

Using IATI data to enhance Bangladesh's AIMS

Inception report

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1. Introduction

Foreign aid plays an important role in Bangladesh's development. Over the last ten years, Bangladesh received foreign assistance amounting on average to USD 2 billion per year. Although aid only accounts for roughly 2% of GNI, it constitutes more than 30% of Bangladesh's development budget.

The Government of Bangladesh has recently developed an Aid Information Management System (AIMS: <http://aims.erd.gov.bd>). This web application collects and makes available project-level information on commitments, disbursements and expenditures, by donor, implementer, sector and geographic location. This allows Government, Development Partners (DPs) and other stakeholders, to increase aid transparency, strengthen mutual accountability, improve coordination and alignment and allow for more efficient aid management, working towards the commitments in the Paris Declaration on Aid Effectiveness (2005), the Accra Agenda for Action (2008), the Busan Partnership Document (2011), the G8 Lough Erne Communiqué (2013) and the Mexico Communiqué (2014).

The web application was launched in October 2014 and 15 development partners have provided data into the system. Data quality requires further improvement. There are a number of DPs that have yet to input any data to the system. Some DPs have indicated that the data entry burden is partly responsible for the lower levels of data and lower data quality. These issues are likely to be compounded where DPs are non-resident, or where ERD has limited contact with them. For example, according to d-portal.org, GAVI spent some USD 40 million in Bangladesh in 2015, but has yet to provide any data to the AIMS¹.

Missing or low quality data is likely to create a vicious circle towards poorer quality data and an even more incomplete dataset. A partially complete AIMS providing a limited picture stymies aid effectiveness goals, particularly of greater coordination among donors. Even those donors providing good quality data to the AIMS would thus be disincentivised from continuing to do so.

IATI (the International Aid Transparency Initiative) promises to improve on this situation by providing a semi-automated mechanism for obtaining data from development partners on their activities. The initiative was established on the sidelines of the Accra Third High-Level Forum on Aid Effectiveness (HLF-3) by a coalition of donors, partner countries and civil society organisations. The IATI Standard, a machine-readable format for sharing aid information in a timely, accessible, comparable and comprehensive format, was agreed in early 2011. Since then, donors representing some 90% of aid have begun publishing to IATI. IATI data is a standardised source of data provided for the most part by DP headquarters.

There appears to be fairly good coverage of IATI data for Bangladesh. 9 of the top 10 DPs to Bangladesh (and 15 of the top 20) have already published to IATI. IATI data quality is mixed, as Table 1 shows. But it also shows that there are a number of large DPs that now have good quality data that we could begin to use.

¹ <http://d-portal.org/ctrack.html?country=BD&tongue=eng#view=donors>, accessed 2015-10-17

Table 1. Size of largest DPs (according to AIMS data) and 2014 rating in Publish What You Fund's Aid Transparency Index

DP	Disbursement USD m²	Disbursement Rank	2014 Index Rating³
AsDB	992.72	1	Very good
World Bank	857.86	2	Very good
UK, DFID	589.23	3	Very good
USA, USAID	208.34	4	Fair
EC	174.38	5	Good
UNICEF	115.00	6	Good
Canada, DFATD	95.52	7	Good
Netherlands	65.63	8	Fair
FAO	58.33	9	<i>Not rated</i>
Australia, AusAID	52.74	10	Fair
IFAD	30.24	11	<i>Not rated</i>
UNFPA	18.09	12	<i>Not rated</i>
Switzerland, SDC	13.05	13	Fair
UNDP	11.83	14	Very good
Korea, KOICA	11.16	15	Poor
Denmark, Danida	5.23	16	Fair
Spain	3.97	17	Fair
Norway, NORAD	3.90	18	Poor
Sweden, Sida	1.81	19	Very good
Japan	1.75	20	Poor

² Calendar year 2014 disbursements; accessed 2015-09-30 from:

<http://aims.erd.gov.bd/Areas/AIMS/ReportViews/DevelopmentPartnerProfile.aspx>

³ Publish What You Fund - 2014 Aid Transparency Index: <http://ati.publishwhatyoufund.org>

Considering just the top 20 DPs in 2014 as reported to the Bangladesh AIMS, 74% of the project value is covered by donors rated “Very good”. This suggests that there is quite a lot of data that we could begin to use.

