



# TAMPERING

## **Deliberate handling & use of live ordnance in Cambodia**

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# EXECUTIVE SUMMARY

This Executive Summary does not reproduce the recommendations of this report which can be found in Section 11. Instead it presents a brief introduction to some of the key themes of the report.

## INTRODUCTION

This report was commissioned to examine the prominence, within casualty data in Cambodia, of accidents resulting from deliberate interaction with ordnance. The project adopted what would broadly be considered a health research approach. We looked at knowledge, attitudes and practices amongst populations where such accidents have occurred. We talked to people who had suffered accidents and others who undertook what would be considered risk-activities but had not had accidents. We also examined some of the mechanisms by which external bodies (such as mine action agencies and institutions of the national government) construct the need for assistance and seek to deliver assistance that will reduce the likelihood of these accidents.

The first half of 2004, during the period when this report was being researched and prepared, saw an increased level of ordnance related accidents in Cambodia. This increase was blamed on the high price of scrap metal bringing people into contact with ordnance; motivating them to “tamper” with these devices.<sup>1</sup> With its focus on the role of scrap metal in the community economy and the structures of the scrap metal trade it is hoped that this report will help to shape the mine action sector’s response to this issue.

Many aspect of our study are resonant with experiences in other countries. The scrap metal trade provides an economic motivation for people to engage with ordnance in neighbouring Lao PDR and Vietnam (Wells-Dang, 2004) as well as numerous other countries. Although it is hoped that issues and ideas presented in this report may be useful for the analysis of similar problems in other countries one of

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1. The Cambodia Red Cross issued a press release to this effect in June 2004. They noted 462 casualties during the first four months of the year as opposed to 320 during the same period of 2003 (Associated Press report 7 June 2004.)

the key challenges in responding to these patterns of engagement with ordnance is in recognising how specific local circumstances condition attitudes and behaviour. The assessment presented here is specific to Cambodia and within our assessment different analyses are applicable to different areas.

## **SUMMARY OF FINDINGS**

Men are far more likely to have handled ordnance than women. Just over 50% of men and boys in the KAP<sup>2</sup> survey sample from high-risk target communities had handled or destroyed ordnance. The most prevalent reasons why people had handled ordnance were to allow them to use land safely and so as to stop others (usually children) from engaging with these items. People undertaking such activities generally did so only rarely in response to specific circumstances. Handling ordnance so as to salvage scrap metal was also of high prevalence and is more likely to be undertaken as an ongoing practice. Most people's experience of handling ordnance does not result in death and injury. People generally have a "technical" perspective on ordnance and have ideas about what is more or less likely to cause it to explode. These ideas are often, but not always, well founded.

Distinctions can be drawn between more and less problematic forms of ordnance handling behaviour. Adults carefully moving or burning ordnance in order to stop children from finding items, or to clear land for use, seem to suffer accidents comparatively rarely. Children throwing items of ordnance or breaking items open and adults cutting open ordnance to make a device for fishing seem to suffer accidents more often; these activities can be still more problematic where they occur in the middle of villages with people gathered around to watch.

We also find that in certain circumstances people's engagement with ordnance must be seen as a reasonable effort either to address economic needs or to mitigate the threat that the ordnance poses. Economic motivations can be driven by needs that range from the trivial to the fundamental, however. Children in Kompong Cham reported burning ordnance in order to sell the metal and buy elastic bands to play with. In other circumstances, economic alternatives may be available but the drudgery involved in realising them is considered too great. In very vulnerable communities there may be no apparent economic alternatives. Individual and community patterns of engagement with ordnance change over time in relation to broader circumstances. People's economic circumstances are subject to the overall economic development of the community, annual cycles of agriculture and vulnerability as a dynamic personal experience. The experience of accidents within a village is likely to contribute to a decline in ordnance handling activities.

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2. A KAP (knowledge, attitudes and practices) survey was undertaken in target Communes of three Provinces that had experienced high numbers of accidents from deliberate handling of ordnance.

The scrap trade is a powerful and extensive economic institution providing a market for scrap metal in almost all rural communities. Live ordnance is not welcome within the scrap trade and so people in rural communities must render live ordnance “safe” in order to sell it. This is a fundamental and problematic component of the issue of ordnance handling within Cambodia. A large proportion of children draw upon scrap metal collection and sale to supplement their pocket money. Boy’s economic activities are a very significant factor in bringing them into contact with ordnance. Children generally recognise ordnance, know that it is dangerous and know what is likely to detonate it.

Fishing with explosives, though not particularly prevalent as an activity, results in a significant number of casualties. It is considered an economic activity but it does not generally fulfil a central economic role. Fishing with explosives is usually undertaken by adult men and is often associated with soldiers or former soldiers.

People who handle ordnance are not generally respected in the local community, though these practices may be widely accepted as an economic practice. People who do handle ordnance are generally considered to be brave. Expression or enactment of bravery, as part of the construction of masculine gender identity, may drive or reinforce boys engagement with ordnance. “Playing,” however, has been over represented as cause of children’s accidents in previous casualty surveillance data.

## **THE CAUSES OF INJURY**

This report presents suggestions towards the development of the overall capacity of Cambodian society to manage the problems arising from extensive ordnance contamination in the rural environment.<sup>3</sup> We emphasise the need to look at the wide range of fora in which responses need to be enacted. Rather than focusing on the need to destroy ordnance or the need to improve people’s knowledge of the risk of contact with ordnance<sup>4</sup> we look more broadly at the capacity of Cambodian communities and the Cambodian state to manage such risks. The capacity of the Cambodian state to undertake ordnance disposal is important, but so too is the legal framework that governs ordnance within society, the scrap metal trade which creates a widespread market for metal, the rural economy, the capacity of communities to exert a social sanction over the behaviour of their own members and the capacity of the police to manage ordnance contamination as a public safety concern. The causes of injury are thereby seen less in relation to the simple presence of a risk and more in the weakness or absence of social institutions that should mitigate that risk.

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3. At no point do we look at the role of health services in reducing the impact of accidents after the fact. This should by rights be considered as part of the overall capacity to manage the risk from ordnance contamination. Instead, our analysis focuses entirely on accident prevention.
  4. Destruction of ordnance and education regarding the risk of ordnance are the traditional pillars of the mine action sector’s response to ordnance contamination.

## A STRATEGIC PROBLEM

We are cautious not to exaggerate the significance of the level of casualties that result from contact with ordnance. Whilst it would be preferable, of course, to eradicate all such deaths and injuries they need to be seen in a realistic context. These accidents are as much the product of rural poverty and other weaknesses in Cambodian society and the Cambodian state as they are a product of the presence of ordnance.

When somebody suffers an accident handling ordnance in order to prepare it for sale as scrap metal we have to accept that a range of complex social and economic forces may have caused this accident. Investing more and more in the process of eradicating ordnance may not be addressing the root causes, the deeper vulnerabilities of which this ordnance handling was only an indicator. In addition, the presence of items of ordnance in the environment of a community does not cause the same social and economic constriction as is caused by landmine contamination. We see ordnance contamination then as problematic in so far as it provides an opportunity for accidents, but ultimately it should be a manageable problem so long as deeper vulnerabilities are being addressed. At present this is often not the case.

The proportional rise in ordnance related accidents should not result in resources being diverted away from landmine clearance (a more fundamental requirement in Cambodia) to explosive ordnance disposal (EOD.) Nor should they be used to appeal for an expansion of EOD capacity generally without a more thorough appraisal of the strategic direction of such a capacity within the institutional and donor context of Cambodia. The Cambodia Mine Action and Victim Assistance Authority (CMAA) states that the current mine action capacity needs to be maintained for a further 16 years with an EOD capacity operating for a further 50 years after than (CMAA, 2004: 6.) Where the need for such a capacity is still being envisaged over coming decades then established organs of the Cambodian state should be undertaking this work. Mine action in Cambodia currently costs approximately \$30 million *per annum* (Landmine Monitor Cambodia 2003: 12) yet there is still a sense that “the capacity of existing demining agencies is dwarfed by the scale of contamination” (GICHD, 2003b:70.) The absence of the police and the army from a central role in current strategic plans to address both landmine and ordnance contamination is a cause for real concern.<sup>5</sup> If assistance is needed to organise the military and police into a coordinated role as part of the response to landmine and ordnance contamination then donors, mine action agencies and other partners should work to provide this. If this cannot be done then donors

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5. Although the Royal Cambodian Armed Forces (RCAF) are attributed with the clearance of large areas of land and large quantities of mines and ordnance they do not appear to be effectively integrated into the overall process of mine action in the country. The figures that they claim for clearance cannot be verified and there is little evidence that their work is alleviating the plight of mine-affected rural communities. The police are providing assistance with respect to ordnance contamination but this is sporadic and also falls outside the central coordination of mine action activities.

should be questioning the commitment of the Cambodian state to resolve these problems in a cost-effective manner.

It is the responsibility of the mine action sector, including the donors who sustain this sector, to develop advice and programmatic models that can provide the basis for an effective Cambodian response to ordnance contamination. It is commonly noted that mine action cannot provide a wholesale solution to the problems faced by post-conflict communities - partnership with “development” is often presented as the way forwards. In recognising such a requirement the mine action sector must be very careful not to subserviate itself, its particular perspectives and capacities, to plans for development that may not be addressing the most fundamental needs of rural communities or the broader national needs for societal transformation. On the one hand, the mine action sector deals with the relationship between rural communities and their land - there is no more vital a relationship for such communities. On the other hand, the mine action sector often stands as a proxy for the army or the police - the state institutions who usually undertake such work in industrialised societies and whose transformation in the wake of conflict is often critical to social stabilisation. Innovative programme models and new partnerships present mechanisms by which the mine action sector could drive forward the agenda of both rural development and security sector reform.



The rural poor continue to evaluate risks and try to develop solutions to the wide range of problems that they face. Food insecurity, lack of money and the threat of illness present grave risks that daily activities seek to alleviate. Although most people's experience of handling ordnance does not result in death or injury, they recognise the risk involved; people are afraid at the time, but the risk passes. Food insecurity, lack of money and the threat of illness persist.



