SIGAR | Office of the Special Inspector General for Afghanistan Reconstruction

August 18, 2015

Donald L. "Larry" Sampler
Assistant Administrator for Afghanistan and Pakistan Affairs
U.S. Agency for International Development

Dear Mr. Sampler:

Thank you for your responses to SIGAR-15-67-SP, *Inquiry Letter: Geospatial Coordinates for PCH Health Facilities* (see enclosures I and II). Given the continuing importance of strong oversight to the future of the PCH program, I am writing to alert you to inconsistencies in your data and provide you with new information (including new geospatial coordinates).

As you recall, my letter of June 25, 2015, raised questions regarding whether the U.S. Agency for International Development (USAID) has accurate location information for 510—nearly 80 percent—of the 641 health care facilities funded by the PCH program. The initial analysis performed by my office found, among other things, that coordinates reported for 13 facilities were not located within Afghanistan, and coordinates for 30 facilities were located in a province different from the one USAID reported. I appreciate that USAID now appears to be taking steps to obtain accurate geospatial coordinates for the clinics it supported through PCH. As noted in your July 1, 2015, letter, USAID is "is currently working with the MoPH [Ministry of Public Health] to provide map support and to update older and sometimes inaccurate GPS coordinates."

In response to our inquiry, USAID also sent us an updated list of 586 PCH-supported health facilities. We note that the number of facilities listed 55 fewer facilities than the original list of 641 facilities. After analyzing the updated list, we found new irregularities that led us to believe that the updated list may contain errors. For example, we found that 60 facilities did not have geospatial data in either list and that the updated list does not provide any new coordinates for 115 of the facility locations which we expressed concern about in our June 2015 letter.

Moreover, the updated list provided new coordinates for 513 facilities; however, our analysis showed that these new locations were an average of 55 kilometers away from the original coordinates, with some locations hundreds of kilometers away. Of particular concern, in five provinces, USAID provided new location data for every PCH-supported health facility.[1] These observations led us to believe that either the original USAID data or the new data was terribly inaccurate. SIGAR worked with an independent Afghan civil society organization to conduct limited inspections of several health facilities supported by PCH in Herat province. Using the original May 2014 geospatial coordinates, SIGAR has confirmed the location and basic operation of 14 PCH-supported health clinics. Had SIGAR used the updated coordinates for those 14 locations, our Afghan partners would have been an average of 31 kilometers away from the actual location of the health facilities and likely not been able to inspect their operations.

After identifying this apparently erroneous data, my office immediately convened multiple meetings with USAID officials both in Washington, D.C. and Kabul, Afghanistan, to explain our concerns.[2] Ultimately, these meetings led to the identification of a critical error in the updated data that resulted

[1] Those provinces are Faryab, Herat, Jawzjan, Kabul, and Khost.

[2] SIGAR met with USAID to discuss issues with the updated coordinates on July 2, July 20, and July 23, 2015.

in USAID's misreporting of geospatial coordinates for many of the facilities.[3] To their credit, the USAID team committed to address these errors and provide my office with updated data over the coming weeks. USAID's action to address these errors demonstrates a commitment to maintaining accurate and reliable information for the location of these health facilities.

Given the action of USAID to remedy this error and the ongoing engagement between USAID and the MoPH, "to update older and sometimes inaccurate GPS coordinates," I am puzzled by some of the statements made in your responses and in subsequent meetings with your staff and the USAID Mission in Afghanistan regarding the usefulness of geospatial coordinates for monitoring the USAID investment in PCH-supported health facilities in Afghanistan. For example, your responses and subsequent meetings with your staff and the USAID Mission in Afghanistan seemed to assert that USAID does not view geospatial data as an important tool for monitoring programs or service delivery. Specifically, senior USAID officials stated at two July 2015 meetings that such data was not the "appropriate tool" and that neither the Afghan government nor USAID's own third party monitors use geospatial data to locate and inspect clinics.

