



# Shelter Information Portal

## Feasibility study for the Global Shelter Cluster

This study explains the rationale behind a Shelter Cluster Information Management tool, referred to as the Shelter Information Portal. The study is broken down into three main sections as follows:

1. **Background** outline requirements for a Shelter Information Portal and Terms of Reference
2. **Technical appraisal of ActivityInfo**, one possible option for a Shelter Information Portal
3. **Practical appraisal of ActivityInfo** drawing on the perspective of current users

### BACKGROUND

Currently, the majority of data reporting during a humanitarian emergency response is conducted in a piecemeal fashion. Implementing agencies in a cluster situation use multiple reporting mechanisms and lack of common standards and indicators against which to measure their data. As a result, clusters face enormous challenges accessing the accurate, reliable, and timely data they need to identify gaps, monitor progress and advocate to stakeholders.

Broadly speaking, these challenges could be addressed by a) a common data standards, along with b) a universally used reporting mechanisms. Agreeing upon a common data format in the form of standardised indicators is therefore a necessary step, but is not in itself sufficient to streamline reporting. Including a tool to aggregate, analyse and visualise this data, would be the next logical step.

If regularly used by all cluster members, an emergency-wide common data sharing and reporting platform would allow clusters to:

- Identify and prioritise aid gaps across the entire intervention by pointing out unmet needs using baseline assessment data,
- Monitor aid gaps throughout the response by streamlining information sharing,
- Improve accountability by publishing data from each implementing agency and comparing performance against predefined targets,
- Eliminate the need for time-consuming, multi-way progress reports, through making data available to all relevant parties, with online reports and charts automatically updated with the latest entry,
- Decrease data management workload - from data collection to reporting - by automating the data aggregation tasks.

Program monitoring data takes the form of indicators defined either per agency activity or per entire intervention, in the case of multiple agencies working towards the same objective. Each agency enters data at field level, eliminating the need for centralised data aggregation and processing. Once entered into the system, data is then immediately visible to all relevant stakeholders in the form of chart reports and compared against predefined indicator targets.

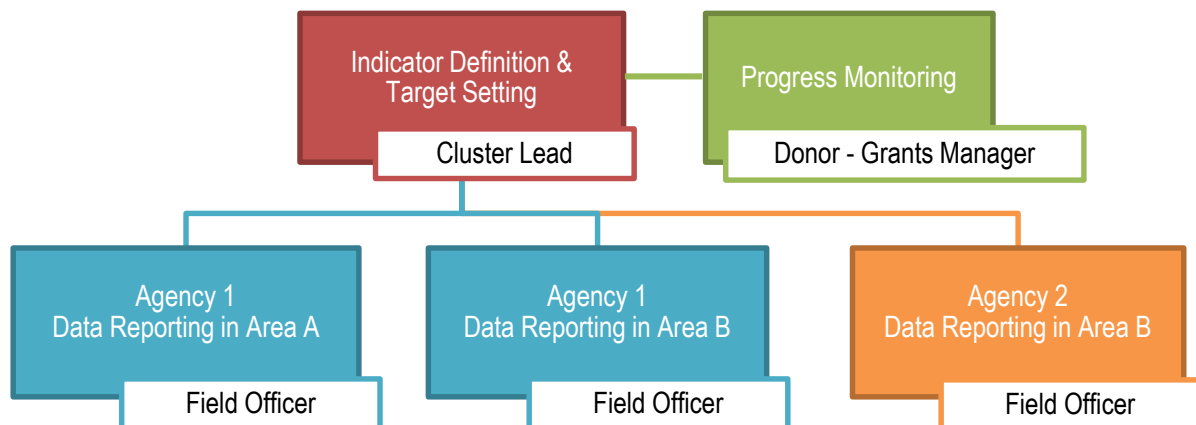
## TERMS OF REFERENCE FOR A SHELTER INFORMATION PORTAL

The Shelter Information Portal (SIP), as outlined above, is a cluster information management tool requiring the following functionalities:

- Simple mechanism for non-technical staff to report data according to a predefined form
- Data import mechanism to allow for bulk data entry
- Data export mechanism to extract raw data from the system
- Usage permission control to allow access to the following tiers:
  1. Guest visitors to browse reports
  2. Logged in users to add and edit own data
  3. Logged in managers to review and correct all data
  4. System manager to define and revise data model
- Data analysis capabilities
  - Visualisation of entered data as charts and maps
  - Disaggregation per various data dimensions (location, time, indicator type, indicator value, implementing agency)
  - Location profile comparison according to any indicator
  - Indicator dynamics for trend analysis
  - Mapping for comparison of indicator data per individual locations or aggregated to administrative divisions
- Generate up-to-date reports to show progress made on key indicators according to a predefined template

### Multi-agency Approach

As a cluster-level tool, the SIP should be deployed with a multi-agency approach as seen below:



## ACTIVITYINFO TECHNICAL APPRAISAL

ActivityInfo (AI), a software developed for UNICEF and UNHCR, is one possible candidate for SIP deployment. It is currently maintained by the independent, Netherlands-based company BeDataDriven (BDD). This section provides a brief overview of its technical suitability in relation to the SIP Terms of Reference above.