# 1. INTRODUCTION

## 1.1 BACKGROUND

### 1.1.1 Commissioning agencies

This report is the output of a research project jointly commissioned by Handicap International Belgium (HI-B), Mines Advisory Group (MAG) and Norwegian People's Aid (NPA) in Cambodia. These three organisations all have a long-standing commitment to alleviating the problems caused by landmines and explosive remnants of war (ERW)<sup>6</sup> and all three organisations are engaged, through some or all of their operations, in the mine action sector. This report is a product of the mine action sector and it draws upon the categories and operational concepts that inform this field of humanitarian and development activity.<sup>7</sup>

The time-frame and structure of this project were similar to those employed in Handicap International Belgium's 2001 study on informal demining practices amongst Cambodian communities (Bottomley, 2001). There are methodological differences between the two projects; however, at a fundamental level they are both efforts to learn more about the vulnerabilities and capacities that underpin the way people engage with the post-conflict explosive contamination that persists in their environment. They both also contribute to a process of evaluation and reassessment of the relationship between the formal mine action sector<sup>8</sup> and the communities that this sector exists to serve.

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6. This report uses the term 'explosive remnants of war' (ERW) as defined in Protocol V to the 1980 Convention on Certain Conventional Weapons (CCW), adopted in November 2003. The CCW defines ERW exclusively as both unexploded ordnance (UXO) and abandoned explosive ordnance (AXO). As has been common in the international mine action vernacular, the term UXO has been used in Cambodia as a more general category. It is still used in its more general form in this report where it appears in direct quotations or in proper names.
  7. This report does not present a detailed background to issues of landmine and ERW contamination or mine action activities. For good background information and an insightful analysis of the development of mine action as a distinct sector of humanitarian aid see Horwood (2000). For detailed background information on landmine contamination in Cambodia see Davies (1994) and Bottomley (2003) and for an outline of issues specific to community relationships with ERW see Landmine Action (2002).

### 1.1.2 Study objectives

The project was designed to analyse a persistent pattern of deaths and injuries that was visible within the casualty surveillance data being published on an annual basis in Cambodia. Whilst the number of deaths and injuries from landmines had declined during the period 1999-2003, the number of deaths and injuries from ERW remained at a more or less stable level<sup>9</sup>. This trend meant a continuation of the proportional rise in ERW casualties since 1994 noted by McCarthy (2001). Furthermore, the majority of ERW deaths and injuries (around 75-80% of such casualties each year during the period 1999-2003), were attributed to a combination of “tampering”<sup>10</sup> activities and “bystanding” by those at the scene of tampering incidents. The starting point for our analysis then is this persistent level of deaths and injuries that result from people “tampering” with (that is to say deliberately handling) items of ordnance.

The purpose of this project was to identify and analyze the nature and prevalence of the ordnance handling behaviours that lie behind the casualty data. On the basis of such an analysis the project was to make recommendations regarding possible responses both from within the mine action sector and more broadly. The objectives of the study, as detailed in the Terms of Reference<sup>11</sup>, were as follows:

- To provide an indication of the prevalence and incidence of deliberate handling and usage of live ordnance in selected mine/UXO affected communities where incidents and casualties attributed to tampering have been recorded and identify whether and to what extent, numbers of reported incidents can be used as an indicative measure of the scope and frequency of tampering in the wider community.
- To determine why people deliberately handle and use live ordnance and describe the range of predisposing, enabling and reinforcing risk factors contributing to such practices.<sup>12</sup>
- To examine people’s assessment of the attendant risk associated with deliberate handling and usage of live ordnance and determine whether and to what extent this has been informed by mine/UXO risk reduction interventions undertaken in the community.
- To provide recommendations outlining immediate, mid- and long-term responses by government, mine action and development organizations and communities themselves to

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8. The “formal” mine action sector consists of programmes being implemented by governmental, non-governmental or commercial organisations, generally with funding from international aid donors. “Informal” mine action activities are those practices undertaken by people in affected communities which are concerned with mitigating the threat from landmines and ERW, but which are not part of the formal sector. Some informal mine action activities have previously been referred to as “village demining” and “spontaneous demining”.

9. Casualty figures are from the Cambodian Mine/ UXO Victim Information System (CMVIS) which is discussed in detail later in this introduction.

10. “Tampering” is a term used in mine action casualty surveillance systems. It is discussed in detail later in this introduction.

11. The Terms of Reference for this project were drafted by Bruce Powell.

12. This analysis is not presented within the body of the report but tables of predisposing, enabling and reinforcing factors are presented as ANNEX: B.

address the underlying factors contributing to deliberate handling and usage of live ordnance.

Previous work within the sector has identified common motivations for deliberate handling of ordnance in Cambodia and elsewhere<sup>13</sup>. Beyond casualty data and individual case studies however, little has been done to analyse the prevalence or frequency of such practices in specific environments.

### **1.1.3 Framing the problem**

In this introduction we analyse in detail the key issues that frame the commissioning and implementation of this project. We look specifically at the following:

- Explosive remnants of war (ERW) as a post-conflict hazard to civilian communities.
- “Tampering” or “deliberate handling” as a cause of ERW accidents.
- Casualty data in Cambodia - understanding the prominence and profile of “tampering” casualties within the mine action related casualty data-set.
- ERW as a humanitarian problem - looking at ERW casualties and the impact of ERW from a broader perspective.
- Current responses to ERW contamination from within the formal mine action sector.

## **1.2 EXPLOSIVE REMNANTS OF WAR (ERW)**

### **1.2.1 Definitions**

ERW, as discussed in this report, means explosive ordnance that is left in the post conflict environment. It does not mean landmines,<sup>14</sup> but includes instead all the other forms of explosive weaponry - mortar bombs, rockets, grenades, artillery shells and air-dropped bombs, for example, that were amongst the standard tools of the conflict in Cambodia. ERW is now formalised in the UN CCW Protocol V (adopted November 2003)<sup>15</sup> as “unexploded ordnance and abandoned explosive ordnance” where these in turn are defined as follows:

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13. Landmine Action (2002) presents a breakdown of reasons for deliberate contact with ERW items as does GICHD (2003a).
  14. Although this report is focused on ordnance rather than mines there are times when people will engage with mines in the same way as they do with the items discussed in this report. This generally occurs when mines are found lying on the surface (so that they can be interacted with in a controlled way). Certain fragmentation mines and bounding fragmentation mines are both more likely to be found lying on the surface and have a substantial metal content. These mines in particular may be engaged with in the same way as items of explosive ordnance.
  15. The sections of the CCW relevant to landmines and ERW are printed in GICHD (2004: 161-186).

### **unexploded ordnance (UXO)**

is “[...] explosive ordnance that has been primed, fused, armed, or otherwise prepared for use and used in an armed conflict and that may have been fired, dropped, launched or projected and should have exploded but failed to do so.”

### **abandoned explosive ordnance (AXO)**

is “[...] explosive ordnance that has not been used during a conflict, and has been left behind unprotected or dumped by a party to an armed conflict, and which is no longer under control of the party that left it behind or dumped it. Abandoned explosive ordnance may or may not have been primed, fused, armed or otherwise prepared for use.”

Adopting the term ERW, as defined here, allows for this further distinction between UXO and AXO which is a distinction also made by some respondents in the study.

## **1.2.2 Basic elements of explosive ordnance**

In the context of Cambodia, the most commonly used items of explosive ordnance contain a charge of high explosive within a metal fragmentation casing. There is variation between different types but generally explosive ordnance contains an arming mechanism (which makes the ordnance 'live' and susceptible to detonation) and a fusing mechanism (by which the ordnance detonates appropriately when used). The process by which the fusing mechanism activates the detonator (more sensitive, less powerful explosive), and the detonator initiates the main charge (less sensitive, more powerful explosive) is called the “explosive chain.” On detonation of the main charge the metal casing is often designed to fragment so as to kill or injure people at a distance from the blast<sup>16</sup>. This fragmentation, as it is propelled through the body of the victim, is one of the primary killing or wounding mechanisms in ERW accidents. It is accompanied by damage caused by the blast effect of the ordnance (a shock wave through the body) and by other possible effects depending on the type of ordnance (for example incendiary effects). The fragmentation effect provides explosive ordnance with a capacity to kill or injure multiple victims who may be at some distance from the actual point of detonation.

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16. Prokosch (1995: 33) cites a 1968 US military academy analysis of fragmentation: “Fragmentation is the rupture of a metal container by a high explosive filler. Its purpose is to produce the optimum distribution of a maximum number of high velocity lethal fragments. Due to using high explosive filler, fragmentation is always accompanied by blast. The fragmentation acts as a kill mechanism by impacting the target at high velocity with its mass and forcing its way through target material. The kinetic energy of the fragment at the time it strikes the target is one measure of its lethality. The optimum fragment mass, velocity, and distribution will vary according to the target be it a human, vehicle, airplane [...] etc. It is generally desirable to have a shell or bomb body break up into pieces no larger than are required to ‘kill’ the particular target. This provides the maximum number of effective fragments by avoiding fragment sizes that are larger than necessary.”

### **1.2.3 Unexploded ordnance (UXO) and abandoned explosive ordnance (AXO)**

UXO comes into existence when an item of explosive ordnance is used (fired or dropped for example, depending on the type of ordnance), but fails to detonate. All types of ordnance are subject to some such failure rate and possible reasons for a failure to detonate are numerous. Items of UXO may be found lying on the ground (surface UXO) or buried beneath the ground (sub-surface UXO). The subsequent likelihood of an item of UXO detonating under certain conditions will depend on the specific reasons why it failed to explode as intended, any damage sustained in its use, the extent of subsequent corrosion or degradation of components, and on the specific arming and fusing mechanisms of the device. Some items of UXO are incapable of detonation whilst others may be sensitive to small amounts of movement.

Abandoned explosive ordnance (AXO), if it has been stored in appropriate conditions, may be rather more predictable. If such items have been primed for use and then abandoned, or stored in inappropriate conditions (GICHD, 2002), then the potential for accidental detonation increases. Of course, even explosive ordnance in its original (new) condition can be subject to accidental detonation if it is mishandled. For any item in which the explosive chain remains intact, the way in which people interact with it will play an important role in whether or not it detonates.

This general overview suffices to establish a number of important points for the analysis in this report:

- ERW represents a threat to civilian populations because of its capacity to explode causing deaths and injuries.
- Due to the fragmentation effect, ERW explosions have a capacity to kill or injure multiple people, including people who are not directly involved in initiating the detonation.
- ERW are generally made from metal and explosives, both of which are potential resources either for sale or reuse.
- ERW represents a varied threat. Individuals, whether undertaking such a process professionally within the formal mine action sector or acting independently of this sector, must assess individual items according to their knowledge and experience in order to evaluate the threat from interacting with an item of ERW in different ways.