These assertions are inconsistent with USAID's prior statements concerning the importance of geospatial data and the usefulness of that data in providing effective program oversight. We believe that robust program oversight requires specific knowledge of the location where the service is provided. While we agree with, and commend, USAID for implementing a multi-tiered monitoring approach, doing so does not negate the need for data indicating the specific geospatial coordinates of a facility receiving USAID support. In fact, using a multi-tiered monitoring approach in an unstable environment demands such data, and USAID has repeatedly acknowledged its importance over the past several years. For example,

- USAID's $52.2 million contract with Checchi and Company Consulting, Inc. for the provision of program monitoring and other services to "improve the efficiency of programs implemented by the Mission's Technical Offices" required the contractor to perform a host of services, including mapping for health projects.[4] The contract stated that "USAID/Afghanistan uses a management information system to track program and project information for all mission-funded activities. The purpose of this database is to track the location of project implementation…" The contract also stated that Geographical Information System (GIS) data, "…is a critical component of USAID Afghanistan MIS [Management Information Systems]…" and required the contractor to "Provide Geographical Information System (GIS) data collection process [sic], organization and quality improvement and provide USAID/Afghanistan with spatial data archive [sic] on project and baseline spatial datasets."

- USAID's March 15, 2014, Request for Proposals (RFP) for its Monitoring Support Project (MSP) stated that "The Contractor must equip monitoring partners with GPS receivers so they can navigate to and verify activity locations using only geographic coordinates provided by implementing partners through USAID. The Contractor must monitor use of GPS receivers to record the precise location of all of their verification visits."[5] The USAID RFP also stated that GPS serves as a check against corruption "since GPS information that does not match an appropriate project site will raise suspicion and follow-up from the Contractor and USAID staff."

[3] USAID identified an error in its sorting of the data that caused the location data for certain clinics to become improperly associated with another facility.

[4] USAID Contract AID-306-C-12-00012, July 5, 2012. The $52.2 million dollars was the original contracted amount and does not represent disbursements or include any costed modifications.

[5] USAID, RFP SOL-306-14-000010, *Monitoring Support Project (MSP) Indefinite-Quantity Contracts (IQCs*), March 15, 2014.

Clearly, these statements, others like them, and the action of USAID to address the errors in geospatial data, demonstrate USAID's acknowledgement that accurate and reliable data identifying project location is a critical tool in providing effective oversight and mitigating corruption. Without it, oversight personnel—including third-party monitors and foreign service nationals—may be left to roam unsafe streets, carrying sensitive equipment and documentation, searching for a clinic that may, or may not, exist in a given district or village.

Finally, I am concerned by some statements attributed to an unidentified USAID spokesman regarding the USAID-provided data my office used to complete the analysis contained in our original inquiry. According to a July 2015 article, the USAID spokesman stated, "I believe that SIGAR's initial request for the data was informal in nature. SIGAR did not express concerns about the data with us prior to this inquiry letter."[6] This is a gross mischaracterization of SIGAR's request. The coordinates we initially analyzed were requested as part of a formal and ongoing criminal investigation. At no time prior to the release of our inquiry letter—which identified concerns with nearly 80 percent of all PCH-supported health facilities—did USAID alert my investigators to the existence of a more reliable data set.

As indicated in your July 1, 2015, response to our original inquiry, the PCH program ended on June 30, 2015. However, you also stated that USAID will continue supporting health facility operations through the World Bank-managed System Enhancement for Health Action in Transition (SEHAT) program. We encourage USAID to obtain accurate geospatial locations for the health facilities it will support through the World Bank mechanism as soon as possible—ideally before USAID begins using this mechanism. We will continue monitoring USAID's support to health facilities in Afghanistan and look forward to working with USAID to ensure that the Afghan people are receiving the services paid for by U.S. taxpayers.

