DISCUSSION PAPER 7

Presented by the Geneva International Centre for Humanitarian Demining
at the request of Ms. Renata Alisauskiene of Lithuania
Coordinator on Clearance, removal or destruction of ERW, pursuant to Art.3 of the Protocol

LAO PDR RISK MANAGEMENT AND MITIGATION MODEL

Background

In 2006 UNDP Lao PDR issued a Request for Proposals (RFP) for the development of an "EOD Risk Management/Mitigation Model" in the Lao PDR and the GICHD was subsequently awarded the project and developed a model in association with other expert contractors in risk management.

Aim

The aim of the project was to design and specify a new approach to addressing the Lao PDR contamination problem that is practical to implement and is based on internationally accepted risk management principals. This resulted in the development of an excel-based model that could be used as a "decision support tool" for ERW clearance. The model uses field survey data and inputs from the U.S. bombing data to provide a risk assessment of individual Suspected Hazardous Area (SHA) to determine how much risk it presents to the local population, and then to prioritise the task according to its risk.

UXO problem in Lao

During the period 1964–1973, Lao PDR was subjected to massive aerial bombing and limited ground warfare. As a result, the country was contaminated by an unknown, but substantial, quantity of UXO. A survey undertaken in 1997 provided an overview of the scope of the problem, identifying 10 "severely" contaminated provinces and a further eight of the remaining nine provinces with lesser levels of contamination.

Most of the explosive contamination present in the country is from cluster munitions (locally known as "bombies").

Lao PDR represents an almost unique situation due to the existence of reasonably detailed bombing data from the US Government (although no study has been conducted to assess the accuracy of the data) which has the potential to allow a way to plan, prioritise and perform survey.

The situation in Lao is complicated by multiple layers of perception of risk. Each of the stakeholders in Lao PDR has different perspectives and varying levels of resources to pursue risk reduction. At one extreme, villagers are sometimes forced to choose between starvation or to survive by collecting UXO scrap metal for income or using contaminated land even if they have received UXO risk education.

The human impact of contamination

UXO has killed several thousand civilians in Lao PDR since the 1960s and continues to kill and injure several hundred more each year. UXO Lao's (the country's national clearance operator) own database recorded 164 victims in 2005. Of these, 89 per cent were male, 54 per cent were under 18, 45 per cent were due to "playing" and 9 per cent to "tampering". These figures are, sadly, insufficient in coverage and detail, and too inaccurate to be representative of the country as a whole. As well, the classifications used do not allow sufficient discrimination between activities.[i]

Development of the decision model

In 2006 GICHD started the development of a risk management/mitigation model by visiting Lao PDR with two technical experts and a consultant in risk management.

The team identified a number of key challenges for the UXO action program. Although significant areas of land were being cleared, casualties still continued and, beginning in 2004, actually started to rise significantly. There were also a lack of clarity on how UXO resources were allocated across the country and how tasks were prioritised for clearance

The detailed bombing data from the U.S. Government was identified as one of the key instruments and could, in combination with other data, significantly enhance the priority setting and tasking process.

Risk Management and Mitigation Model

The model is designed for Lao PDR and can only be used there. This is due to the "constants" that are incorporated into the system such as bombing data, accidents, accidents by ordnance type, etc., which were developed from historical data. These constants can be adjusted as needed, and is to be expected as the operators gain experience with the model. The decision support system is to be used in conjunction with survey procedures currently in place in order to prioritize tasks. The model does not address landmine contamination since it is comparatively insignificant compared to the other ERW contamination.

The tool classes the risks into three categories which correspond to national guidance on actions to be undertaken:

- Release/Cancel (green) without clearance for areas posing the lowest level of risk.
- Further investigation (orange) required for areas on which insufficient data is available.
- Clear (red) for areas posing the highest level of risk.

How to operate the model:
The model is designed to assist when making decisions regarding a specific SHA. Survey information in combination with the result of the model will provide guidance on what actions that are required (release/cancel, further investigation required or clearance). As for example, an area that has high priority in terms of land use might end up on the low priority list or being cancelled/released depending on the result from applying the model since the model is taking into consideration the US bombing data, accidents etc.

The model allows:
- better decisions on whether full clearance is necessary by assessing SHA in terms of risk (high, medium, low)
- resources to be focused towards SHA that represent a high risk to the community (by the likelihood of ERW being present and also the type of ERW that may be present).

To simplify use in the field, two different versions have been developed. There is a master version for National Regualtory Authority (NRA) use which allows access to the constants and calculation pages and also provides the user with a " likelihood of UXO in a specific SHA" output. The second version is adapted for use in the field, is locked to the data entry page, and simply provides a risk assessment output.

The model is now approved by the NRA and training is currently in progress with the national operator (UXO Lao) for implementation in the field.

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[i] Better data on accidents and casualties should soon be available, as the National Regulatory Authority (NRA) has recently undertaken a national UXO victim survey and plans to establish a national surveillance system for UXO victims and survivors.