Performance Management Plan (PMP) Toolkit

Module 2.7: Data Quality Assurance

OVERVIEW

Data quality assurance refers to the steps a Mission takes to ensure that the data included in the PMP are accurate and useful. This module provides guidance on carrying out these steps, including how to conduct a Data Quality Assessment (DQA) and strategies for addressing problematic data.

TOOLS

- *DQA Checklist*
- *Activity Site Visit Report*
- *Activity Logbook*

STANDARDS FOR DATA QUALITY

High quality data is the cornerstone for evidence-based decision-making. As such, data quality assurance plays a major role in USAID's performance management process. Data informs decisions across the Program Cycle, from planning and setting goals, to designing projects and activities, to making course corrections and informing other management decisions. Understanding the quality of performance data is important when making strategic decisions. USAID's credibility when communicating and reporting performance information requires a realistic understanding of the limitations of the data.

To ensure that the quality of evidence from the Mission's performance monitoring system is sufficient for decision-making, data should reasonably meet these five standards of data quality (also known as "VIPRT" by some USAID staff):

1. *Validity*. Do data clearly and directly measure what we intend?

2. *Integrity*. Are mechanisms in place to reduce the possibility that data are manipulated for political or personal reasons, or incomplete due to management problems?

3. *Precision*. What margin of error is acceptable given the likely management decisions to be affected?

4. *Reliability*. Using the same measurement procedures, can the same results be replicated?

5. *Timeliness*. Are data sufficiently current and available frequently enough to inform management decision-making at the appropriate levels?

WHY IS ASSESSING DATA QUALITY IMPORTANT?

Even under favorable circumstances, data will never be perfect. Therefore, managers should seek to understand the strengths and weaknesses of all of the data they collect. The purpose of assessing data quality is to ensure that the Mission is aware of the strengths and weaknesses of their data and the extent to which the data integrity can be trusted to influence management decisions.

Understanding the quality of the data allows Mission management at all levels to weigh the data appropriately as they make their decisions. Ensuring data quality requires strong leadership and commitment throughout the Mission. Data quality assurance measures should also be included in the scope of work of any activity solicitation. Not knowing or understanding the quality of the data could result in an erosion of confidence in the data sources and lead to poor analysis, improper setting of targets, and ill-informed decision-making.

WHEN SHOULD THE QUALITY OF DATA BE ASSESSED?

A Data Quality Assessment (DQA) is a tool to help managers understand the strengths and weaknesses of their data, as determined by applying the five data quality standards. A DQA is conducted for each performance indicator for which data is being collected.

> **Example**
>
> Years ago, a Mission Director from a southern African country reported that performance was improving across the Mission's portfolio. However, he later found out that some of the key performance data was flawed. If he had known about the problems with the data he might have been able to flag the problematic data and counseled caution to other decision-makers on the reliability of this information.

USAID requires that **a DQA must occur for all externally reported indicators sometime within three years of data collection and before being reported**. For example, DQAs that were completed in FY 2011 would need to be conducted again prior to reporting data in FY 2014. Missions/Offices may choose to conduct data quality assessments more frequently if needed. **DQAs are not required for data collected for performance indicators that are not reported to USAID/Washington.** While managers are not required to conduct DQAs on all performance data, they should be aware of the strengths and weaknesses of the data they collect to monitor and report on performance (see ADS 203.3.11.2).

In addition to the three-year requirement, a number of circumstances might prompt a manager to conduct a DQA, such as if certain indicators have been identified as problematic, if stakeholders or implementers have suggested that there may be issues with indicator data, or to confirm that a previously identified data quality problem has been resolved or effectively mitigated.

Finally, additional DQAs may be warranted if the nature of the data is such that it is critically or strategically important to the Mission/Office, to USAID/Washington, or to USAID's key stakeholders. Some Missions have opted to conduct DQAs for all of the indicators in their Mission-wide PMP to help managers understand how confident they should be in using the data to monitor performance and report on accomplishments.

WHO SHOULD CONDUCT THE DQA?

Per ADS 203, Missions responsible for data quality, including making sure that DQAs are completed as required. This does not mean that USAID is solely responsible for conducting DQAs. In fact, it is expected that Implementing Partners and third party M&E contractors will often be involved and engaged in conducting DQAs. However, the Mission is still ultimately responsible for the quality of the DQA. The rationale for having USAID responsible is so that USAID staff and managers have a clear understanding of, and ownership over, the strengths and weaknesses of their data.

In cases in which DQAs are being conducted at the activity level, the COR/AOR/G2G/AM is accountable for implementing partner participation in the DQA process, including any after actions. Ideally, the DQA should take place at the office of the IP or other organization sourcing the data in order to view any databases, filing systems, and verification or other documentation.