### **1.2.4 Types of ordnance in Cambodia**

In addition to widespread ground fighting between Khmer Rouge, Cambodian Government and external forces, Cambodia was also subject to aerial bombing by the United States of America. This bombing was most frequent in the east of the country and these areas are contaminated by air-dropped weapons as well as land-service ammunition.

The main types of ordnance present in Cambodia are as follows:

- Small arms ammunition
- Mortar bombs
- Grenades (hand grenades and rifle grenades)
- Rocket propelled grenades
- Projectiles (such as artillery shells)
- Cluster bomb submunitions
- Aircraft bombs

Figure 3. ERW and mines



The illustrations above are taken from a CMAC mine risk education poster, the labels were provided by MAG. This list of ordnance is not comprehensive. The same illustration without the labels was used as a tool within the research project.

Providing communities with materials that can help them to ensure awareness of the appearance and variety of mines and ERW items is a responsibility of the mine action sector. Although the majority of people in affected communities are familiar with items of ordnance, accidents do continue to occur because people do not recognise ordnance for what it is.

## 1.3 TAMPERING / DELIBERATE HANDLING

### 1.3.1 “Tampering” as a term

“Tampering” is a standard category that has been used in mine action casualty surveillance systems,<sup>17</sup> but the activities it encompasses are wide-ranging. “Tampering” is one of a set of discrete categories that data-gatherers must choose between when recording a casualty's “activity at the time of accident.” It refers to deliberate handling of ERW items, rather than unwitting contact such as striking an item when digging the ground. It includes a range of activities that are very different in their purpose and in the skills they draw upon - from preparing an improvised explosive device for fishing to throwing an item of ordnance against a tree. The category of “tampering” has been criticised for being value laden and for being too broad to be analytically useful (Landmine Action, 2002: 22-23)<sup>18</sup>. This project rejects tampering as a general term and uses instead “deliberate handling.” Where it is used within this report, “tampering” refers specifically to the category within casualty surveillance systems.

### 1.3.2 Deliberate handling of ERW as a cause of post-conflict accidents

A high prominence of deliberate handling amongst the causes of ERW accidents is found in many post-conflict environments.<sup>19</sup> When seen as nothing more than deliberate contact with ERW, for one reason or another, it is not surprising that this broad category accounts for the majority of deaths and injuries. Unlike landmines, many ERW are found lying on the surface; they are visible. Where people come into contact with ERW unwittingly (i.e. without seeing it) it is usually because the item is buried beneath the ground or is obscured by vegetation. Where people are digging the ground or cutting vegetation it is quite likely that they will strike the item without detonating it and, hearing or feeling the unusual contact with metal, they will find the item and engage with it either by leaving it in place or through some form of deliberate handling. Either by sight or by contact, items of ERW can be found more easily than landmines without them detonating. Once found they are unlikely to detonate without some form of deliberate contact. As we have noted above, the form of this subsequent contact can be very varied. It

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17. As well as being used in the Cambodia Mine Victim Information System (CMVIS) “tampering” is also used as a category in the Information Management System for Mine Action (IMSMA) which is the most common mine action data-management system world-wide. CMVIS have now changed the label “tampering” to “handling the mine/UXO” in the revised data-gathering form for 2004.

18. “Tampering” suggests inappropriate, purposeless or foolish interference with an object or situation. Most deliberate handling activities are neither inappropriate nor purposeless but represent people’s efforts to manage the risks in their environment or meet certain economic needs. This tension serves to illustrate the way in which the “formal” mine action sector establishes its own moral framework regarding engagement with ordnance in the environment. Through the application of this label within the casualty surveillance system the decisions and actions of casualties are routinely overwritten as misguided and inappropriate at the same time as they are processed into statistics. The use of the term “tampering” accords with what would be seen as “victim-blaming” in the literature of injury prevention (discussion with Andy Wheatley, March 2004 and in Hanson *et.al.* 2002.)

19. See Landmine Action, forthcoming, *Global Impact Survey on Explosive Remnants of War*.

could be contact based on complete ignorance that the item is any kind of explosive device or it could be a sophisticated attempt to take the device apart.

## 1.4 CASUALTY SURVEILLANCE IN CAMBODIA

“The authoritative narratives of mine action thrive on numbers, which dehumanize and neatly order groups of people living with mines, be they victims, vulnerable villagers or children.”

Bottomley (2003:79)

### 1.4.1 Background to the CMVIS project

The key source of data on mine and ERW casualties in Cambodia is the Cambodia Mine/UXO Victim Information System (CMVIS) run by the Cambodian Red Cross (CRC) with support from HI-B. This resource developed from data-gathering work started by MAG in 1994 (McCarthy, 2001; CMVIS 2003:1). Through a network of volunteers, CMVIS has been collecting information on people killed and injured in landmine and ERW accidents from all provinces of Cambodia. The information is collected using a standard form and is then entered into a central database. It should be recognised that despite a wide data-gathering network some accidents as a result of landmines and ERW will go unreported every year. The baseline data on ERW casualties presented in this report is all drawn from the CMVIS records from 1999 through to 2003.

### 1.4.2 Changes within the CMVIS data collection process

There have been changes in the form used for data-gathering during the period 1999 to 2003. The category of activity “doing nothing – exploded beside victim” was added to the data-gathering form in 2000.<sup>20</sup> This provides a more accurate understanding of the different behaviours involved in accidents that result in multiple casualties. Another important change to the data-gathering form was the introduction in 2000 of a set of sub-categories of “tampering.” This was done to increase the analytical value of the data. The following sub-categories were established:<sup>21</sup>

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20. This is being further refined in 2004 with the addition of “Bystander / Spectator” as an activity category. This addition will provide further distinction between people actively observing behaviour which results in accidents (“bystander / spectator”) and those who are simply in the vicinity of the accident at the time (“doing nothing”) (discussion with Ray Worner, Project Advisor CMVIS, 04 February 2004.) In this report we use the term “bystander” to refer to those people categorised in the existing data as “doing nothing - exploded beside victim”. It is not possible to determine in the existing data whether these people were actively observing the activities that caused the accident or whether they were simply in the vicinity at the time.
  21. These categories have been further refined in 2004, but these changes do not affect the data analysed in this report (Discussion with Ray Worner, Project Advisor CMVIS, 04 February 2004).

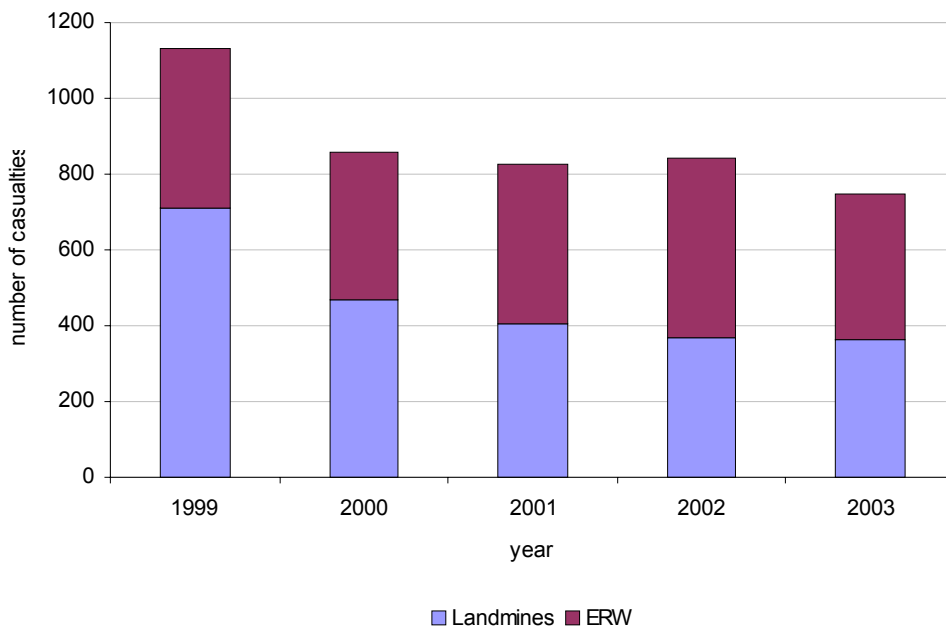
- To sell it
- To move it
- To fish with it
- To dismantle it
- To play with it
- To destroy it
- To demine
- To use it again as a mine/UXO
- Hunting
- Other

These categories are mostly concerned with motivation, not with the physical action that caused the accident. Some of the categories overlap and problems with the collection of data relating to these categories are identified later in this report. However, it is important to note that changes already made by CMVIS to the data-gathering form being used in 2004 are well thought out and should significantly strengthen the process.

#### **1.4.3 Analysis of CMVIS data: 1999-2003**

An analysis of CMVIS data for 1999-2003 explains the commissioning of this project and provides a baseline understanding of the issues in question. Analysis of this data informed both the targeting of geographical areas for the study, the demographic selection of samples and highlighted important areas for questioning. The analysis presented below was undertaken as part of this project on the basis of raw-data provided by CMVIS. The data presented here is in a form unmodified by the findings of this study, though certain critical points are noted in footnotes to the text. These points relate to conclusions from this research that the current CMVIS process either misrepresents or is unclear in its representation of the material it is covering. They are dealt with in more detail in the specific recommendations for improvements to the CMVIS system (Section 11.2).

