

# **Designing and Developing the Data Structures and Models Necessary to Track and Manage Landmine Casualty Data**

**Final report on the Project:  
*Develop a Framework for the Systematic Collection and Management of  
Landmine Casualty Data***

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# **Develop a Framework for the Systematic Collection and Management of Landmine Casualty Data**

## **Introduction**

When launched in the last quarter of calendar year 2000, this multi-phase project was forecast to unfold over the course of eighteen (18) months. This projection was accurate, as the background research into the existing victim data collection systems and the survey about the required elements of a mine victim information system took one year to complete (calendar year 2001) and then the planning, execution, and follow-up documentation of a meeting of victim assistance experts took six months to complete.

This final report references two other documents prepared during earlier phases of the project. They include the following:

*Managing Landmine Casualty Data*, which reported the findings of the project through Phase II (issued 31 December 2001). It included a comparative analysis of nine landmine casualty database systems in use in mine-affected countries and the results of a survey of mine action database operators and victim assistance experts.

*Landmine Casualty Database Workshop*, which captures the presentations, discussions and recommendations of the working group of victim assistance and information management experts that met at James Madison University on May 13-14, 2002 (in completion of Phase III of the project).

The workshop built on the work of the *Managing Landmine Casualty Data* report, and this final report draws on both reports to provide an overall assessment of the project's outcomes and to make suggestions for future initiatives to build upon the successes of the project.

## **Summary of Project Goals and their Fulfillment**

In the *Managing Landmine Casualty Data* report (p.3), the project's goals were summarized in the following way:

“The Casualty Database Project has two principal goals:

1. To assess existing methods of landmine and UXO casualty data collection, analysis and dissemination
2. To formulate courses of action for the systematic and accurate collection and processing of casualty-related data.”

### Assessment of Existing Methods

As to the first goal, the project succeeded in drawing together detailed information about nine different database systems in use in mine-affected countries, including the Information

Management System for Mine Action (IMSMA), which is being used in at least 26 countries at this time. The other eight systems are specific to individual countries representing various regions and implementing organizations, ranging from the ICRC and Handicap International in Afghanistan to national mine action centers or government ministries in Bosnia, Croatia and Angola and to UNICEF and a local NGO in Guatemala (see pp. 9-10 of the *Managing Landmine Casualty Data* report for a list of the countries and organizations). Victim assistance field operators and information managers alike have reported the usefulness of having these different systems compared and their collection forms available for examination. This comparative analysis represents the most comprehensive effort to date to compare different data collection systems.

The background research conducted on existing methods for data collection also included a review of previous initiatives to develop information gathering methodologies and tools. It was essential that any recommendations made be built on the work already done in this field and not duplicate or disregard advances already achieved by others. Among the initiatives examined are the groundbreaking work done by the International Committee of the Red Cross (ICRC) during the 1990s and the World Health Organization's (WHO) *Guidance on Surveillance of Injuries due to Landmines and Unexploded Ordnance* (2000), which influenced the content of IMSMA's incident victim functionality (*Managing Landmine Casualty Data*, pp. 12-13). The researchers also examined the important work of the Physicians for Human Rights in developing surveillance tools (*Measuring Landmine Incidents & Injuries and the Capacity to Provide Care*) and Handicap International in compiling information on reported casualties and victim assistance (*Victim Assistance: Thematic Report 2000*).

The MAIC project was successful in compiling a number of data collection systems and examining several other mine victim surveillance initiatives. The project concluded that data on landmine victims is not being collected in a systematic way in a majority of mine-affected countries. While data is being collected effectively in a few countries, in most countries reliable information on the number of victims, let alone details about their rehabilitative needs is not available. What data is being collected is not comparable cross-nationally nor can it be aggregated globally.

The MAIC project has made an important contribution to expanding knowledge about the state of casualty data collection, a subject that has been frequently discussed in various international forums devoted to victim assistance topics (for example, see the proceedings of the meetings of the Standing Committee on Victim Assistance and Socio-Economic Reintegration since 1999).