Some caution must be exercised with these numbers: given issues with existing data quality, there may be some other DPs that are not covered by the existing AIMS data. This overview table may also be skewed towards donors that place a strong emphasis on providing data to the local AIMS, which may be heavily related to a likelihood to provide data to other systems such as IATI. Japan is widely held to be one of the largest donors to Bangladesh, for example, but it is at the bottom of Table 1 as limited data was reported to the AIMS for 2014.

In the IATI community, there are continuing efforts to improve donor supply of data and increasingly, a shift to concentrate on the use of this data. Both of these efforts will contribute to assessing and informing remaining challenges with data quality but also begin to test the hypothesis that IATI data should help improve the effectiveness of aid.

This all very new: IATI data only began to flow four years ago, and there are few functioning examples of the use of IATI data in any system. Nevertheless, there are increasing efforts in various countries to use IATI data. Pilots have taken place in DRC and Rwanda (2014), testing automatic integration with the two main vendors of AIMS - Development Gateway’s AMP and Synergy’s DAD. Myanmar began to use IATI data in its own home-grown AIMS, Mohinga, in 2014. In 2015, Development Gateway began undertaking an extensive study in five francophone countries to understand in more detail the constraints and feasibility of using IATI data in existing AMPs, in addition to the development of a generic IATI import module⁴.

The Terms of Reference envisage piloting with three donors. This inception report sets a more ambitious goal of establishing a permanent module for sustainable import of IATI data from many donors, pragmatically simplifying the task where necessary. It will be a test case and make an important contribution to the global knowledge base, but it will also be building on a solid base of work to date and the extensive experience of the two consultants with IATI data, software development and AIMS implementation.

⁴ Development Gateway - Use of IATI in Country Systems: Working Paper 1:
<http://www.developmentgateway.org/2015/05/21/iati-and-country-systems-dg-working-paper/>

2. Principles

Development of the IATI module should do no harm to the new AIMS in its nascent state. Therefore this work will regard the current data structure and outputs of the AIMS as a fixed set of needs to work towards and avoid adjusting them. In addition, the IATI module will not replace the current manual data entry interface at this stage, but present an alternative with IATI data as the source. Either way, DPs will remain responsible for the data they enter.

The process will always require some human intervention and for DPs and government to invest time into the AIMS for any integration to be successful and sustainable. Though this is likely to significantly reduce over time, differences in the unit of aid contained in IATI data versus the AIMS, data quality issues, and the complexity of the aid system mean that manual curation of the data will be vital.

As it remains a DP responsibility to enter data to the AIMS, the AIMS should not accept or reject data on the basis of a data quality threshold. Limitations of the IATI data can be addressed by providing the data manually and this decision will be left to the user; indeed, for the foreseeable future, the best quality data is likely to be a mix of data sourced from IATI and data sourced locally.

Finally, we will prioritise a solid working implementation over additional features. Boundary cases (e.g., “what about X?”) will generally need to be handled by users. Tools may help users to make decisions, but these boundary cases will be held in perspective and should not dominate the work or discussions.

3. Product

At the end of this work, our goal is to have a solid, functioning and sustainable process for importing donor data from IATI to the AIMS. Donors will continue to be responsible for getting their data into the AIMS; they can continue to do this manually as at present or, if they prefer, by automatically importing into the AIMS. **The mix of data quality will mean that for some donors, automatic import will not be possible or will be very limited.**

We will use a phased or *iterative* approach of software development both because it is best practice and because of the lessons learned from previous pilots, some of which attempted to import IATI data *en masse*. The broader IATI community will learn valuable lessons from a careful, step-by-step approach to IATI-AIMS integration in Bangladesh.