**Figure 4. Deaths and injuries from ERW and landmines: 1999 - 2003**



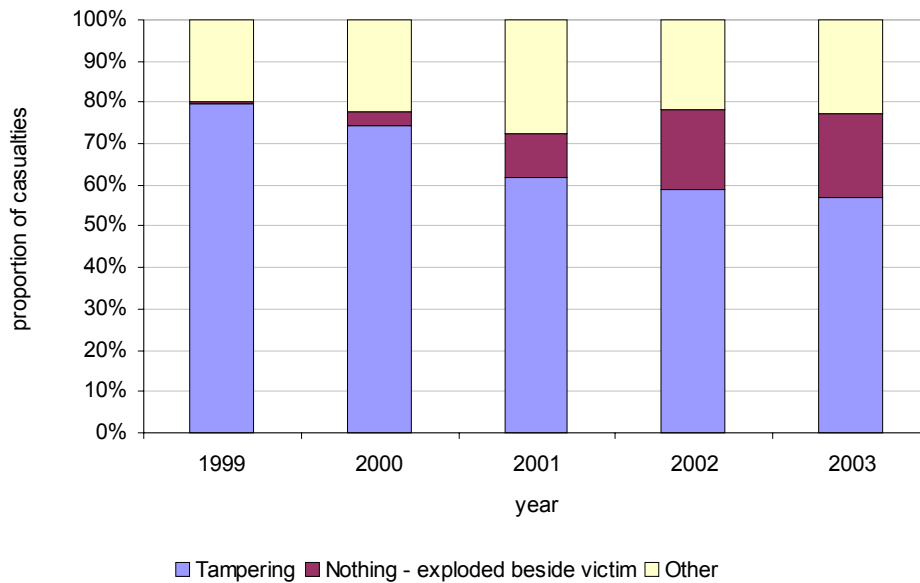
The overall number of deaths and injuries from landmines and ERW has been declining from 1999 to 2003 (Figure 4.). However, ERW casualties have not declined at the same rate as landmine casualties and as a result the last 3 years have seen ERW accounting for slightly more than 50% of such casualties across the country.

The CMVIS data allows us to look at the activities people are engaged in at the time of these ERW incidents (Figure 5.). For clarity of representation, the category “other” has been used here to represent a range of activities other than those explicitly attributed to deliberate handling or bystander behaviours. Within this category “farming” (37% of category “other”), “fishing” (10%),<sup>22</sup> “clearing new land” (8%), “cutting/collecting wood” (8%) and “burning” (7%) are the most common activities at the time of the incident.

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22. Research in this project found the category of “fishing” to be problematic. According to CMVIS data-gathering staff in the field, people who have accidents whilst fishing with explosives are often categorised, understandably, as activity “fishing” - which gives no explicit indication that they were fishing with an explosive device. For landmine casualties, activity “fishing” means treading on a landmine whilst engaged in or preparing for regular fishing activities. These two activities are very different and there is a need for clarification of this issue within the data-gathering process. For the purposes of this analysis the confusion means that slightly more casualties should be attributed to deliberate handling than are actually represented here.

**Figure 5. ERW casualties: activities at the time of death or injury**



It can be seen that “tampering” consistently accounts for the majority of casualties. Although “tampering” appears to have declined over this five-year period this almost certainly results from changes in the data-gathering process. As has been noted above, the activity “nothing – exploded beside victim” was introduced in 2000 and casualties attributed to this activity have grown in proportion to the decline in “tampering.”<sup>23</sup> Of 231 casualties killed or injured as bystanders over this five year period, 197 can be circumstantially linked to “tampering” casualties.<sup>24</sup> This represents 85% of bystanders being killed or injured as a result of “tampering” by others.

As has been noted above, the CMVIS system introduced sub-categories of “tampering” in 2000. This provides an initial understanding of the motivations behind this deliberate contact with ERW.

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23. An analysis of “playing” accidents in Kompong Speu, undertaken as part of this project, suggested that even after the introduction of the “doing nothing - exploded beside victim” category, bystanders were still often categorised with the same activity as the person who initiated the accident.

24. The CMVIS data does not provide a direct link between bystanders and the actual cause of the incident. The relationship here was made by making the assumption that “nothing – exploded beside victim” casualties were linked to other casualties that were killed or injured in ERW accidents on the same day in the same village and which had a different activity assigned to them.

**Figure 6. Sub-categories of “tampering” as a cause of ERW accidents**

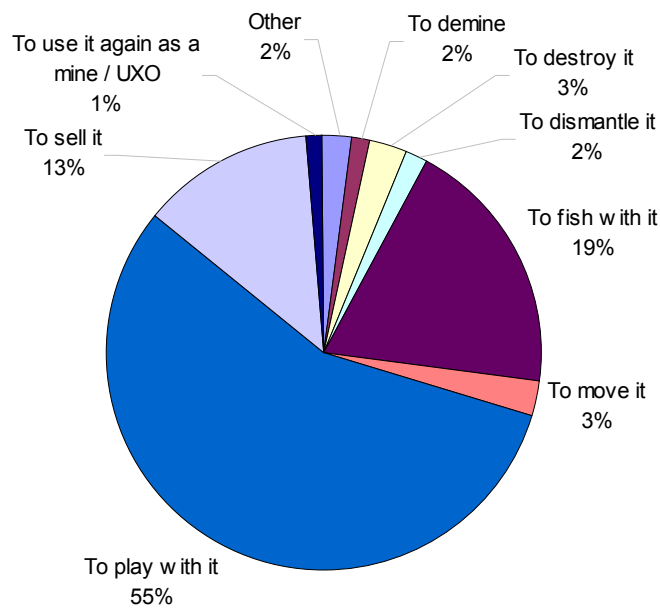


Figure 6. clearly shows that deliberate handling “to play with” an item of ERW (56%) is the single most common activity at the time of accidents as recorded in the CMVIS casualty data<sup>25</sup>. This is followed by handling ERW to “fish with it” (19%)<sup>26</sup> and handling ERW “to sell it” (13%) as the predominant activities within “tampering” as a general category.

The CMVIS data also allows us to examine the demographic profile of ERW casualties (Figure 7.). The great majority (86%) are male and young people make up a substantial proportion of the casualties. The categories “boy(s)” and “girl(s)” are used for people up to and including age 17. The prominence of men and boys within the casualties is one of the most striking and significant features within the data<sup>27</sup>.

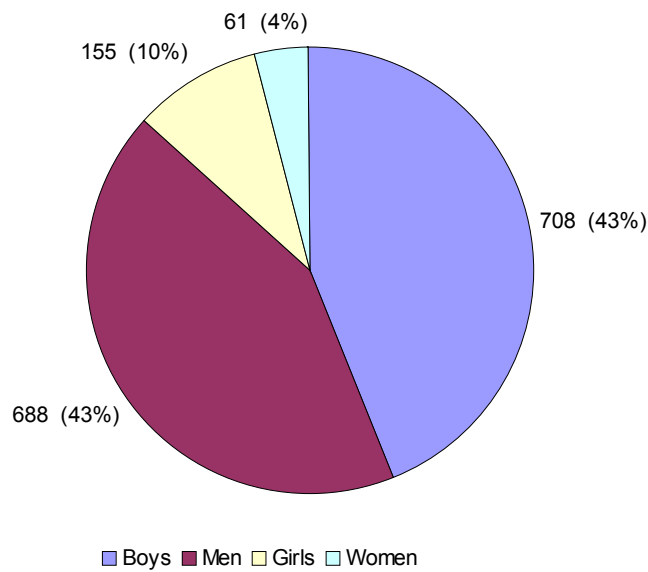
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25. It is an important conclusion of this study that the CMVIS data misrepresents “playing” as a cause of ERW “tampering” activities. “Playing” is being misreported by data-gatherers due to a confusion regarding motivation and activity. A number of data-gatherers reported that they considered the physical activity of engaging with an ERW item as “playing”. This confusion is compounded by under-reporting of scrap metal collection and fishing with explosives due to these activities being illegal. In addition children may engage in “playing” activities with ERW as a precursor to the sale of metal from the item.

26. It is worth noting again that people injured in the actual process of fishing with an explosive device they have fashioned are often recorded as activity “fishing” rather than “tampering - to fish with it”. See footnote 22. above.

27. A similar pattern is also found in Lao PDR where men made up 59% and boys 27% of UXO casualties in the period 1973-1996 (Handicap International 1997: 26).

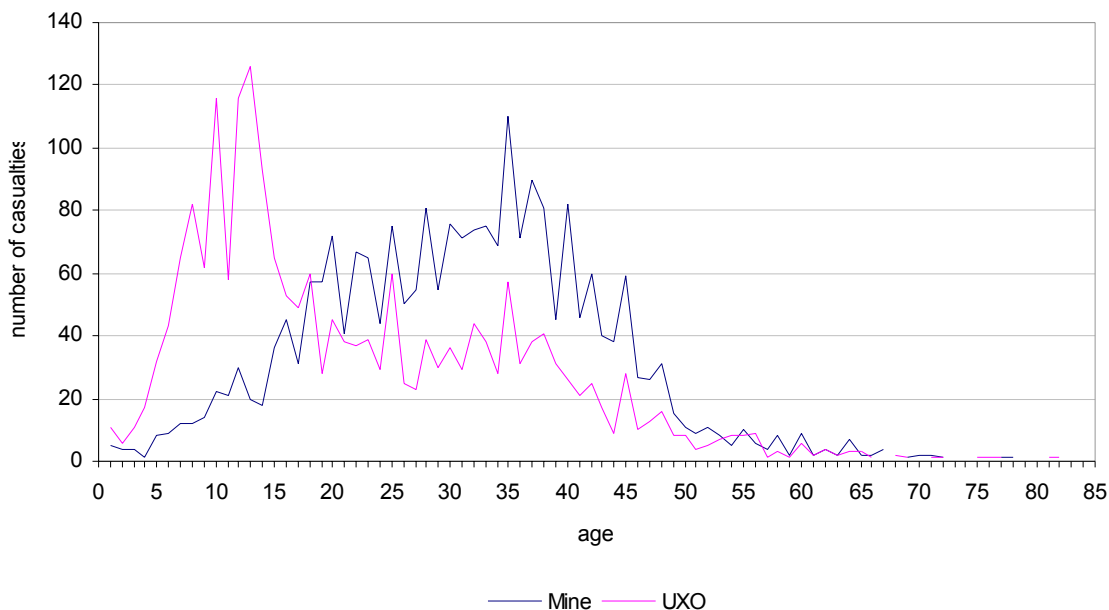
**Figure 7. Simple demographic breakdown of ERW tampering casualties: 1999 - 2003**



The detailed age profile of ERW tampering and related casualties can be seen in Figure 8. There are some prominent spikes in the age profile (most notably at ages 10 and 15, but also at ages 25 and 35) which are accompanied by noticeably low reporting of the ages adjacent to these. This suggests people unsure of the exact age of the casualty rounding the age to the nearest significant number.

By comparison with the age profile of landmine casualties, young people can be seen to suffer a disproportionate level of casualties from ERW. This pattern was noted as early as 1995 and was linked by Davies (1997: 247) to the prevalence of “unessential ‘adventurist’ risk taking, especially amongst children.” Such a link is also reinforced by the prevalence of “playing with” ERW as an activity at the time of ERW accidents as seen in Figure 6. above.