This review was prepared by SIGAR's Office of Special Projects, a response team created to examine emerging issues in prompt, actionable reports to federal agencies and the Congress. The work was conducted under the authority of Public Law No. 110-181, as amended, and the Inspector General Act of 1978, as amended. Should you or your staff have any questions about this request, please contact Mr. Matthew Dove, Deputy Director of Special Projects, at [redacted] or [redacted].

Sincerely,

John F. Sopko
Special Inspector General
for Afghanistan Reconstruction

[6] AJ Vicens, "The US Government Spent Hundreds of Millions on Afghan Health Clinics. Now It's Not Sure It Can Find Them," *Mother* Jones, July 2, 2015.

cc:

The Honorable Alfonso E. Lenhardt
Acting Administrator, U.S. Agency for International Development

Mr. William Hammink
USAID Mission Director for Afghanistan

Enclosure(s): I – USAID Response to SIGAR 15-67-SP, dated July 1, 2015
II – USAID's Response to SIGAR 15-67-SP Inquiry Letter, dated July 30, 2015
III – SIGAR 15-67-SP Inquiry Letter, dated June 25, 2015

USAID
FROM THE AMERICAN PEOPLE

MEMORANDUM

7/1/2015

TO: John F. Sopko
Special Inspector General for
Afghanistan Reconstruction (SIGAR)

FROM: Donald L. "Larry" Sampler
Assistant to the Administrator for
Afghanistan and Pakistan Affairs (OAPA)

SUBJECT: Response to the Inquiry Letter on PCH Health Facilities Coordinates (SIGAR Inquiry Letter-15-67-SP)

REF: SIGAR-15-67-SP-IL- PCH Health Facilities Coordinates dated June 26, 2015

USAID appreciates SIGAR's attention to the Partnership Contracts for Health (PCH) program. USAID's PCH program provides support for the delivery of the Ministry of Public Health's (MoPH) Basic Package of Health Services (BPHS) and the Essential Package of Hospital Services (EPHS) in more than 600 health facilities, including district hospitals, comprehensive health centers, basic health centers, and sub-health center clinics across Afghanistan, as well as five provincial hospitals and more than 6,000 health posts.

USAID regrets that the data and information SIGAR utilized for the basis of this inquiry was not verified with us sooner, given this particular set is something MoPH is continually updating and refining. We hope to consult closely with SIGAR in the future as this data is further refined and welcome continuing working level communication.

USAID confirms that meaningful oversight of PCH facilities is occurring by both the MoPH and USAID. USAID has found that GPS is not the best and certainly

not the only tool to monitor PCH. As a matter of fact, the nature of the PCH program, as a service-delivery program, necessitates a different monitoring approach. Thus, the lack of precise geospatial data in most cases does not interfere with our ability to effectively monitor PCH.

The primary objective of monitoring service-oriented projects like PCH is to verify that communities are receiving the intended basic health services. Such monitoring, particularly in non-urban areas, relies upon USAID's ability to mobilize Afghans familiar with the area and the communities they monitor. While USAID endeavors to utilize GPS to enhance our data collection, monitors -- whether they are affiliated with USAID or the MoPH-- do not require the precise coordinates of the facility of interest to find the facility and provide effective oversight. Coordinates can help, but are not required, to locate the target community and to serve as a cross reference to USAID or MoPH.

USAID is aware of precision issues associated with the latitude and longitude locations in the MoPH's database, which USAID shared with SIGAR in May 2014. In the past, some Afghan ministries would use the location of a village center as the coordinates for a facility, particularly when there was limited access to GPS technology. Nonetheless, USAID is taking advantage of technological progress and is currently working with the MoPH to provide map support and to update older and sometimes inaccurate GPS coordinates.

The MoPH is also currently collecting new coordinates for its health facilities. Phase I of this effort, which is supported by the World Health Organization, has collected GPS coordinates for all health facilities in 14 provinces (Nangarhar, Kunar, Laghman, Nooristan, Paktya, Paktika, Khost, Ghazni, Logar, Wardak, Helmand, Kandahar, Farah, and Uruzgan). Phase II will be conducted by the MoPH Health Information Systems Directorate, which is using Google Earth software to identify the facilities in the remaining 20 provinces. The intent of this process is to establish coordinates that are within 500 meters or less of the actual facility. The data is currently being analyzed and the MoPH hopes to have the new coordinates ready in the next few weeks. This data will only be released subject to approval of the Ministry.