AI allows implementing agencies to enter basic data parameters at the field level such as time, location and indicator values. It then allows for multidimensional data analysis with custom aggregation, filtering and visualisation. It is well suited for multi-user scenarios such as country-wide, multi-agency operations. The core system functionality is very well-implemented and the system as it is fulfills all SIP requirements.

Additionally, AI is under constant development and users have a possibility to request further features to be added to the system. Following a Shelter Cluster pilot, a list of desired features can be presented to BDD for development feasibility study and costing.

### Platform accessibility

The initial setup requires knowledge of the AI data model, but does not require any specific technical skills. Day-to-day system operation is straightforward and requires only basic computer literacy- meaning data entry is no more difficult than entry into a spreadsheet or an Access form. Bulk-import function is also provided for mass data entry and offline caching allows workstation synchronisation with server whenever a connection becomes available.

AI also allows any user to visualise the data according to their own needs. This means that reporting agencies or IM Officers may define a set of standard data visuals accessible to all partners, but additional charts and reports can be created by any user. Information from ActivityInfo can also be exported to create interactive dashboards such as the [Myanmar Shelter Information Dashboard](#), an example developed alongside the pilot database.

### Access control

AI allows fine-grained user permission control, such as:

- Design database including activity definition and indicator choice (Cluster Lead, Country IM, developer)
- View own agency data (internal Project Officer)
- Enter and edit own agency data (Field Officer)
- View all agency data (Cluster Lead, Donors)
- Enter and editing all agency data (Cluster Lead, Country IM)

Only people with explicitly granted permission have access to the data. Neither the developers nor hosting service can view the data without the database owner's permission. Data remains the property of the database owner (ie. Shelter Cluster).

### System and data security

Operational data is stored in the Amazon Elastic Compute Cloud (EC2) Server, hosted in Ireland, and is automatically copied between multiple geographic locations. Additionally, BDD perform their own nightly data backups so that even in the very unlikely case of a catastrophic hardware failure at multiple locations no more than one day of data is lost. More information on Amazon EC2 security is available in the: [Overview of Security Process document](#).

### System limitations

Current system faults are predominantly minor bugs, such as chart formatting issues in the custom generated reports and non-critical user interface glitches. It has to be noted that the development team actively identifies and troubleshoots such problems. Further critique can be found in case study interviews in the next section of this report.

## ACTIVITYINFO PRACTICAL APPRAISAL

The following section is based on case study interviews conducted with current ActivityInfo users to provide a practical understanding of some of the advantages and challenges. The interviews include the perspectives of a range of users in cluster or cluster-like settings: Information Managers, Implementing Agencies, and Cluster Coordinator.

### Information Manager's Perspective: Kurdistan Region of Iraq (KRI), IDP Response

**Kuda Mhwandagara, Information Management Officer, OCHA**

**Bo Hurkmans, Information Management Officer, IOM/Shelter/NFI Cluster**

Decision to utilise AI for the IDP response in KRI has been inspired by the deployment of the system for the Syrian Refugee Crisis response. It is currently being rolled out, with an effort to standardise the indicators between the two responses for simplified data capture.

#### Rationale for starting to use AI and what was expected of the system?

The Strategic Response Plan (SRP) objectives can only be met through combined effort of agencies, and the main purpose of AI is to facilitate this by streamlining reporting. We are currently dealing with various ways of trying to capture the same information. The methods vary per governorate and are consequently difficult to consolidate at KRI and National levels. Additionally, sometimes National or Regional coordination requests the same data from the field multiple times. The purpose of the AI is to capture the data just once, at the source, thus reducing the reporting demands placed on all Agencies.

#### Has AI met these expectations?

It is too early to say if the expectations are met as AI is still being rolled out.

It has to be noted that the success of the system depends not only on its technical capacity, but also how the indicators are defined. KRI IDP response uses two AI databases: one for planning, one for monitoring. The planning database is aligned with the high-level Strategic Response Plan indicators, while the monitoring database has more detailed indicators that are better suited for the field level.

#### In what way has AI changed the way you/your organisation works?

AI has a number of useful capabilities that change the way data reporting works from bottom-up reporting into a collaborative process. Cluster IMOs are able to supervise incoming inputs and validate data. Data does not need to be entered on a specific date, but can be entered at any time, including offline. Changes and entries can be tracked by IMOs. This data is then made available to coordination as well as all participating agencies, thus allowing them to better contextualise their projects as well as give them direct control over their own activities visibility in the 3W/4W system. This effectively means a step away from the model: agencies report data and the IMO creates products – now all Agencies themselves can use built-in AI reports to create IM products.

#### Where AI could be improved, what doesn't it do as expected?

One notable bug is the broken data export, which is currently being fixed. A feature that is missing is the ability to set custom reporting periods, such as weekly, as currently only monthly reporting is available. However, as a data reporting system, AI has all the necessary features to function.