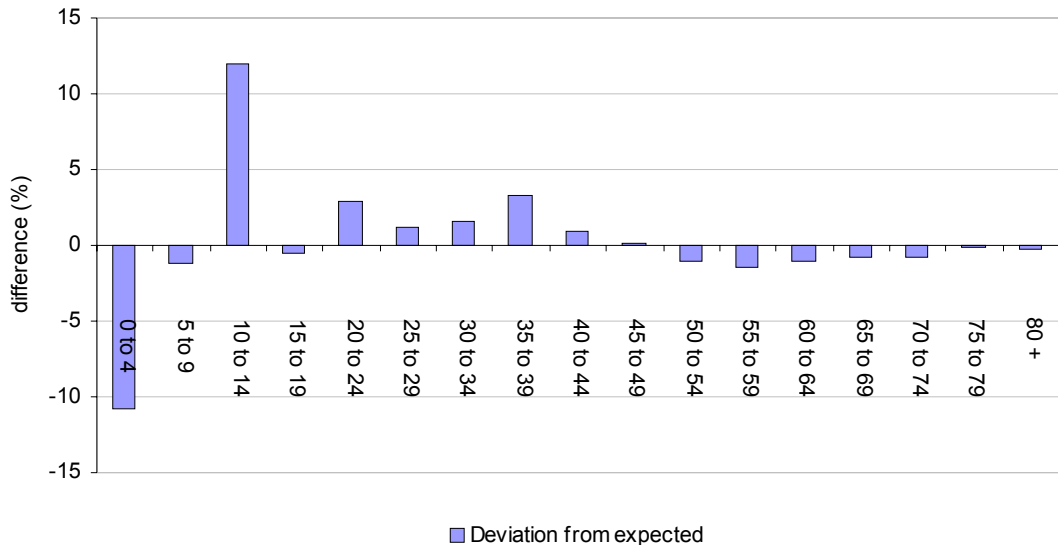
**Figure 8. Comparative age profile of ERW casualties against landmine casualties: 1999-2003**



Cambodia has a young population, however, and the age profile of casualties needs to be looked at in relation to the age profile of the population if the significance of this pattern is to be understood. By grouping casualties into age groups,<sup>28</sup> and calculating the value of these groups as a percentage of the whole, a comparison can be made between the percentage of the casualties falling within these age groups and the percentage of the population within these age groups. The following graph (Figure 9.) is produced by subtracting the percentage values of these groups for the overall population from the percentage values of these groups for the casualty data-set. The results show deviation of actual casualty incidence within different age groups from what we would expect if casualties were spread evenly across the population (represented by 0 on the y-axis).

28. The groupings used here were chosen to fit with the groupings used in the Cambodian census data (National Institute of Statistics, 1999: 11), so as to facilitate comparison. It is possible that slightly different patterns would emerge if different groupings were used. The analysis presented here used only the male population to establish percentage groupings due to the prevalence of men within the casualties. No effort has been made here to take into account different age patterns in different locations. Despite these shortcomings, the process should be sufficient to support the key points of the argument.

**Figure 9. Grouped comparison of ERW “tampering” casualty age offset against the age of the Cambodian population**

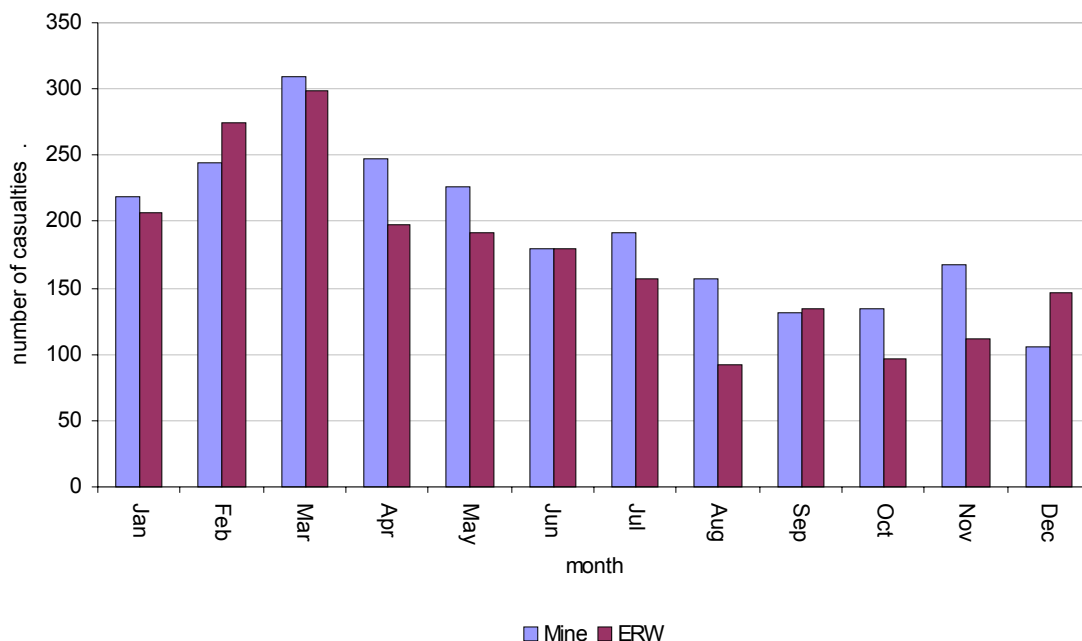


This allows us to see that although children suffer the greatest number of casualties in the simple demographic analysis, it is only in the specific age range of 10 to 14 that the incidence of casualties is greater than would be expected given the proportion of young people in the population. It is then adults between the ages of 20 - 44 who suffer a disproportionate number of casualties – though the level of difference in relation to these age groups is far less than that of the 10 - 14 age group. Despite the limitations in this analysis (see footnote 28.) it is important for highlighting young adolescents as a target group for study.

Another significant finding from the CMVIS data is the regularity of the pattern of ERW within the yearly cycle<sup>29</sup>. This pattern closely follows the pattern for landmine casualties showing an increased number of accidents in the dry season and a reduction in accidents during the wet season. The pattern is very similar each year and is well reflected in the pattern formed by the consolidated data (Figure 10.). Previous analyses have linked this to people's activities within the annual agricultural cycle (see for example CMVIS 2003) with fewer accidents during the wet season where people are more likely to be engaged on paddy land undertaking rice farming activities. Such a conclusion is supported by the data gathered in this report. However, seasonal variations in the scrap metal trade should also be recognised as contributing to this.

29. Handicap International (1997: 27) identified a similar patten in Lao PDR: “The total number of UXO-related accidents exhibits seasonal variation, reaching a maximum during the months of March, April and May. This marks the end of the dry season and the beginning of the wet.”

**Figure 10. Comparative spread of landmine and ERW casualties by month (consolidated data 1999 - 2003)**



The CMVIS data also shows that a significant proportion of ERW accidents occur in villages rather than in countryside areas. This suggests people bringing ordnance into the village and then engaging with it.

A final point to note within the CMVIS data is the proportion of people killed compared with the proportion of people injured in ERW accidents. Based on the cumulative data from 1999 to 2003, some 19% of all ERW casualties are killed and the remainder are left injured - almost exactly the same proportion of dead to injured as is found from landmine casualties over the same period. Given the greater explosive power of many ordnance items over anti-personnel mines, and the predominance of designed fragmentation as a killing mechanism within these items, this is somewhat surprising. This pattern probably results from the occurrence of multiple casualties from a single incident - with some casualties at a distance from the blast being less severely injured.

### 1.5 ERW CASUALTIES AS A HUMANITARIAN PROBLEM

The analysis of the existing casualty data above gives us a background understanding of the issues that this project sets out to examine. It is valuable at this stage briefly to put these deaths and injuries into a broader context so that the humanitarian impact of ERW contamination can be seen alongside other

problems within Cambodian society. We then go on to conclude this introduction with a short summary of the mechanisms by which the formal mine action sector currently addresses or seeks to mitigate the problems of ERW contamination in Cambodia.

### 1.5.1 Humanitarian rather than developmental impact

There is a comparative lack of data by which to determine accurately the social and economic impact of ERW contamination either in Cambodia or elsewhere in the world (Landmine Action, 2003: 6-7). Whilst the social and economic impact of landmines, particularly in terms of land-denial, has been well documented,<sup>30</sup> it is difficult to assert that parallel strictures generally result from ERW contamination. It has been argued elsewhere that land denial does result from ERW contamination but that this is generally the case only where there is significant density of contamination within an area, density of vegetation requiring intrusive action to make the land useable, and where there is significant subsurface contamination (Landmine Action, 2002: 55). Land denial may be further promoted where the local population is unfamiliar with, or has particular fear of, the specific munitions causing the contamination. Such circumstances are perhaps more likely to result from cluster-munition contamination (though not exclusively so).<sup>31</sup> This is not to deny that people do suffer accidents with ordnance whilst working on contaminated land. However, in the Cambodian context, land denial from ERW contamination is relatively rare for rural populations. None of the communities studied in this project reported areas of land that they did not use because of ordnance contamination. People will work around items on their land, move items out of the way or seek to destroy items that they find rather than give up the use of a whole area of land (Bottomley 2001: 34; Landmine Action, 2002: 28). Recent applications of risk management concepts and approaches to the mine action sector have provided a valuable analytical framework (notably Serco Assurance, 2003). Following such a mode of analysis it would seem that much ERW contaminated *land* presents a risk which is generally tolerable to the local population - though people may employ different strategies in order to make it tolerable (such as moving items or working around them).

The point here is to emphasise that in Cambodia ERW impact is more easily identified in terms of casualties than it is in terms of constriction of the rural economy, or as a barrier to development. The difficulty of showing a significant social or economic impact from ERW contamination in Cambodia puts greater emphasis on the level of deaths and injuries as an indicator of this humanitarian problem.

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30. The Landmine Monitor, for example, provides an annual update on the global impact of anti-personnel mines and summarises the progress of mine action internationally.

31. This is the central hypothesis developed in Landmine Action's 2002 report. This study did not undertake any quantitative testing of this hypothesis regarding the factors that promote land-denial from UXO and the correlation between these factors and the patterns of contamination resulting from cluster-munitions. Such an analysis would be very useful for understanding the post-conflict impact of cluster submunitions in relation to ERW more generally.