### Identifying the elements of a global system

The results of the MAIC survey sent out to victim assistance experts and mine action database operators yielded new information about what was viewed as essential data fields to include in a common core of data on victims. The survey results provide information to build upon in future efforts to forge a common core of victim data that could be collected and shared cross-nationally and aggregated globally. The developers of IMSMA and maXML have acknowledged the value of the survey results as they continue their efforts to refine these computer applications, which

play an important role in furthering the prospects of improved global data collection and exchange.

The project, however, did not arrive at a definitive set of core data fields that it could recommend be adopted on a global scale. And it did not develop a model for collecting and managing landmine casualty data on a global scale, as set forth as a project objective in an initial proposal for the project.

As the project unfolded over the course of eighteen months, it became clear that IMSMA had become the most widely used information management system in mine-affected countries. In 2001, it was announced that the Afghanistan information system would convert over to use IMSMA. The ICRC also reported that it would be adopting an IMSMA-based system, moving away from its previous use of five different database systems that supported its programs in different countries. Also during 2001-2002, IMSMA was introduced into ever more countries, to where it was in use in 26 by mid-2002.

The casualty data project researchers concluded that the goal of the project had become not to develop a model of a casualty information management system but to analyze IMSMA in comparison to other systems in use and make recommendations on how IMSMA could be improved so it could meet the needs of data collection globally. Other imperatives of the project also were to assess obstacles to establishing effective casualty data collection systems in mine-affected countries and to exchanging information that has been collected so that it could be used to inform victim assistance program planners and implementers.

Building on this conclusion reached by the project researchers after completion of Phase II, the May 2002 workshop (Phase III) helped move the project along to fulfillment of its second major goal: To formulate courses of action for the systematic and accurate collection and processing of casualty-related data.

### Recommendations for future courses of action

The May 2002 Landmine Casualty Database Workshop brought together twenty people, most of whom had field experience in mine victims assistance and others were experts in information management. The initial goal of the workshop was to take the results of the survey on data fields to include in a common core of data on mine/UXO victims, further study the various data fields and then agree on a list of data elements to recommend for use in a global victim database system. However, because of the absence of representatives from some key actors in the field of victim assistance and data collection, namely the ICRC, WHO UNICEF, and Landmine Survivors Network, the participants of the workshop were reluctant to take on this authoritative role. It must be noted that all the groups mentioned above were invited to participate in the workshop but were unable to do so for a variety of reasons.

Despite the inability to agree on a common core of data fields to recommend for a global victim database system, the participants carefully considered the challenges to establishing effective victim data collection systems in mine-affected countries and to sharing the information gathered. The participants worked in three groups, each focusing on a certain component of the

challenges to victim data collection and management. One group considered in detail the data fields used by the IMSMA system and made some specific recommendations for revising its victim data collection forms, although it did not approve or disapprove of each specific data field. The second group focused on data collection methodology, training and cultural issues, while group three addressed the implementation and use of a global casualty database system. All three groups reported their recommendations back to the working group in plenary session. The working group then agreed on a set of recommendations through further discussion at the workshop and then by e-mail during the ten days after the workshop. These recommendations are listed in the proceedings of the workshop (*Landmine Casualty Database Workshop*, pp.15-20).

The following recommendations are distilled from the lengthy set of consensus items issued by the working group and from the research conducted by the MAIC as part of the casualty database project.