In the interim, please find attached the Ministry of Public Health's most recent list of 664 healthcare facilities supported by USAID. USAID has analyzed the data and found 590 mappable sets of coordinates (coordinates are not mappable if they do not identify a specific point on a map). After correcting latitude and longitude reversals, all 590 coordinates are in Afghanistan (the USAID reviewed and corrected list of PCH facilities is also attached). Additionally, USAID has matched 12 of the facilities which SIGAR identified as outside of Afghanistan from the May 2014 data and, based on the updated list of facilities, plotted all 12 sites within Afghanistan. The coordinates for the 13th site which SIGAR identified as outside of Afghanistan cannot be accurately mapped as both the latitude and longitude are the same (see attachment 2).

As USAID has previously briefed SIGAR, our oversight approach is multi-faceted. In addition to USAID hired third-party monitors and Foreign Service National staff, the PCH Grants Contract Management Unit (GCMU) within the MoPH has staff in Kabul who travel to visit, monitor and evaluate the PCH health facilities in all 13 provinces where PCH is active.[1] These GCMU monitoring and evaluation consultants meet with USAID at least every two months (or immediately if a particular situation required urgent attention) to discuss their findings and challenges. Each province submits formal monitoring and evaluation reports with details about the province's contract management, human resources, quality improvement, supervision and monitoring for the Health Management Information Systems department in the MoPH, training, pharmacy management, procurement, financial management, logistics, etc. In addition to the USAID PCH project monitoring, the MoPH has in place its own monitoring visits at the Provincial level for all of its activities, which includes actual visits to the facilities.

USAID remains committed to supporting the MoPH's efforts to deliver basic health services to the Afghan People. The PCH service delivery contracts, which end today (June 30, 2015), have greatly contributed to dramatic improvements in public health for the people of Afghanistan. USAID will continue to support these

[1] The GCMU is responsible for ensuring proper procedures are followed for procurement, contract and financial management, monitoring and evaluation, and coordination with other donors and MoPH stakeholders in compliance with donor requirements.

important services through the World Bank managed System Enhancement for Health Action in Transition (SEHAT) project.

As a result of PCH's support, the MoPH has provided millions of people in rural Afghanistan access to primary health care, many for the first time, in the 13 provinces where the program has been active. Since 2002, the number of functioning primary health care facilities has increased from an estimated 498 to 2331 in 2015. On a monthly basis, more than a million Afghan patients visit USAID-supported PCH health facilities - a majority of those receiving services are women and children. Additionally, the annual Survey of the Afghan People has repeatedly documented the positive perception of the Afghan people towards the Government of the Islamic Republic of Afghanistan (GIRoA) related to its health services. USAID will continue to support these important services through the World Bank-managed "SEHAT" program.

USAID will continue to work with the MoPH to improve their capacity to plan and manage activities, allocate resources, increase human resource capacity, strengthen health information and logistics systems, and monitor and evaluate the BPHS and EPHS programs. USAID is committed to ensuring that U.S. taxpayer dollars are safeguarded.

Attachments:
1: PCH facility list from Ministry of Public Health
2: USAID reviewed and corrected list of PCH facilities

cc:

Alfonso E. Lenhardt
Acting Administrator, U.S. Agency for International Development

P. Michael McKinley
U.S. Ambassador to Afghanistan

William Hammink
Mission Director, U.S. Agency for International Development/Afghanistan

USAID
FROM THE AMERICAN PEOPLE

MEMORANDUM

July 30, 2015

TO: John F. Sopko
Special Inspector General for
Afghanistan Reconstruction (SIGAR)

FROM: Donald L. "Larry" Sampler
Assistant Administrator for
Afghanistan and Pakistan Affairs (OAPA)