### 1.5.2 Comparison between ERW casualties and RTA casualties

Handicap International – Belgium (HI-B) derives its role in the mine action sector from a concern to address the causes of disability, as well as to assist those who have been disabled. Road traffic accidents (RTAs) and landmine/ERW accidents represent the most common causes of disability within Cambodia.<sup>32</sup> However, these two causes are currently operating at quite different orders of magnitude.

A comprehensive casualty surveillance system is not in place in Cambodia for RTAs.<sup>33</sup> In 2003, however, the Ministry of Public Works and Transport (MPWT) reported 7,153 people killed or injured by road traffic accidents.<sup>34</sup> These were broken down as follows: 824 killed; 2,714 serious injuries; 3,615 minor injuries. This level of casualties is presented in proportion to landmine and ERW casualties over the same period in Figure 11.<sup>35</sup> Furthermore, between 2000 and 2003, the number of RTAs has increased by 27% and the number of fatalities has increased by 105%.

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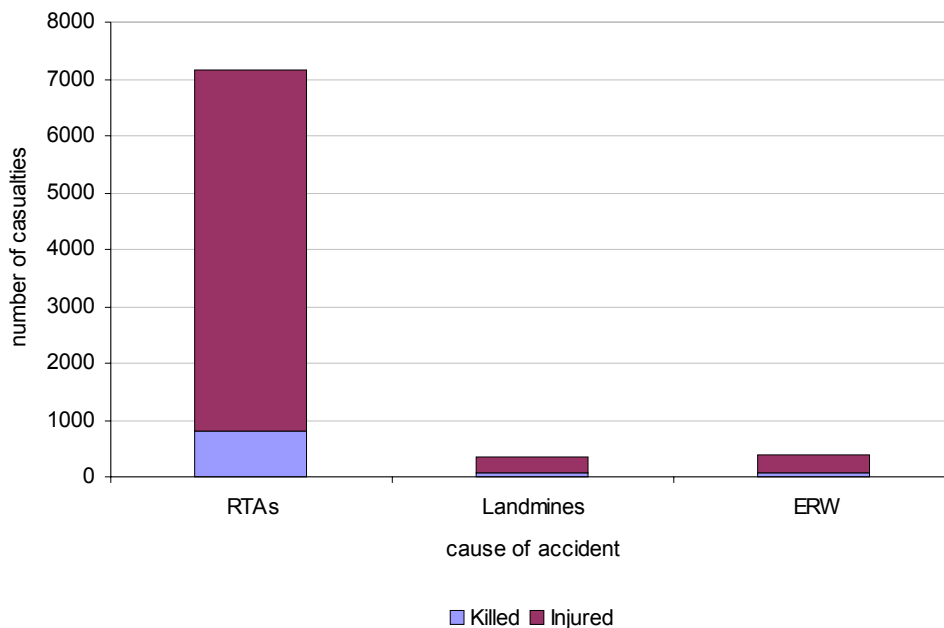
32. Meeting with Christian Provoost, HI-B Cambodia mine action unit, 13 February 2004.

33. The possibility of extending the current CMVIS system also to include road traffic accidents is currently being explored by HI-B (meeting with Christian Provoost, HI-B Cambodia mine action unit, 13 February 2004).

34. Email from Jean Van Wetter, HI-B Cambodia road safety unit, 30 March 2004.

35. If a comparison is made only of people *killed* by these different causes the proportions remain much the same as those shown in Figure 10.

**Figure 11. Comparison of casualties (killed and injured) from RTAs, landmines and ERW in Cambodia: 2003<sup>36</sup>**



There are, of course, very significant differences between RTAs and ERW as ongoing causes of death and injury. Most importantly the number of people exposed to risk on the roads will be significantly greater than the number of people handling ordnance every day. The latter is an additional unnecessary risk in the rural environment that will remain until it is removed whereas RTA's are more easily normalised as a by-product of development. They are considered part of the cost of improvements to the national infrastructure and of the increased size and volume of traffic on the roads. There is no programmatic response to RTAs that is equivalent to the safe destruction of ERW items by explosive ordnance disposal (EOD) teams.

Without asserting an equivalence between these two causes of deaths and injuries, comparison between them does strengthen our analysis of ERW accidents. Conceptualising the number of casualties from deliberate handling of ERW per annum as low (in the broader perspective) rather than high (from a perspective of mine action casualties only) suggests other issues that might be very important as we work both to understand ongoing behaviours in relation to ERW and to formulate an appropriate response.

36. Email from Jean Van Wetter, HI-B Cambodia road safety unit, 9 June 2004. "The following limitations should be noted regarding this RTA data: 1) Under-reporting: MPWT data comes from the traffic police. The new road traffic accidents database that Handicap International set up in Phnom Penh recently shows that the police were present on the accident site in only 50% of the cases in Phnom Penh. This should be even worse in provinces. We therefore believe that the actual number of road traffic casualties to be at least two times higher (around 15,000). 2) Discrepancies between data sources. The Ministry of Health recently released its road accident statistics for 2003: 11,739 casualties were reported."

## 1.6 FORMAL RESPONSES TO ERW CONTAMINATION

The primary mechanisms designed specifically to address ERW contamination are explosive ordnance disposal (EOD) and mine risk education (MRE). These are implemented by a range of national and international organisations in Cambodia under the coordination of the government's Cambodia Mine Action and Victim Assistance Authority (CMAA).

### 1.6.1 Explosive Ordnance Disposal (EOD)

In Cambodia, humanitarian EOD operations have been implemented by specialist agencies as part of broader mine action programmes. The single largest organisation undertaking EOD work is the Cambodian Mine Action Centre (CMAC), the government run mine action institution<sup>37</sup>. Specialist international NGOs, The HALO Trust and Mines Advisory Group (MAG) also undertake EOD work<sup>38</sup>. Through CMAC, HALO and MAG the process of destroying unexploded ordnance is paid for by international donors from humanitarian or development funds.

In Western Europe ERW contamination remains from World Wars I and II and in contrast to the situation in Cambodia is addressed as a responsibility of the state. EOD activities are implemented by the armed forces in response to a reporting system that encompasses the police and other emergency services.

### 1.6.2 Mine Risk Education (MRE)

MRE, previously called "mine awareness" or "mine awareness education," may be conducted by mine action agencies or be embedded in broader education or development programmes. According to the Landmine Monitor Cambodia (2003: 13) the following organisations were undertaking MRE in the country in 2003: CMAC, the Cambodian Red Cross (CRC), The HALO Trust, World Education, World Vision, The Ministry of Education Youth and Sport (MoEYS), UNICEF, and HI-B.<sup>39</sup> Through these agencies, MRE in Cambodia consists of a combination of different approaches: MRE within the school curriculum, mobile MRE teams and MRE in conjunction with other mine action activities. MAG, which had a leading role in the development of MRE in Cambodia, transferred its MRE over to World Education in 1999-2000. Although UNICEF reviews national MRE materials every year<sup>40</sup> many of the MRE materials still in use in Cambodia draw on artwork and concepts developed by MAG in the 1990s.

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37. At the time of writing CMAC had 21 EOD teams working around the country. Plans for an additional 14 teams to address ordnance contamination in the east of the country were on hold awaiting funding.

38. At the time of writing MAG had 7 EOD teams coordinated from operations bases in Battambang and Preah Vihear. HALO Trust was not deploying specialist EOD teams but conducts EOD as necessary as a component of ongoing operations.

39. The roles of these different agencies are varied, with some providing specialist support to other implementing agencies.

40. Meeting with Julien Temple, UNICEF Cambodia, 20th February 2004.

The GICHD (2003a: 15) follows the original UNICEF (1999) guidelines for MRE in presenting the following framework for understanding the main causes of UXO and mine accidents:

- People are not aware of UXO and mines;
- People do not know the safe behaviours to practise around UXO and mines. They may be aware, but do not have the appropriate knowledge to avoid accidents;
- People are aware of UXO and mines and they know how to minimise the risks mines pose, but they are still practising high-risk behaviours (due to economic necessity or other compelling reasons).

Based on this framework, MRE usually seeks to convey a set of externally agreed messages to the target population in an effort to stop behaviour that will result in accidents. It is generally accepted that this can best be done by providing positive alternatives to the “dangerous” forms of behaviour. However, genuine alternatives to such behaviour are not always easy to identify. With respect to ordnance in Cambodia, the key messages currently conveyed are that people should not touch ordnance, that children should run away from friends who handle ordnance, and that people should report items that they find.

## **2. METHODOLOGY**

### **2.1 OVERVIEW**

The project used a combination of qualitative and quantitative research techniques to gather information about deliberate handling of live ordnance. Open-ended and semi-structured interviews were used to gather detailed information about different forms of deliberate handling, the different motivations that underpin these behaviours and the knowledge and attitudes of those involved in such practices. Such interviews were also used to gather detailed information about the scrap metal trade as a national economic structure that has an important role in people's relationships with ERW in their environment. The research team also implemented a Knowledge, Attitudes and Practice (KAP) survey to gather quantitative information on the prevalence and nature of deliberate handling amongst a simple stratified random sample of the population in target villages.

#### **2.1.1 Time-frame**

The project was implemented during the first six months of 2004. Within this period the research team was recruited, survey instruments drafted and finalised, field research conducted, data collated and analysed and final reporting completed. The bulk of the field research was undertaken in March, April and May. The project period fitted well with the seasonal and agricultural cycle of the country. This period is hot and dry in Cambodia, road access is generally good and rural populations have a period free from the demands of rice paddy cultivation. It is also the time of the year when ordnance handling accidents have typically been at their highest.

#### **2.1.2 Research Team**

The research team consisted of one expatriate research supervisor and four Khmer researchers - a principal researcher, research assistant and two field researchers. All members of the research team had undertaken previous social research in Cambodia. One of the field researchers, Mr. Sou Bunnath, had previously worked on the HI-B study of informal demining.

To increase the data-gathering capacity of this team in the field “survey assistants” were recruited from the different operational areas. These staff were often seconded from the Cambodian Red Cross (CRC) and a number of them worked as the local CMVIS data-gatherers. As such they contributed established local geographical and political knowledge and often provided significant insight into local ERW handling accidents and practices.