It is important that whoever conducts the DQA carefully reviews the Performance Indicator Reference Sheet for that indicator prior to the DQA and is familiar with the indicator definition, how the indicator is used to measure the intended result, and the data collection methodology. In some cases when conducting the DQA,

it may be necessary to engage a technical expert familiar with the data collection methodology. For example, if the source of the indicator data is a perceptions survey, then, if feasible, it may be helpful to engage a survey expert who has the technical capacity to review the margin of error (MOE), review the questionnaire, and assess the integrity and reliability of the implementation of the survey. In the absence of an expert, the DQA team should at the least make sure that the survey includes a calculated MOE, and that the MOE is smaller than the expected change in order to be sufficiently precise for USAID purposes. For example, if public confidence in the government's anti-corruption efforts is targeted to increase by 10 percent, then the margin of error of the survey results should be less than 10 percent.

HOW TO PREPARE FOR A DQA

In order to prepare for the DQA, the AOR/COR/G2G/AM should inform the IP or other organization sourcing the data ahead of time to allow them to gather together needed information and staff resources. They should have *original* supporting documents for each indicator reported to USAID, including any data collected by sub-contractors, sub-grantees, or sub-agencies. The DQA will include review of their data management system, which may include hard copies of documentation in files, soft copies on their public drive, and data management systems (e.g., Microsoft Access, Excel, etc.).

Supporting documents that the source organization(s) should be prepared to provide include:

- M&E plans, including indicator data definition forms, such as the PIRS/CIRS;

- All reports to USAID in which performance data was reported, such as quarterly reports, annual reports, and other special reports;

- Data verification materials, such as original participant sign-in sheets, activity reports, photos, score cards with original source materials, survey or polling data, curricula for trainings, sales records, government statistics, inventory records for direct assistance, construction sight logs, etc.

- M&E handbooks or guides related to collecting data, monitoring data, assessing data quality, verifying data, sampling methodologies, etc.

> **Good Practices for DQAs**
>
> The COR/AOR/G2G or Activity Manager should:
>
> - Be present at the DQA if a third-party contractor is conducting the assessment (to support the contractor and oversee the DQA). The manager should see the data systems firsthand.
> - Discuss with the source organization any gaps in systems and options for closing gaps to encourage transparency and reduce miscommunication.
> - Share the results of the DQA with the source organization(s) when completed.
> - Set time frames for implementing any follow-on actions.
> - Follow up with the source organizations to determine whether the recommended actions are in process, and to reinforce USAID's focus on data quality.

The individual or group conducting the DQA should use the recommended *DQA Checklist* (see Annex 16), which includes instructions on how to review data against the five data quality standards. The DQA team should be prepared to spend several hours at the location of the organization sourcing the data in order to work through the entire DQA Checklist. Although it may be easier for Missions to have the IPs assess their own data based on the checklist, to avoid organizational bias this is not recommended, even if the IP closely participates in the DQA process.

Note that this refers primarily to data being sourced from Implementing Partners and other entities contracted by USAID. When the source of the data is a secondary data source over which USAID does not have direct control (e.g., host government statistical offices, an international organization such as the World Bank or United Nations), then USAID will have less access and visibility over the supporting documentation. Reputable sources of secondary data generally have internal data quality controls in place. In reviewing secondary data, the DQA checklist can still be used as a guide.   If there are outstanding questions or concerns about secondary data, then the Mission can consider setting up a meeting with an appropriate counterpart from the secondary data source organization to talk through any questions about the quality of the data and the organization's data quality controls (be sure to provide any questions in advance).

> **Helpful Hint**
>
> Notification of an impending DQA can cause implementing partners considerable stress, tension, and even fear given USAID's commitment to high-quality data, recent performance audit ramifications, and potential uncertainty of USAID's expectations during a DQA. Many of the best practices suggested above are focused on reducing partner tensions by sensitizing the partner on the process of the DQA, what USAID's expectations are for data quality, and what happens if there are problems identified with the data. The individual or group conducting the DQA should clearly communicate what is expected of the partner, who should represent the partner during the DQA, the format of the DQA, and how any findings will be handled. The DQA team may wish to initiate the DQA with comments such as "We want to better understand the important work you are doing" and by recognizing the partner's accomplishments. Above all, it is recommended that the DQA team intentionally focus on the fact that both the Mission and the partner are working together to achieve results, and that if any problems with the data are found then the Mission and the partner will work together to resolve them.

HOW TO ADDRESS DATA LIMITATIONS

Once the DQA is completed, the Mission should assess whether any mitigation actions are needed. If there are some data quality concerns but Mission managers feel comfortable that the data is the best available, then there may be no need for further action. On the other hand, the identification of data quality concerns may call for a mitigation plan, particularly if the data will be used to inform decisions and/or reported externally. The COR/AOR/G2G, in consultation with the Project Manager, should clearly document the decision and justification for action or no action in the DQA Checklist tool in the Summary section, which includes space for "Actions needed to address limitations prior to the next DQA." Any data quality limitations should also be clearly documented in the data quality section of the indicator's Performance Indicator Reference Sheet.

> **Helpful Hint**
>
> Note that just because there may be problems with the quality of data, Missions should not have to "toss out" or ignore the data when making decisions. If the data is of the best quality that is reasonably and practically available for a given indicator, and all mitigation efforts have been tried, then the Mission can still report the data but should be transparent about the associated quality limitations.