## Implementing Agency Perspective: Lebanon Example

Joshua Kirton, Country Coordinator, REACH

Jake Peters, Project Development/Reporting Officer, ACTED

### Rationale for starting to use AI and what was expected of the system?

UNHCR, as the coordinating body for the Lebanon's Syria refugee response, has implemented AI in Lebanon as a tool to collect information from all Agencies participating in the crisis. The system was expected to become the single 3W/4W tool in the country for UNHCR's partners. It has been set up to allow Agencies to report project progress against RRP6 indicators and act as the single country-level 3W/4W tool for consolidated multi-sector reporting.

### Has AI met these expectations?

AI has replaced most, if not all, other ongoing 3W/4W reporting mechanisms for past and ongoing activities. As all the UNHCR's partners are obliged to report their activities within AI, the past and ongoing activities record is complete and available to all users in form of reports.

In the specific case of ACTED, the system is run in parallel to internal reporting mechanism.

### In what way has AI changed the way you/your organisation works?

AI has gained an almost universal adoption among UNHCR partners. In some cases data from other projects is being reported via AI as well. AI works well as a centralised, streamlined reporting tool. Focal points responsible for data review have been established for each working sector and deadlines for monthly reporting on project progress are enforced on all UNHCR partners. Data is entered by partners and validated by relevant Sector Leads. All in all, adopting AI has contributed to better and more timely understanding by coordination and donors of all projects' progress. It has not had such a big impact on bilateral coordination between implementing agencies, nor has it greatly changed agencies' reporting process, although since AI was introduced in parallel with other reporting mechanisms the workload has increased slightly.

Previously, UNHCR required a combination of weekly and monthly narrative reports. These were dropped with the arrival of AI which requires monthly indicator data input. Additionally, quarterly narrative reports were introduced.

### Where AI could be improved, what doesn't it do as expected?

In its current form, AI is only used for reporting completed activities. It does not have a capability to forecast future needs and measure planned activities against those needs to identify potential aid gaps. Adding such features could turn AI from a current situation tool to project and operations planning tool.

The system is configured to allow each agency to view only their own data. Other agencies' data is available in an aggregated form with low degree of detail that does not allow to coordinate activities between agencies. This is an implementation decision rather than system limitation.

Lastly, the system is configured for standard regional indicators rather than project-level indicators. This means that projects that do not fall into the most common categories cannot be accurately reported on with AI. This is an implementation decision rather than system limitation.

## Coordination Perspective: DRC Example

**Steven Michel, Emergency Specialist/ Shelter-NFI Cluster Coordinator, UNICEF**

*As Steven Michel was not available for interview, the following report is adapted from [activityinfo.org](https://activityinfo.org).*

### Rationale for starting to use AI and what was expected of the system?

As UNICEF, we had very large program with multiple partners operating in multiple provinces. One of the basic challenges was being able to report aggregated data about activities and results. Each of the partners reported in to us about the scope of their activities during a certain period, but we often had to cobble together Excel sheets when we wanted to know about the whole program. So [AI] was initially used for programs, large multi-province, multi-partner, multi-sector emergency response, to be able to have better idea of reporting on the entire volume of activity. The idea was that if reporting was done frequently enough, it would also give us a real time idea of where things were happening and be able to see coverage as well.

### Has AI met these expectations?

[W]orking with BeDataDriven we developed this online system which was meant to be quite easy to use, a few minutes of time but also linked into mapping, you could show exactly where the interventions were taking place. So in my office, I had data at my fingertips – cumulative information, I didn't have to send out excel sheets and ask everyone to fill them in – 'we need to know your information', or try to patch it together from everyone's different report formats and create our own.

### In what way has AI changed the way you/your organisation works?

[I]n the past what I would have [done is] send an email to every organisation that does Non-Food Items, every provincial cluster, asking them to complete an Excel table, fill it in with information on families, returnees, host families, items in kits, cash vouchers etc. People then filled it in and returned it and then we had had to compile it into a master Excel file that provided the data we had to give to OCHA for the reports. Today, it is a matter of going right to ActivityInfo. I still have to ask them to make sure all the information is up to date; certain organisations update ActivityInfo once a month, some once a week; I still have to push for data, but it is not a big push. Once I have given a deadline, then I can make sure I go on ActivityInfo and extract it in a matter of minutes into Excel. I have a pre-set report with all the variables I want to look at, and I can report that into OCHA.

### Where AI could be improved, what doesn't it do as expected?

[Cluster organizations] can do their own data analysis of their own interventions using ActivityInfo, they can do their own mapping – we don't see the partners using it that much for their own information, building their own information products out of ActivityInfo. I think that may be a question of training and familiarisation – entering data is simple but you need a bit more knowledge for mapping and extracting data but it would be great to see that level of use.

## ANNEXES

**Annexe 1:** ActivityInfo Information on Larger Support Contracts (price list)