SUBJECT: Response to the Inquiry Letter PCH Facility Coordinates
(SIGAR Inquiry Letter-15-67-SP)

REF: SIGAR-15-67-SP Inquiry letter on PCH Facility Coordinates
dated June 25, 2015

USAID appreciates SIGAR's continued interest in the PCH Health Facility coordinates and welcomes the opportunity to provide SIGAR with another revised Afghanistan Ministry of Public Health (MoPH) list of health facilities. In response to subsequent requests from SIGAR, we are providing photos for 211 of the 224 facilities in the four provinces prioritized by SIGAR (security concerns have delayed visits for the remaining 13).

USAID recently identified discrepancies in the dataset provided to SIGAR on July 1, 2015. We discovered an error that resulted in coordinates becoming associated with the incorrect facility. This error was limited to the dataset initially provided and did not affect other USAID records. The first worksheet titled GCMU Full Dataset in the attached file reflects all information submitted on July 1st without the formatting error and has been reviewed for format consistency.

USAID would like to again highlight that GPS coordinates are not the tool that the MoPH uses to locate health facilities because the PCH program is intended to provide medical services rather than to construct clinics. USAID is providing these GPS coordinates as they remain within the scope of SIGAR's initial request.

USAID acknowledges that some of the coordinates provided by the MoPH still contain a margin of error and that there are a small number of facilities that have identical/overlapping locations.

ATTACHMENTS:

1 – Re-formatted and annotated PCH facility list

cc:

Alfonso E. Lenhardt
Acting Administrator, U.S. Agency for International Development

William Hammink
Mission Director, U.S. Agency for International Development/Afghanistan

SIGAR | Office of the Special Inspector General for Afghanistan Reconstruction

June 25, 2015

The Honorable Alfonso E. Lenhardt
Acting Administrator
U.S. Agency for International Development

Dear Acting Administrator Lenhardt:

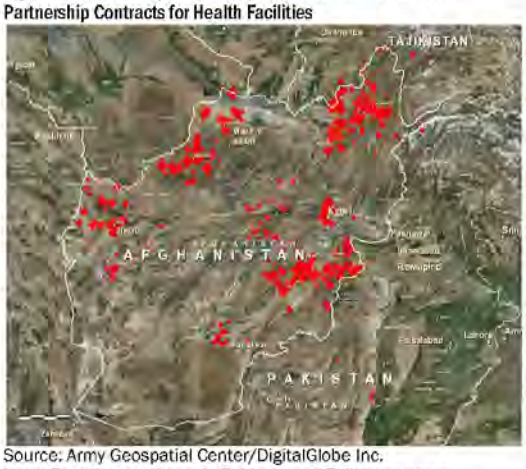
I am writing to request additional information about the U.S. Agency for International Development's (USAID) Partnership Contracts for Health (PCH) program, which USAID funds through on-budget assistance to the Afghan Ministry of Public Health (MOPH). The program is intended to support the MOPH's efforts to deliver basic health services to the Afghan people. As of March 2015, USAID had disbursed over $210 million to support this program. My office's initial analysis of USAID data and geospatial imagery has led us to question whether USAID has accurate location information for nearly 510—80 percent—of the 641 health care facilities funded by the PCH program.[1]

In May 2014, USAID provided us a list of 641 healthcare facilities operated under the PCH program. This data included geospatial coordinates for 551 of the 641 listed facilities.[2]

In an attempt to verify the accuracy of the location data for the 551 facilities, we obtained and analyzed geospatial imagery for these locations, shown in figure 1.[3] We found the following weaknesses in the data for 56 of those locations:

- Thirteen coordinates were not located within Afghanistan:
  - six were located in Pakistan,
  - six were located in Tajikistan, and
  - one was located in the Mediterranean Sea.