In cases in which further action is required to mitigate data quality concerns, mitigation plans may include steps to:

- Triangulate data or examine similar data sets for trends;

- Adjust, supplement, or replace problematic indicator data;

- Discuss data with other users, such as other donors, to identify any relevant actions they have taken;

- Provide capacity-building support to the source organization to improve their handling and reporting of the data;

- Provide training to the source organization on the collection and maintenance of original verification documentation for each performance indicator;

- Conduct regular and unannounced spot checks of the source organization and its activities, files and data management systems;

- Utilize technical experts (data quality experts, auditors, survey methodologists, Management Information Systems (MIS) experts, gender indicator experts, Global Information Systems (GIS) experts, and others) to conduct further investigations (and then sensitization trainings) of the problematic data.

CONDUCTING SITE VISITS

Site visits are another important component of the Mission's oversight and quality assurance processes. The purpose of site visits is to verify information provided to USAID about activity performance. They also serve as an opportunity to identify new information or learning that could usefully be shared within the Mission and/or with other partners within the project. Regular site visits can help strengthen an effective partnership with the implementing partner; ease and facilitate communication; provide an opportunity for partners to share their lessons learned, best practices, successes, and concerns; and mitigate tensions. Site visits should generally be planned for each activity/IM at least every six months. It is good practice for the Project Manager or another individual on the DO or project team to maintain a centralized schedule of site visits both as an accountability tool and to identify efficiencies for joint travel. There are three basic occasions for site visits:

- Regularly scheduled activity review and oversight, conducted as part of COR/AOR/G2G responsibilities;
- Site visits in response to identified problems; and
- Responding to stakeholder requests

During site visits, the COR/AOR/G2G/AM should conduct data verification. They should select one indicator (or more) on which the partner has reported, and check the partner's understanding of the indicator, data collection methodology, reporting chain, and supporting documentation. The COR/AOR/G2G/AM should also take this opportunity to ask the partner whether there are any observations, findings or concerns beyond what the data capture that should be discussed at this time. For activity/IMs that have environmental mitigation measures, COR/AOR/ G2G/AM should verify that these are being carried out correctly.

> **Helpful Hint**
>
> Where staff capacity in analyzing data quality and interpreting data is low, the Mission should consider training to improve this skill set. Coaching around effective site visits, designed to strengthen relationships with implementing partners to enable candid discussions of activities, data and results, could be included in this coaching. If the Mission has access to a support contract for M&E, this training and coaching could be secured through that contract.

The COR/AOR/ G2G/AM should note any performance problem pertaining to schedule, cost, quality and/or non-compliance, as well as any other significant issues. The COR/AOR/G2G/AM should bring any significant performance problem to the immediate attention of OAA to discuss resolution, and should also inform the Project Manager to discuss potential project implications. Any legal compliance, ethical, or similar issues should be brought to the attention of the RLA.

While there is no required format for site visits, Missions should use a standardized site visit template across the Mission (see the *Activity Site Visit Report* on ProgramNet). The COR/AOR/G2G/AM should complete the site visit report following every site visit and keep a copy in the activity/IM official management files with an explanation of both positive and negative findings, and required follow-up actions. It is best practice to

document the follow-up actions, with completion/resolution dates included, in the same official management files (see the *Activity Logbook* in Annex 23 for an example of a template to document corrective actions).

SUPPORTING HIGH QUALITY DATA

Once USAID managers have a basic understanding of the quality of data collected and used, there are many actions that a COR/AOR/G2G/AM can take throughout the course of the R/CDCS, project, and activity's lifespan to help improve data quality. Periodically, lessons learned or best practices identified for improving data quality should be shared widely within the Mission. This promotes Mission-wide awareness of common data quality concerns and mitigation strategies and fosters an organizational culture dedicated to high quality data. Some possible steps that can be taken to improve data quality include:

- Consider hosting a meeting or training on data quality for the Mission's implementing partners. The training should reinforce the importance of data quality for performance management, strengthen understanding of USAID's data quality assurance and DQA processes, and promote mutual buy-in for high quality data.

- Share with Implementing Partners (IPs) and other sources of data the indicator PIRS and *DQA Checklist* (or other DQA format) prior to conducting a DQA. USAID should communicate that the DQA is *not* an audit or test to reduce any anxieties about DQAs.

- If the Mission does not use a performance data system with a partner data portal, then the Mission should provide implementers with standardized templates for data entry and reporting. This can help reduce data entry errors and ensure that important data disaggregations are captured.

- Review original data verification documentation when possible, i.e., original sign-in sheets, databases, reports, photos, etc.

- Review IP reports, including to make sure that data is correctly summed from quarter to quarter. This practice serves as due diligence prior to a DQA and helps Mission staff understand the data and analysis requirements for which the IP should be held accountable.

- Meet with other users of the performance data (such as other donors) to discuss options for improving and using performance data.

- If appropriate, engage local data collection organizations and invest in efforts to build their capacity to improve data quality.

SUMMARY

By now you should have an understanding of:

- Why data quality is important to USAID

- How to conduct a DQA

- What materials are needed in preparation for a DQA

- Mitigation plans for dealing with problematic data

REFERENCES

ADS 203

Mission Order on Performance Monitoring