In the **first phase**, data will be extracted from IATI and the AIMS, with projects then listed side by side on the same page. This will include a field-by-field cross-walk and mapping. *Requires AIMS to export data in IATI-XML format for each donor.*

In the **second phase**, donors will map their projects in IATI to those already contained in the AIMS. Establishing this project-level relationship is arguably the most important part to get right and we emphasise the challenge of this component - both in technical and conceptual terms.

The **third phase** will then test the import of a limited subset of fields - probably restricted to the title and description - into the AIMS. DPs can edit the IATI data before it is entered into the AIMS. *Requires AIMS to accept data from the IATI import module.*

In the **fourth phase**, we will begin to establish techniques to reconcile multi-donor projects, focusing on co-financed projects.

In the **fifth phase**, automatically updating fields with data from the IATI Registry will be established. This will need to provide a user-friendly interface for controlling updates, as well as development of logic for handling different data sources. *Requires, inter alia, AIMS to know whether a field comes from IATI or has been manually entered.*

In the **sixth phase**, we will move to encompass other fields - particularly financial data (transactions, including disbursements).

In the **seventh phase**, we will develop techniques required to handle multi-donor projects (parallel financing, co-financed projects, trust funds, etc.) and tools to mitigate against double-counting.

Various aspects of the six phases can be carried out in parallel. The implementation will be determined as a success if donors with high-quality IATI data are able to import data into the AIMS. Due to the short timeframe, the amount of time available for the later phases may be limited.

The amount of IATI data that the module can import will be contingent on the quality of data that donors provide and the accompanying capacity building for ERD and DPs. The amount of work that will be involved in engaging with particular donors to address specific data quality issues should not be underestimated. We emphasise that we will be heavily constrained by donors' willingness to engage, especially at headquarters level, where the data will normally be generated.

4. Working approach

A pragmatic approach, framed by existing processes

We will continually reflect to ensure that we are pursuing a pragmatic approach, to take the generality of data, low hanging fruit and the largest volumes rather than obsessing over edge cases. The interface will need to balance the competing goals of usability and additional features that deal with very specific situations. In this trade-off, we will lean towards usability; the priority is to get the interface working and to get it used. People are more likely to use a simple, clean interface than one with endless options. We will therefore challenge and scrutinise proposed features to ensure they fit into this approach.

The interface must work within existing processes and be driven by them. The first principle we outline above is to do no harm to the current AIMS, especially considering its nascent state. We therefore take the set of fields currently in the AIMS as our target and the existing database structure as our framework that IATI data will need to map onto. We will need to understand the way in which the AIMS is currently used and perceptions of it, including any challenges it faces. Gaining an understanding of the way that the data is or will be used by the government and by DPs will drive the need for IATI data.

Addressing data quality challenges

It will be essential to work with DPs to address specific data quality challenges. This will normally involve understanding the problem at country level and then working with headquarters to adjust the IATI data publication. This advocacy work will likely be fairly time-intensive. The main challenge identified in the first visit to Dhaka has been the inconsistency in units of aid between certain DPs' data and the AIMS. The challenge of reconciling units of aid is a conceptual problem that can only be solved by humans, justifying the focus on mapping projects together. This will be the key problem to get right.

Engagement with external stakeholders

In terms of our working style, we are keen to understand country context, process and technical systems to ensure that any recommendations would be appropriate, and as part of this it will be important to engage the various stakeholders that would stand to benefit from this data. We will need to understand motivations and incentives, build consensus and ensure buy-in from different actors.

We will need to engage extensively with several distinct groups of external stakeholders, particularly to ensure the finished product delivers value for them. We will work particularly closely with ERD and UNDP staff working on the AIMS - including face to face time to discuss existing processes, systems and goals, and continuous engagement to ensure we are meeting their needs. We will work with donor focal points to ensure that the finished user interface will be something they will want to use, that it will be user-friendly enough to understand, and that they will have confidence in the way the data is used in the system.

