



LAND RELEASE & IMSMA^{NG}: COUPLING PROCESS IMPROVEMENT WITH SOFTWARE FLEXIBILITY

The development of IMSMA^{NG} and the research undertaken on land release have responded to needs expressed in the field. Built on best practices, the latter is an effort to maximise efficiency of existing land release processes while the former provides a decision support tool, allowing for more detailed tracking and monitoring.

National Mine Action Programmes (MAP) around the world that wish to implement land release also need to adapt their information management activities. This should start with a redesign of their existing workflow procedures. In addition, new documentation and tracking procedures that account for the relevant elements of the land release process need to be designed to ensure data quality and transparency.

Iterative versus sequential workflow

The approach of land release is defined as ‘iterative’ as opposed to ‘sequential’. This means that the order of the connected steps designed to achieve land release – the workflow – can vary from case to case. Unlike a sequential approach, where the workflow follows in a linear way all steps of a defined process, the land release approach entails adaptation according to circumstances. Hence, it also requires high flexibility in the information management system. A process management tool made for a sequential approach would automatically provide the user with predetermined actions that should be taken for the following steps.

IMSMA^{NG} however, does not impose an order of actions or specific inputs. On the contrary, the system was designed to provide the administrator with tools to adapt input forms and output reports in the system to the actual workflows in operations. Once this customisation is done in the installation phase, the other functionalities of the system are standard. That functionality was primarily designed with the operations staff in mind. This approach has given the system two benefits:

- data quality is controlled by the subject matter experts who hold the knowledge of the reality that the data depicts
- high user-friendliness of the system through an intuitive interface allows users with limited computer literacy to execute common tasks

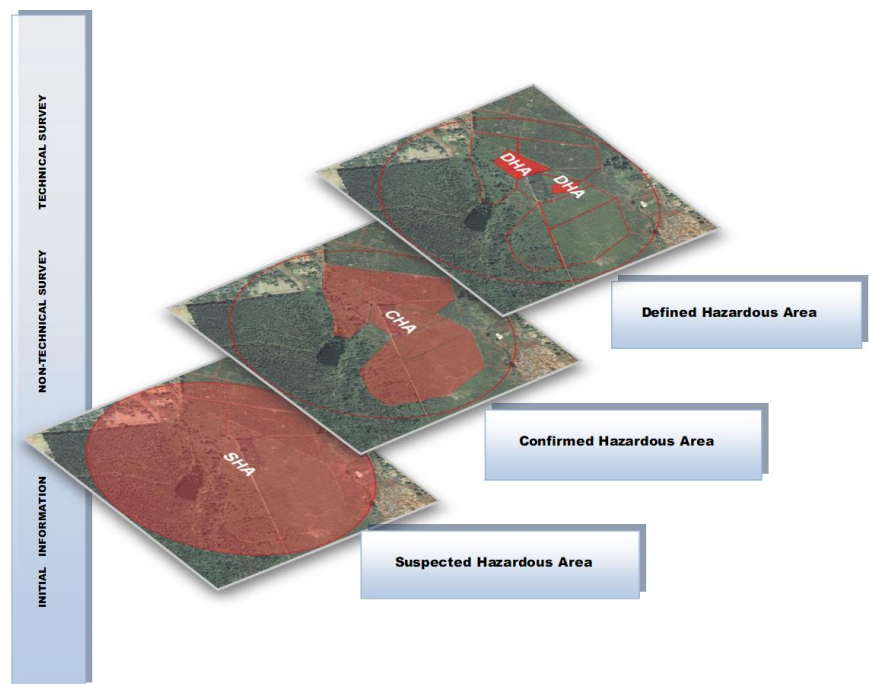


Figure 1 Example of Processes and Results in IMSMA^{NG} in an archetypal land release implementation

Using IMSMA to track land release processes and results

IMSMA^{NG} provides ‘electronic folders’ which are broad categories into which different files containing data can be classified. For example, depending on how the administrator sets up the system, the hazard folder might contain suspected hazardous areas, defined hazardous areas, confirmed hazardous areas, etc. The hazard reduction folder might contain non-technical survey, technical survey, released land procedures, clearance operations, cancelled land procedures, etc. The quality control and assurance folder might contain quality assurance on technical survey procedures, quality control on released land by cancellation procedures, etc. Other folders include tasks, victims, accidents, MRE and locations.

In order to classify collected data into one of the folders, the administrator has to create data entry forms.¹ Provided that the data entered into a form contains geographic coordinates, it can all be displayed on the map interface² as points, polygons or lines.³

¹ Data entry forms are created through the integrated form designer tool. There are no limits to the number of fields, standard or custom, which can be included on a form.

² The [standard symbology for humanitarian demining](#) is integrated in the system. Additional symbology can be customised.

³ Single points include reference point, benchmark, landmark, etc. Interconnected points include start point, intermediate point, turning point, end point, etc for either polygons or polylines.