- 1. The IMSMA incident victim functionality should be retained in light of the important role played by Mine Action Centers (MACs) and National Demining Offices (NDOs) in mine victim data collection. The working group recognized that there is a limit to what the MACs/NDOs can be expected to collect on victims and so what data is collected must be carefully scrutinized.**

This recommendation addresses the debate that has arisen recently over the proper role Mine Action should play in Victim Assistance. The Geneva International Center for Humanitarian Demining (GICHD) is due to release a comprehensive report on that issue in September 2002. Based on the views of the working group and the research conducted by the MAIC, a strong case can be made to retain a role for MACs/NDOs in the collection of victim data. The working group set forth a series of specific recommendations for how the MACs/NDOs should play this role (see p. 20, *Landmine Casualty Database Workshop*).

- 2. The use of the terms “incident” and “accident” should be changed to comply with terminology used by the International Mine Action Standards (IMAS).**

*The IMSMA developers at the ETHZ/GICHD reported in July 2002 that they had in fact made these changes to the terms, adopting “mine accident” (for “incident”) and “demining accident” (for “accident”) in the IMSMA version (3.0) to be released later in 2002. This change was a direct result of the recommendation made by the working group at the May workshop.*

- 3. All of the data fields in IMSMA’s incident victim functionality should be assessed for their relevancy to the purposes for which the data is collected.**

Beyond the one specific recommendation for a change in IMSMA, the working group recommended that experts in the fields of operational mine action, mine risk education and victim assistance be asked to review the data fields in the IMSMA incident victim

functionality that relate to their areas of expertise. If any of the data fields are irrelevant, unclear or inappropriate, then they should be reworded or removed from the forms and possibly replaced by other data fields. The goal is to insure that what data is collected via IMSMA be relevant and appropriate, especially since it appears that IMSMA has become the system of choice for use in mine action programs.

- 4. National Ministries of Health (MoH) have a central role to play in the provision of assistance to mine victims as well as to all persons with disabilities, and they should be encouraged and supported to take on this responsibility, which includes the collection of data. MACs/NDOs have a key support role to play in this process.**

The working group agreed to several detailed recommendations pertaining to the role of the MACs/NDOs in furthering the participation of MoH in this area of responsibility (see p. 20, *Landmine Casualty Database Workshop*).

These recommendations relate to at least two lines of discourse found among victim assistance practitioners: 1) that IMSMA collects important victim data but does not provide all the information needed to develop programs for and provide services to landmine/UXO victims, and 2) that assistance to landmine/UXO victims must be part of the public health response to the needs of all persons with disabilities, a responsibility that falls under the Ministries of Health and not MACs/NDOs.

By bringing the MoH on board to participate more effectively in providing medical and rehabilitative services to mine victims as well as others with disabilities, the ministries would be in the position to collect or at least manage the data needed to inform program planning and implementation. The MACs/NDOs, where applicable, should be brought into the process by collecting certain data on new victims and passing it on to the MoH. Coordination and collaboration between the two entities is essential to collecting and sharing the needed information on mine victims.

## **Conclusions**

One clear outcome of the MAIC casualty database project is the recognition that IMSMA is becoming the accepted information management system to use in support of mine action. Its incident victim functionality is widely regarded as a useful means of collecting and managing victim data. However, it is not considered perfect, even by those who are among its strongest supporters. The IMSMA developers are open to suggestions for revisions to incorporate into its future versions, although they would rather not make many changes or extensive ones at this point. This is for a practical reason. Many countries already are using a version of IMSMA. If drastic and repeated changes were made to IMSMA, then various and quite different versions could be in use at any one time, thus negating the benefits of adopting a common system.

Nevertheless, some revisions to IMSMA are warranted. There are still some national mine action programs that would rather keep their own systems than IMSMA because they think their systems do the job better. Completion of the maXML information specification project should

allow for a better and more consistent exchange of victim data among different systems, and so these non-IMSMA systems should not hamper the future exchange of information on mine action, including on mine victims.