On a technical level, we will work very closely with TechnoVista, the current developers of the AIMS, as well as the software developers of the IATI import module. A core part of our work will be managing and guiding the software development sprints and ensuring they reflect the broader goals and needs.

Collaborating and contributing back

We will also discuss progress and challenges with the wider IATI community, including other AIMS experts and providers, the IATI Secretariat and personnel in donor agencies responsible for the generation of IATI data. We will learn from and build on work in other pilots and case studies to understand the successes and failures in other contexts. We will also draw on the source code used in other pilots. We are mindful of the importance of sustainability and of ensuring that systems developed will continue to work and can be maintained at low ongoing cost. Contributing back to the rest of the community means others can use and build upon this work - including the source code. It is more likely to be developed and maintained if others find it useful.

Finally, successful AIMS rely heavily on active and mutually supported aid management processes including good relationships between government and DPs and time commitments to input data. This study is not an assessment of those aspects. However, without these in place, merely adding the ability to import data from IATI will not lead to an AIMS with high quality data.

5. Technical

The software will be developed in a flexible and iterative, or “agile” approach as outlined above - to ensure that the end product is reflective of the broader goals. This iterative approach will be important to ensure that the developed software works and meets user needs. Adjustments to the software following user feedback will make it much more likely that the software will be used and be sustainable.

In keeping with the “do no harm” principle continually emphasised, we will initially develop the module outside the AIMS, to ensure that it does not disrupt any existing systems or processes⁵. A modular approach has the added advantage of developing something that could be used by others. In this way, Bangladesh would be providing a useful service to the rest of the IATI community and other partner countries. But it also makes good sense from the perspective of Bangladesh, as it becomes easier to develop and maintain and more likely that others will contribute to this effort.

As all of the outputs would build upon and contribute back to existing efforts in the community, we would strongly recommend that all generally applicable outputs (i.e. those that would be useful in other contexts) - reports, technical documentation and code, will be openly developed and openly licensed⁶.

Moreover, the very tight timeframes available for development will require extensive and frequent input and coordination, including the ability of the Consultants to provide direct input into the evolving code. We will also need to draw on existing code developed by other developers in other countries (e.g. open source module being developed by Development Gateway, OIPA, IATI Datastore). Developing an open source module in collaboration with others will both increase the sustainability of the work and allow it to be used in other countries. For all these reasons, Github should be used to share the code and all code must be available there from the outset.

Given limited time for learning or for other developers to get up to speed on the existing system, we strongly recommend that the existing developer is retained. However, in the course of specification, we may find the need to hire software developers with other skillsets (e.g. for standard-specific or design work).

⁵ There may be some areas where we would suggest modifications if they would significantly improve or simplify IATI integration

⁶ We would recommend the Affero General Public License. Note that the Government of Bangladesh would retain copyright in any works.

6. Timing and outputs

The ToR for this initial phase allows for 90 days work over a period of 5 months and at least two visits to Dhaka. The timing for delivery of this work is very tight. In particular there is limited time available between preparing the technical specification and the completion of the programming work. It is worth noting that development of similar solutions for other AIMS systems have taken several years (and are still not fully functional) whereas this timeline gives 4 months. The various outputs (produced in four stages as specified in the ToR) will come together to form consecutive chapters of the final report:

1. Introduction
2. Approach
3. Review of IATI Data
4. Review of Bangladesh AIMS
5. Technical Specifications
6. Implementation
7. Capacity building
8. Outcome

The majority of tasks below have been taken from the Terms of Reference (see Annex D). However, some adjustments have been made to reflect the progress made during the initial mission.