## 2.2 SELECTION OF STUDY AREAS

The project Terms of Reference (TOR) suggested a minimum of 12 villages be studied from three provinces with high levels of ERW contamination. The TOR further suggested that one province be selected that although subject to substantial ERW contamination has had low incident and casualty numbers.

The selection of locations for research was done on the basis of an analysis of deaths and injuries (CMVIS data) at a commune level.<sup>41</sup> The purpose of this approach was to identify local areas with a high level of ordnance handling activity as an ongoing practice (using deaths and injuries as an indicator.) The target communes were selected from those with the highest number of reported deaths and injuries from ERW “tampering” and “by-standing” activities over the previous five years. The data from these communes was checked to see that there was a spread of incidents over time – suggesting handling of ordnance as an established practice. It was also checked that no single accident skewed the data.<sup>42</sup>

On this basis, the following communes were selected:

### 2.2.1 Samraong Commune, Pursat Province.

Samraong Commune, Pursat Province has experienced the highest number of deaths and injuries (27) from UXO “tampering” and “bystanding” activities of any commune in the CMVIS data from 1999-2003. However, casualty levels in the commune have dropped from a high of 12 in 1999 and there were no recorded UXO tampering casualties in 2003.

### 2.2.2 Kantout Commune, Preah Vihear Province.

Kantout Commune, Preah Vihear has the 5<sup>th</sup> highest number of deaths and injuries (18) from UXO “tampering” and “bystanding” activities during the period 1999 - 2003. Most significantly it has the

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41. Politically Cambodia is structured at the following levels in descending size: province, district, commune, village.

42. For example, an incident in Srae Char Commune, Kracheh Province killed and injured 15 people in 2002, making Srae Char one of the most prominent communes for “tampering” casualties in the country.

highest incidence rate of UXO handling accidents per head of population. The level of deaths and injuries over the last 5 years produces an incidence rate of over 3 people in every 1,000 killed or injured per annum from ERW handling activities.

### **2.2.3 Kraek Commune and Trapeang Phlong Commune, Kompong Cham Province.**

Within the selected target areas, Kraek Commune in Kompong Cham presents the lowest casualty incidence as a proportion of the population (0.085 per 1,000 per annum). Kompong Cham Province as a whole has a casualty incidence lower than that of Rattanak Kiri and other eastern Provinces and yet it has amongst the highest levels of ERW contamination as suggested from Level 1 Survey “spot UXO data” and data on US bombing in Cambodia. Kraek Commune is still amongst the highest ranking communes (joint 7<sup>th</sup>) in terms of the simple number of people killed and injured whilst handling ERW over the past five years.

Trapeang Phlong Commune has the lowest number of reported casualties from the selected target areas (13 in the last 5 years) and it has the second lowest incidence rate (0.167 per 1,000 per annum).

These three areas are geographically disparate and have experienced different conflict histories. They also present different social and economic conditions. All three communes have handling activities reported as arising from a mixture of “playing” and economic activities (salvaging from ordnance for fishing or for sale as scrap metal).

## **2.3 QUALITATIVE RESEARCH METHODS**

Qualitative research provided an in-depth understanding of specific practices, attitudes, beliefs and understandings relating to how people engage with ERW contamination in their environment. Previous qualitative research on this subject (Landmine Action, 2002), and preliminary qualitative research within this project, were used to guide the construction of survey questionnaires. In this way they served as a form of hypothesis generation tool with the quantitative processes designed to validate, contradict or quantify expectations developed from qualitative discussion.

As well as interviews and discussions, a degree of direct observation was used, particularly regarding people’s direct contact with ERW items.

### **2.3.1 Open-ended interviews with key informants**

These discussions helped to frame the research approach and created an understanding of the conceptual framework and knowledge base of target groups. Key informants were drawn from amongst

mine action specialists, NGO workers, scrap metal dealers and people with experience of handling ERW items in rural communities. Open-ended interviews (or unstructured interviews) allowed for an open exploration of ideas and concepts, valuable for sketching out the broad framework within which other research methods would be applied. They were also used to explore in further detail issues that seemed particularly important as the project progressed.

### **2.3.2 Semi-Structured Interview (SSI) guidelines**

SSI guidelines were developed both for people who had handled ERW and people who had not. These guidelines allowed for collation and comparison of the findings from the qualitative research process, whilst presenting open questions that would capture the full range of possible responses. Some of the guidelines presented leading questions, particularly with respect to attitudes towards ERW handling. This was because open-ended discussions suggested that people responded more clearly to such questions (either to confirm or contradict the implications of the question.)

### **2.3.3 Focus group discussions**

Focus group discussions were also undertaken with groups of adults and groups of children. These were generally to precipitate debate about different practices being undertaken within the community and to develop impressions of how different attitudes towards ERW handling were perceived within the communities themselves.

## **2.4 QUANTITATIVE RESEARCH METHODS**

### **2.4.1 KAP survey**

A Knowledge Attitudes and Practice (KAP) survey questionnaire was developed on the basis of preliminary qualitative research. The KAP questionnaire contained closed questions relating to ERW handling. Respondents were generally free to give multiple answers (multi-item response frames) without answers being suggested to them. For other questions the selection of answers was given to the respondent for them to choose. A number of questions were also followed by open-ended questions and the responses to these were grouped and collated during the data-analysis phase. The questionnaire was designed to provide information about different practices and understandings within the target populations. It covered an open time-frame such that respondents were asked about ERW handling throughout their lifetime rather than only current ordnance handling habits. The size of the questionnaire was substantially driven by the breadth of activities and motivations encompassed by deliberate handling as a practice. The questionnaires were completed by members of the research team as they interviewed informants.

Unlike the use of questionnaires within the previous HI-B survey on informal demining (Bottomley, 2001) this project used the core research team to implement the quantitative data-gathering as well as the qualitative research. All members of the core research team undertook both forms of data-gathering. Locally recruited Survey Assistants worked on the KAP process only. These staff were talked through the survey questionnaire by the Field Researchers prior to deployment to the target villages. On their initial deployment the Survey Assistants each accompanied a Field Researcher and observed the process in practice. They then undertook the process themselves whilst being observed by their counterpart Field Researcher. On the recommendation of the Field Researcher the Survey Assistants would then work independently.

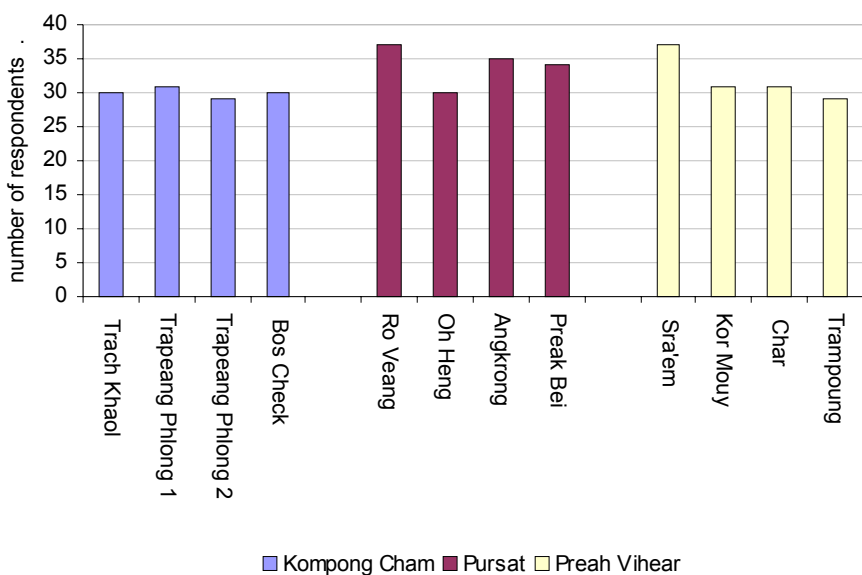
**2.4.2 Selection of target villages**

Target villages were selected on the basis of information from the CMVIS casualty data and from other sources, such as mine action agencies operating in the area. The project generally sought out villages where there seemed to be a high likelihood of ordnance handling practices either now or in the past.

**2.4.3 Sample sizes**

Respondents were selected as a random stratified sample within target villages. Sample sizes were not varied in proportion to the demographic balance of different villages but a minimum of 30 respondents were selected from each target village. Emphasis was placed on the 10-14 year old age bracket due to their particular significance within the casualty data.

**Figure 12. KAP survey respondents by village**



The KAP sample is large enough only to be indicative of patterns within the overall group of communities under study. The findings from this element of the project cannot be statistically extended to a provincial or a country level. As the KAP survey data becomes more focused specific groups (such as people who have fished with explosives for example) the sample inevitably becomes smaller and smaller. However, using the KAP data in conjunction with the qualitative analysis this report presents an analysis that is relevant at a national level.

#### **2.4.4 Interview practice**

The team travelled in a unmarked vehicle and avoided wearing clothes that indicated any link to the mine action sector. Further to avoid bias resulting from preconceptions about the research team's area of interest, qualitative interviews were undertaken either in separate villages or subsequent to KAP survey work in a village.

The research team gave gifts of soap to adults and stationery and elastic bands to children (the latter introduced in response to findings of the ongoing research). People were given these gifts subsequent to the interview and were not told they would receive gifts at the onset of the interviews. Individual interviews took a considerable time. The decision to give gifts to respondents was a victory for the research team over the research supervisor; the manner of its implementation was not problematic and a sense of the goodwill it engendered strongly suggested it was the right decision.

#### **2.4.5 Children's knowledge survey**

Specific research was conducted in Kompong Speu Province to investigate children's recognition and knowledge of ordnance. 157 children were asked to draw items of ordnance and then were interviewed. They were then shown a chart of mines and ordnance and asked if they could name any of the different items on the chart. Children were also asked why these items were dangerous, how far away could they cause death or injury and they were asked how they had acquired this knowledge.

## **2.5 RESEARCH CONSTRAINTS**

Despite previous work on this issue by members of the research team and despite initial open-ended interviews, areas of focus became apparent during the course of the research that had not been clear at the beginning. The current and potential importance of the role of the police in managing this issue was one such example.

The use of multi-response questions in the KAP survey was necessary given the diversity of people's behaviours and the fact that so many people undertook practices for a combination of different motives.

However, the multi-response data can be complex to represent. New answers were occasionally added by the research team to capture responses that had not been anticipated.