A greater concern is that there are still a number of victim assistance practitioners who think that the data collected by IMSMA is not adequate. The participants in the “Landmine Casualty Database Workshop” hosted by the MAIC questioned the relevance, clarity and appropriateness of several of the data fields in the Mine/UXO Incident Report form and the Incident Victim form. These sentiments also were expressed by some participants at the “Workshop on Assistance to Landmine Survivors and Victims in South-Eastern Europe: Defining Strategies for Success”, hosted by the International Trust Fund for Demining and Mine Victims Assistance (ITF) in July 2002. Many organizations involved in victim assistance report they need more and better data in order to do their jobs. The topic of data collection remains a persistent item on the agenda of the Standing Committee on Victim Assistance and Socio-Economic Reintegration of the Mine Ban Treaty (SC-VA). The ICBL continues to grapple with the matter, and the WHO sees improved data collection as an important issue that needs addressing (in response to a questionnaire issued by UNMAS as part of the consultative process to guide the SC-VA).

Revising IMSMA will not fully satisfy the requirements of victim assistance practitioners for more and better data, but it could be one piece of the answer. In post-workshop correspondence with some members of the working group, notably those at UNMAS and Landmine Monitor, considerable interest exists in pursuing the recommendation to survey experts working in the areas of operational mine action, mine risk education and victim assistance about the relevancy, clarity and appropriateness of the IMSMA data fields that relate to these components of mine action. Both UNMAS and the Landmine Monitor currently are pursuing projects relating to the challenges of mine victim data collection.

The desires to revise the IMSMA forms to meet the needs of victim assistance practitioners must be weighed against the debate that has developed over the past couple years about whether victim assistance is the responsibility of mine action centers, making IMSMA’s role more problematic. Some people are arguing that MACs/NDOs should not be involved in victim assistance or even data collection on victims, that others outside the operational mine action offices should be responsible for this, such as Ministries of Health. Who then would collect even the limited data on victims that are needed to begin to plan victim assistance programs if there is no Ministry of Health capable of doing it? Any suggested revisions to IMSMA must take into account these different perspectives.

In light of these different perspectives and expectations about victim data collection and management, the MAIC makes the following recommendations for future initiatives to build upon the results of the casualty database project.

## MAIC Recommendations for Future Initiatives to Build on the Project's Outcomes

1. Surveys should be conducted of experts in the areas of operational mine action (surveying, marking, clearance, quality assurance and operations planning and management), mine risk education and victim assistance to evaluate the relevancy, clarity and appropriateness of the different data fields included in the IMSMA Mine/UXO Incident report form and the Incident Victim form. The experts also should be queried about possible alternative questions to be added to the data collection forms in the event that some data fields are deleted.
2. The information gained from these surveys should be used to draft recommended revisions to IMSMA. It also could be used to inform the consultative initiatives outlined below.
3. A project should be launched that would bring together the key actors in planning and implementing victim assistance programs to develop the means to collect and share the detailed victim data required for mine victim assistance purposes. These key actors should be brought together on a **regional basis** (South East Europe, South East Asia, Latin America, Southern Africa, etc.) in order to make the task more manageable and to build on collaborative initiatives already underway in some regions. This process would focus on strategies to gather data beyond that collected by MACs/NDOs and shared with the victim assistance sector. These key actors should include representatives of NGOs, IOs, governmental ministries, and donors instrumental in providing victim services and in collecting victim data.
4. A project also should be initiated to develop strategies for increasing the capabilities of Ministries of Health in mine-affected countries to assume an active role in collecting and/or managing victim data and overseeing the provision of services to mine victims as well as other persons with disabilities. This could be done in conjunction with the **regional consultative initiative** outlined above or it could be organized separately at the **national level**, focusing on the requirements of individual countries for coordination and collaboration in order to more effectively meet the information needs of mine victims assistance providers.
5. **National level meetings** should be encouraged among the mine action personnel, the public health sectors (including the Ministries of Health) and any NGOs active in the country to devise strategies for collecting victim data and getting it into the hands of those organizations and ministries involved in victim assistance program planning. They also should devise mechanisms for collaborating on the planning and implementation of victim assistance programs.