October

Deliverable: Inception report (18th October after initial visit to Dhaka) comprising chapters 1: Introduction and 2: Approach

- First visit to Dhaka;
- Establish the timing of the different outputs for the rest of the work - both those elements that the consultants will be solely responsible for and elements that others will be expected to deliver;
- Hold consultations with ERD staff, UNDP Bangladesh technical staff, Development Partner focal points, and TechnoVista;
- Examination of the current AIMS processes with ERD and code with Technovista, obtain source code and logins to the front and backend;
- Discuss in-depth with a range of DPs their current approach, process and perspective on inputting data to the AIMS as well as considering their existing IATI data and the extent to which it can fulfill the needs in the AIMS.

November

Deliverable: Methodology (mid-November) comprising chapters 3: IATI Data and 4: Review of Bangladesh AIMS

- Review IATI data available for Bangladesh: analyse quantity, quality and system for provision;
- Provide an overview of the quality of DPs' data to help establish a dialogue between the government and individual DPs around the level of effort required in importing that donor's IATI data.
- Outreach to DP headquarters to address DP-specific data quality issues.
- Review Bangladesh AIMS data: analyse existing data structure, interface of and map the data fields against the IATI XML schema;
- Establish the variety of roles that IATI data can play in the Bangladesh AIMS (automatic import, supplementing local data, suggesting changes to local data, identifying missing DPs, humanitarian data, regional data etc.) and advantages and disadvantages of the various options.

Deliverable: Technical specification for developing software module comprising chapter 5: Technical specification and ToR (mid-November)

- Design an effective transferring mechanism to integrate projects level and field level data from the IATI repository with projects recorded in Bangladesh AIMS in a way that data integrity and consistency are preserved, while providing a user friendly interface;
- Identify how the IATI import module would affect capacities required to maintain the AIMS – in particular in the light of future IATI upgrades;
- Prepare functional specification of an open source IATI data import module which could also be used by other countries with an AIMS and which should increase sustainability of the module as the IATI Standard evolves;
- Outline technical specification for data import module for software developers. The iterative approach to software development will need to have a flexible contract that does not require a single highly detailed specification in place that a developer should implement in a single phase, rather one that allows the specifications to respond to constantly updated feedback;
- Prepare outline ToR comprising methodology and expected input / output features for data import module for software developers (mid-November);
- UNDP to begin procurement of software supplier (mid-November);
- Establish Github repository to house technical documentation – should be a “living document” that can be updated over the course of software development (30th November).

December

- Phase 1 and 2 of development process;
- Outreach to stakeholders; feedback from DP focal points and ERD staff;
- Provide assistance to the software development team as and when necessary, including coding input;
- Presentation to IATI Steering Committee (trip) of proposed approach;
- Outreach to DP headquarters to address DP-specific data quality issues.

January

- Second trip to Dhaka;
- Phase 3 and 4 of development process;
- Outreach to stakeholders; feedback from DP focal points and ERD staff;
- Provide assistance to the software development team as and when necessary, including coding input;
- Outreach to DP headquarters to address DP-specific data quality issues.

February/March

Deliverable: Final report (End-February 2016) comprising chapters 1 to 5 with the addition of chapters 6: Pilots, 7: Capacity building and 8: Outcome

- Potential third trip to Dhaka;
- Phase 5 and 6 of development process - finalisation of the functional module;
- Outreach to stakeholders; feedback from DP focal points and ERD staff;
- Provide assistance to the software development team as and when necessary, including coding input;
- Outreach to DP headquarters to address DP-specific data quality issues.
- Prepare a detailed analytical report of the module's operation mentioning its advantages, bottlenecks and way forward;
- Provide guidance on modifications to existing processes, and on methods and workflows which need to be followed for the import of data from IATI including roles and responsibility of concerned personnel for mapping projects and sectors between systems, for maintaining data integrity and consistency, and for local staff to evaluate whether IATI import or local import is easier on a case by case basis;
- Ensuring a user-friendly interface and contextual help rather than providing a long user guide or manual;
- Train ERD officials and DPs on use of IATI data in AIMS with the new module.