-000047 to modify Contract # EPP-I-05-04-00023-00

Attachment B: Implementation Plan Contracting Procedures

Attachment C: Roles of CORs and Voucher Examiners

Attachment D: USAID/Lebanon Communication on roles of CORs and Voucher Examiners

Attachment E: Request to USAID/Egypt's regional contracting office to determine whether the \$1,322,281 are allowable costs

Attachment F: Request to USAID/Egypt's regional contracting office determination whether the fixed fee \$32,272 are allowable costs

Attachment G: Revised PMP

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