Figure 1 - USAID-Reported Geospatial Coordinates for 551 Partnership Contracts for Health Facilities



Source: Army Geospatial Center/DigitalGlobe Inc.
Note: Coordinates shown in Pakistan and Tajikistan are as reported by USAID. An additional facility, reportedly located in the Mediterranean Sea, is not depicted on the map above.

[1] This total includes 90 facilities lacking location data, 56 facility locations SIGAR did not analyze geospatially because they were considered "erroneous" or "duplicated," 19 coordinates located in a different district than the one reported, 189 locations showing no building within 400 feet, 154 locations that do not clearly identify a specific building, and 2 locations that identified a specific building in our analysis of geospatial imagery but are included in enclosure II because they are duplicate coordinates.

[2] The data did not include coordinates for 90 facility locations.

[3] Enclosure I summarizes our methodology for reviewing the data from USAID and analyzing the corresponding geospatial imagery.

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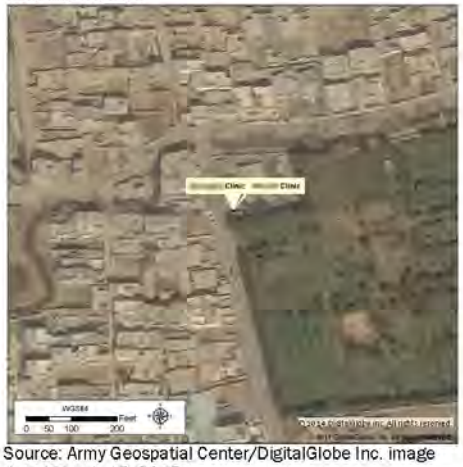
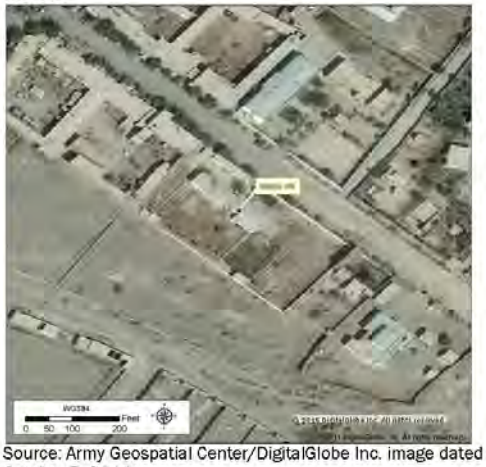
- Coordinates for 30 facilities were located in a province different from the one USAID reported.
- In 13 cases, USAID reported two different funded facilities at the same coordinates (see figure 2 for sample imagery).

Figure 2 - Geospatial Imagery for Two Clinics Reported in the Same Location



Source: Army Geospatial Center/DigitalGlobe Inc. image dated March 15, 2015

Figure 3 - Geospatial Imagery for a Reported Hospital Compound Location



Source: Army Geospatial Center/DigitalGlobe Inc. image dated October 7, 2014

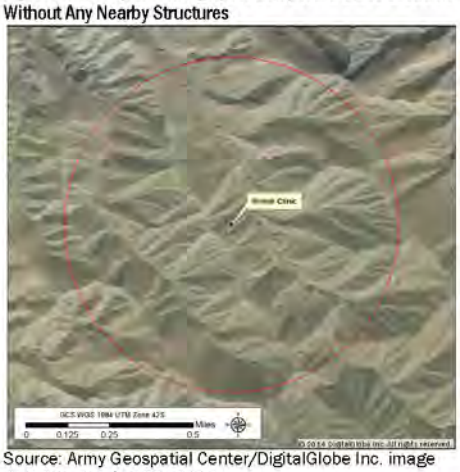
For the remaining 495 locations, we analyzed geospatial imagery to assess whether there was a structure potentially serving as a health facility present.[4] Of the 495 locations we reviewed:

- 152 coordinates clearly identified a specific structure or compound in the reported location (see figure 3 for a sample image).[5]
- 189 showed no physical structure within 400 feet of the reported coordinates, and a subset of 81, or just under half of these locations, showed no physical structure within a half mile of the reported coordinates (see figure 4 for a sample image).
- 154 coordinates did not clearly identify a specific building (see figure 5 for a sample image).