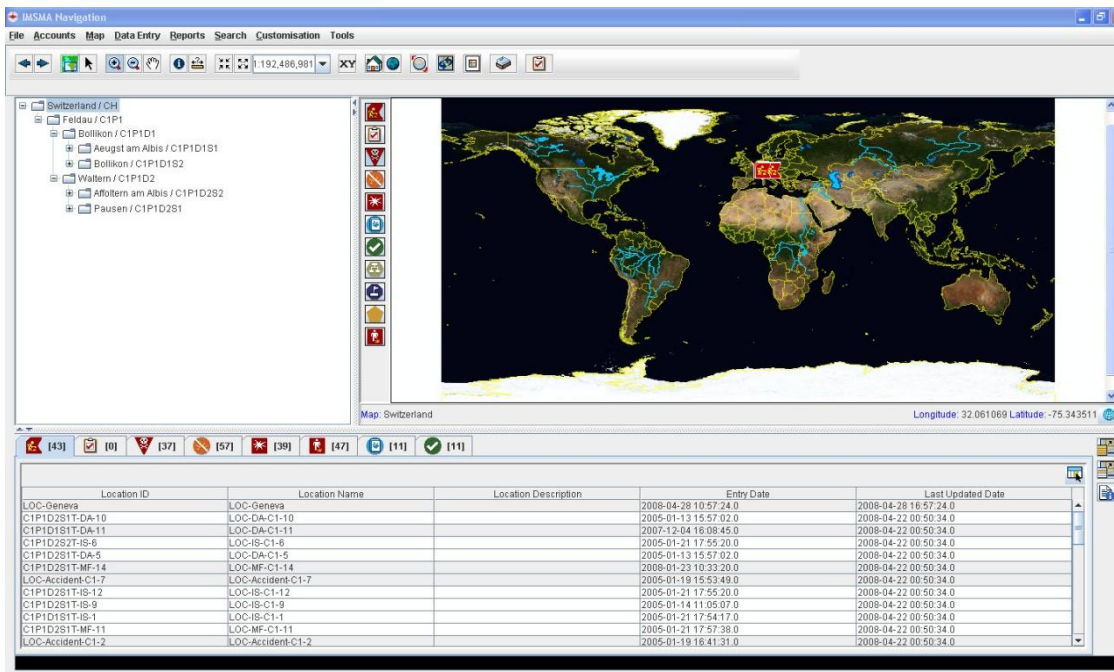


Figure 2 Screenshot of IMSMA^{NG}. Note the Tabs for the folders in the lower left.

If the system stopped at categorising completed forms into folders, it would just provide an electronic archive. The difference in making the system an operational tool for decision-support lies on the links among various incoming data. These crucial links should be defined in the standard operating procedures (SOP) of the organisations using IMSMA^{NG}. A successful approach to linking information will enable IMSMA^{NG} to provide functionality for:

- geographical grouping of information for ease of browsing
- progress monitoring
- task prioritisation
- operations planning
- land release and risk management

There are several ways in which IMSMA^{NG} can be set-up beyond recording processes⁴ and outputs, such as cleared land or better defined hazardous areas. The configuration of IMSMA^{NG} is performed in the initial stage of the implementation of IMSMA^{NG} with the technical help of IT specialists – in coordination with operations staff and information managers.⁵

One possible configuration is the following:

⁴ Processes refer to any methodology that serves the purpose of data collection such as surveys that better measure the actual threat.

⁵ The configuration includes data entry form creation, cartography and country gazetteer, map representation of items, and report templates. Additional changes can be incorporated at any time. However, it is advisable that the main structure be defined as early as possible, then tested and adjusted if necessary.

- geographic coordinates are collected for all data – in order to display processes or results on the map
- the default *hazard reduction* folder is categorised into: surveys (non-technical survey, technical survey, etc), clearance and released land operations
- the default *hazard* folder is categorised into: suspected, confirmed, minefield, battle area etc
- the default *quality control & assurance* folder is categorised into: technical survey assurance, clearance control, released land control etc

The above structure is only an indication of possible configurations that can be created and is by no means comprehensive. A useful configuration will depend mostly on the local needs for data entry form and report template creation, links and SOPs.

For representation of released land separately, another variant is to use one of the default folders to represent released land. While this is not an optimal solution – as the folder might be needed for what it was originally designed for – it is still possible to adapt the system this way for a more graphic visualisation on the map of the processes and results.

IMSMA^{NG} and risk management frameworks

The land release approach is based on risk models and other tools that determine threat or suspicion levels in line with national standards. While IMSMA^{NG} offers limited capacity to include these types of tools within the system itself, it does not prevent the incorporation of explicit decisions or solutions supplied outside the system to generate comprehensive knowledge to inform strategic decisions, coordination and prioritisation of the riskiest tasks. Both the strategic configurations performed on the system and the data quality itself help fulfil the overall objective of releasing land and allocating clearance resources on genuinely mined areas.

For more information on IMSMA, please visit the IMSMA webpage at www.imsma.org.