[4] SIGAR analyzed the remaining coordinates, including one set of duplicated coordinates (13 out of 26) and coordinates located in a district different from the one reported by USAID (120). We did not include 56 coordinates in our analysis. Thirteen of these were excluded because they were located in the wrong country, 30 because they were located in the wrong province, and 13 because they were the second set of duplicated coordinates and would have resulted in double-counting. See enclosure I for a full explanation, with totals, of each phase of the analysis.

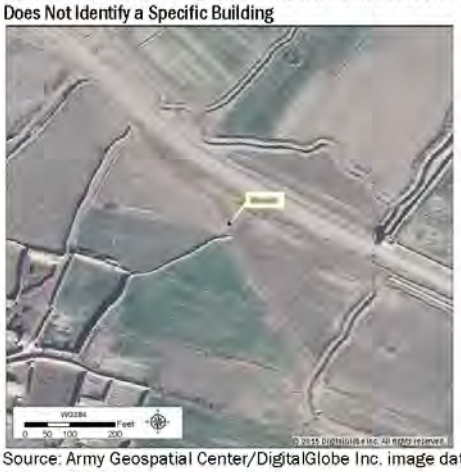
[5] Of these 152 facility locations, coordinate locations for 19 facilities did not match the facility district location as reported by USAID and 2 facilities were duplicate coordinates showing no other location discrepancies.

Figure 4 - Geospatial Imagery for a Reported Clinic Location Without Any Nearby Structures



Source: Army Geospatial Center/DigitalGlobe Inc. image dated September 23, 2014

Figure 5 - Geospatial Imagery for a Reported Clinic Location that Does Not Identify a Specific Building



Source: Army Geospatial Center/DigitalGlobe Inc. image dated January 16, 2015

Enclosure II contains a list of the facilities with apparent location discrepancies. We are not making this enclosure public due to the sensitive nature of the information it contains.

To provide meaningful oversight of these facilities, both USAID and MOPH need to know where they are. Accordingly, for all PCH facilities listed in enclosure II, I request that USAID provide correct, updated location coordinates or, as appropriate, non-geospatial confirmation of the physical location and existence of these facilities.

I am submitting this request pursuant to my authority under Public Law No. 110-181, as amended, and the Inspector General Act of 1978, as amended. Please provide this information—or if necessary, a plan for obtaining it—by July 30, 2015. Should you or your staff have any questions about this request, please contact Mr. Jack Mitchell, Director of Special Projects, at [redacted] or [redacted].

Thank you in advance for your cooperation in this matter. I look forward to an ongoing dialogue regarding this effort.

Sincerely,

John F. Sopko
Special Inspector General
for Afghanistan Reconstruction

Enclosure(s):

I – Scope and Methodology
II – MOPH PCH-funded Health Facilities of Concern (under separate cover)

cc:

Mr. William Hammink
Mission Director for Afghanistan
U.S. Agency for International Development

ENCLOSURE I – SCOPE AND METHODOLOGY

SIGAR received the dataset of Partnership Contracts for Health (PCH) facilities from the U.S. Agency for International Development (USAID) in May 2014. We conducted a preliminary review of the dataset to identify any missing or incorrect data. This initial analysis revealed that 90 facilities lacked corresponding location data, 13 coordinates were duplicated, 13 coordinates did not identify a location within Afghanistan, 30 coordinates did not match the reported province, and 120 coordinates did not match the reported district. These results are summarized in table 1.

Table 1 - Summary of SIGAR's Preliminary Analysis of USAID Facilities

			Total Facilities
Total Reported Facilities			641
Location Data Summary	No location data provided		90
	Location data provided		551
Problems with Location Data		Location data duplicated[1]	13
		Location data erroneous[2]	43
		District mismatched[3]	120
	Total Missing or Problematic Coordinates[3]		266
Total Coordinates for Geospatial Analysis[4]			495

Source: SIGAR analysis of USAID data and Army Geospatial Center/Digital Globe imagery

Notes:

[1] USAID reported 13 pairs of facilities that had coordinates that mapped to a single location. For each pair, we identified one of the two facility locations as a "duplicate" and included the other facility in our geospatial analysis.

[2] Coordinates we categorized as "erroneous" included those that mapped to locations outside of Afghanistan or provinces that were different from those USAID reported. We did not categorize as "erroneous" facilities with coordinates (1) in which latitude and longitude were reversed, (2) in which extra digit(s) appeared, or (3) in which other minor typographical errors did not impact the location.

[3] Although we found that the reported district did not match the coordinates, we included these coordinates in our geospatial analysis.

[4] This total includes one set of duplicated coordinates (13 out of 26), all coordinates showing district mismatches (120), and all remaining coordinates not already categorized as erroneous (362). We did not analyze geospatial imagery for erroneous coordinates and only analyzed one set of the duplicated coordinates.

We identified 495 coordinates for geospatial analysis. We considered coordinates identifying a location in the wrong country or province as erroneous and did not include these in our geospatial analysis; to avoid double-counting, we analyzed geoaspatial images for only one set of duplicate coordinates. For 11 of these 13 duplicate coordinates, our analysis identified other data weaknesses; we included the remaining 2 facilities in table 2 below and in enclosure II. We included in our analysis coordinates identifying locations outside the reported districts; of 120 such locations, only 19 clearly identified a structure or compound that may be serving as a healthcare facility. We included those 19 facilities in enclosure II; the remaining 101 are included in the geospatial analytical results below.

We worked with the Army Geospatial Center to obtain geospatial imagery for the 495 coordinates we identified for geospatial analysis. Army Geospatial Center made revisions to the USAID-provided coordinates, including correcting reversed latitude and longitude coordinates, reformatting the coordinates, and completing other minor revisions to render the coordinates usable. Army Geospatial Center used the DigitalGlobe, Inc. platform to obtain imagery for each location. SIGAR analyzed the most recent available image for each location, which was generally labeled in DigitalGlobe as dating from 2014 or 2015, except when the most recent image was obscured or unclear, in which case SIGAR analyzed the most recent clear image. If USAID provided a date on which the facility was established, SIGAR verified that the image provided post-dated the facility establishment date. In our analysis, we divided the 495 locations into the following three categories using imagery analysis: (1) no structure exists within 400 feet of the coordinates; (2) structure(s) exist within 400

feet of the coordinates, but we were unable to identify the facility; or (3) the coordinates clearly indicate a structure or compound.[6] When a location fell into the first category (no structure exists within 400 feet), SIGAR expanded the scope on the imagery to look within a half mile of the given coordinate. The results of this full analysis are summarized in table 2 below. Each healthcare facility location that we consider problematic for any reason is listed in enclosure II.

Table 2 - Summary of SIGAR's Geospatial Analysis of USAID-Reported Facility Locations

		Total Facilities
Geospatial Analysis Results	No structure within 400 feet	189
	No structure within a half mile	81
	Structures present; none clearly indicated	154
	Structure clearly indicated	152
	Structure clearly indicated but district mismatched	19
	Structure clearly indicated by second duplicate coordinate	2
No Geospatial Data Provided		90
Erroneous & Duplicate Geospatial Data, excluded from Geospatial Analysis		56
Total Locations of Concern[1]		510

Source: SIGAR analysis of USAID data and Army Geospatial Center/DigitalGlobe, Inc. imagery
Notes:
[1] Locations of concern include those with unreported location data, those that were erroneous or duplicates, those for which the reported district did not match the coordinates, those in which geospatial imagery revealed either no structure or no clearly-indicated structure within a radius of 400 feet, and the second duplicate coordinate for which we analyzed geospatial imagery.

[6] See figures 3, 4, and 5 in the body of this inquiry letter for examples of these categories.