It was not possible to gather any direct information on the Thai side of the scrap metal trade. Information from the Thai companies purchasing scrap metal from Cambodia would provide a further insight into economics of this business.



# 3. OVERVIEW OF TARGET COMMUNITIES

## 3.1 OTDAR MEANCHEY & PREAH VIHEAR PROVINCES

### 3.1.1 Trampoung village

The team worked in Trampoung Village, Odtar Meanchey, close to the border with Preah Vihear. This was perhaps the most impoverished of all the communities in this study. It is a new village, established in 2002 and made up of people who have travelled to the area from across the country, primarily in search of land. The community cannot use its rice-field land due to the suspected presence of landmines. They also lack water to improve productivity of their *chamkar*<sup>43</sup> land, where they are currently growing rice. People find alternative sources of income by collecting resin and wild mushrooms, cutting thatch to sell, working as occasional *chamkar* labourers and collecting scrap metal.

The village was brought into the scrap metal network by dealers from Anlong Veng. Three households had established themselves as small scrap metal dealers, providing a market for scrap metal in the village. Almost every one of the 65 households in the village was thought to have some members who collected scrap metal from recovered ordnance. People were regularly burning live ordnance in order to make it saleable. However, the metal trade seemed to have reached an annual peak with prices falling at the time of research and *chamkar* labour demands increasing. The only ERW accident to have occurred in the area was in the next village and involved a man who dropped an item of ordnance that he was carrying on his bicycle.

### 3.1.2 Srae'am village

Srae'am Village is relatively well situated at the conjunction of roads between Anlong Veng, Preah Vihear Temple and Choam Khasant. It is an established village and has a good water source, trees and grazing for animals. As well as rice farming, *chamkar* farming and raising animals, people collect resin,

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43. *Chamkar* is a form of market gardening. It is one of the primary forms of agricultural activity for rural Cambodian communities.

hunt, find honey and work as labourers on other people's *chamkar* land. During the last two years the price of scrap metal has been high so many people from the village searched for metal around local battlefield areas in order to sell it. People burned live ordnance in order to sell it and other people refashioned items for fishing (in secret because the authorities prohibit it.) In the wet season people complained of high rates of malaria and getting money to pay for malaria medicine was cited as a common incentive for salvaging metal from ordnance.

Srae'am Village suffered some 26 landmine and ERW casualties from 1999 to 2003. Of these, eight people were injured in six accidents attributed to "tampering" with ERW in the CMVIS data. Three of these accidents resulted from fishing with explosives. A further accident caused by fishing with explosives occurred in early 2004, suggesting that this remains a persistent practice despite its prohibition by the authorities and the ongoing experience of accidents.

### **3.1.3 Kor Muoy village**

Kor Muoy Village is situated at the base of an escarpment from which it is overlooked by the Preah Vihear Temple. It is a new village with a population drawn from across the country. There is little farming activity because land has not yet been distributed to the people from the local authorities. Continued landmine contamination around the village is one reason for this. Some people plant cucumber, aubergine and winter melon. They find additional income from tourism to the Preah Vihear temple (driving people up to the temple, acting as guides, selling post-cards etc.) hunting, picking wild fruit and vegetables, and finding metal to sell as scrap. A few people also reported extracting explosives from ordnance in order to sell it. However, most people do not salvage from live ordnance and sell only fragments of metal that they find. As in Srae'am, people are afraid of malaria during the wet-season.

### **3.1.4 Char village**

Char Village is a new village of some 695 people. The village moved *en masse* five years ago from their old village only a kilometre away because there was too much landmine and ordnance contamination in that area. The people farm rice and *chamkar* as well as raising livestock and poultry. They supplement their income by hunting and by collecting wood, resin, scrap metal and honey.

## **3.2 PURSAT PROVINCE**

### **3.2.1 Rovieng village**

Rovieng Village is close to the border with Veal Veng District along the path of the Pursat River. The population of around 400 people lives in an area still contaminated by mines and ordnance. The people

of the village still consider much of the surrounding area dangerous. They grow rice and *chamkar* (corn and peanuts). In addition they collect wood, resin, thatch and scrap metal. People also undertake *chamkar* labour and there is some small business in the village (making furniture and selling food and drinks to people on the road between Veal Veng and Pursat.)

### **3.2.2 Angkrong village**

Angkrong Village is just a few kilometres east of Rovieng and of a similar size. The people living on a small “island” of demined land, surrounded by mine warning signs. People have burned ordnance on their land in an effort to clear areas themselves. They have some rice and *chamkar* land and collect wood, resin and scrap metal to sell. People also do occasional work as *chamkar* labourers. Salvaging from live ordnance is quite common amongst children in the village. They burn live items or dismantle them to extract the explosives which they also sell.

### **3.2.3 Oh Heng village**

Oh Heng village, further east again from Angkrong, enjoys a better standard of living. Inhabitants get additional income from *chamkar* labour, cutting thatch and selling groceries. In 2002, there were two accidents caused by people attempting to fish with explosives. However, this practice has reportedly stopped since the soldiers who were based here moved away from the area.

### **3.2.4 Prek Bei**

Prek Bei is a larger village of around 1,000 people. It is a well situated and established village and the local environment was not a battle-field area during the conflict. Like Oh Heng, Prek Bei is close to a cluster of other villages - providing greater local market integration. Fishing, selling groceries and distilling alcohol supplement farming activities, and the proximity of the local market puts less emphasis on scrap metal collecting (see section 6.1.3.) Those people who do salvage scrap metal collect only fragments rather than live ordnance.

## **3.3 KOMPONG CHAM PROVINCE**

### **3.3.1 Trampeang Phlong 1 & 2**

Trampeang Phlong 1 and 2 are villages close to the border with Vietnam. In addition to rice fields the people grow cashews and potatoes and raise animals. They supplement this with money from selling groceries, *chamkar* labour, construction labour, fishing and motor taxi services. When people re-established these communities in the early 1980s they discovered a lot of ordnance on the land they

needed to clear to establish housing and an agricultural base. During this period people destroyed ordnance so as to make the land available and to prevent their children from finding these items. In the past people here also used to refashion ordnance for fishing and salvage scrap metal from ordnance. Now that they have established farming and a better array of additional resources however, these practices have dwindled. The experience of accidents in the area also contributed to the change in attitudes towards exploiting ordnance. Despite this, within the last five years eight adolescents and young men have been injured as a result of three deliberate handling accidents.

### **3.3.2 Bos Check village**

Bos Check Village has some 1,159 people. Ordnance and landmine contamination was left in the village after fighting between the Pol Pot regime and the Vietnamese in the late 1970s. Most of the villagers fled around 20km away during the period from 1977 to 1979 when the fighting was fiercest. In 1979 people started coming back. Since then the village has been peaceful although a few Khmer Rouge remained in the forest until 1995 robbing chickens and rice from the villagers. The village is considered similar to most others near by. It is reliant on rice farming and cash crops such as potatoes and cashew nuts which are sold over the border to Vietnam. The villagers also collect rattan from the forest (mainly to use themselves) and grow coconuts and jack-fruit in the village area. Most households own some buffalo, cows or pigs, though not usually very many. Particularly in the dry season many people are hired for *chamkar* labour. One man has been killed in the last five years attempting to salvage a mine for sale. Another five people have trodden on mines whilst herding or travelling near to the village.

### **3.3.3 Villages in Kraek Commune**

Houch Kaet, Kreak Cheung and Bos Ivea villages in Kraek Commune also grow cashews and potatoes. They draw additional resources from sale of their labour either to work on *chamkar* land, rubber plantations or climbing palm trees. Similar to the other villages in Trapeang Phlong Commune, these villages seem to have seen a decline in deliberate handling now that the economic base of the village is more established. These villages also have relatively good market integration due to their proximity to the road from Kompong Cham town across to Vietnam.

# 4. GENERAL FINDINGS

## 4.1 OVERVIEW

Deliberate handling of live ordnance relates to a diverse range of issues from individual economics and attitudes through to the role and efficacy of national structures such as the police and military. Our analysis is presented through the following chapters:

- **General findings:** providing an introduction to our findings.
- **Risk reduction motivations:** an analysis of ordnance handling for risk reduction purposes.
- **Economic motivations:** an analysis of ordnance handling for economic purposes.
- **Social motivations:** looking at ordnance handling as a form of social expression.
- **Conditioning factors:** other factors that influence ordnance handling behaviour.
- **Change over time:** looking at the reasons for changing patterns of contact with ordnance.
- **Formal responses:** analysis of issues relating to current mine action practice.
- **Recommendations:** presentation of recommendations for the mine action sector, broader development community and government bodies.

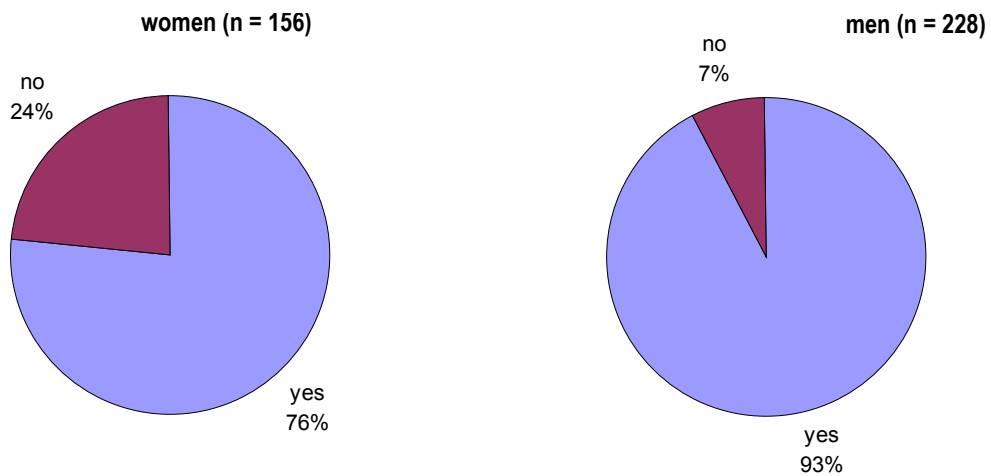
This initial overview section presents the key framework established by this research. It looks at general issues of the prevalence and incidence of ordnance handling, perceptions of ordnance within affected communities and discusses in broad terms the ways in which communities relate to ordnance in their environment.

## 4.2 PREVALENCE AND INCIDENCE

### 4.2.1 Finding items of ordnance

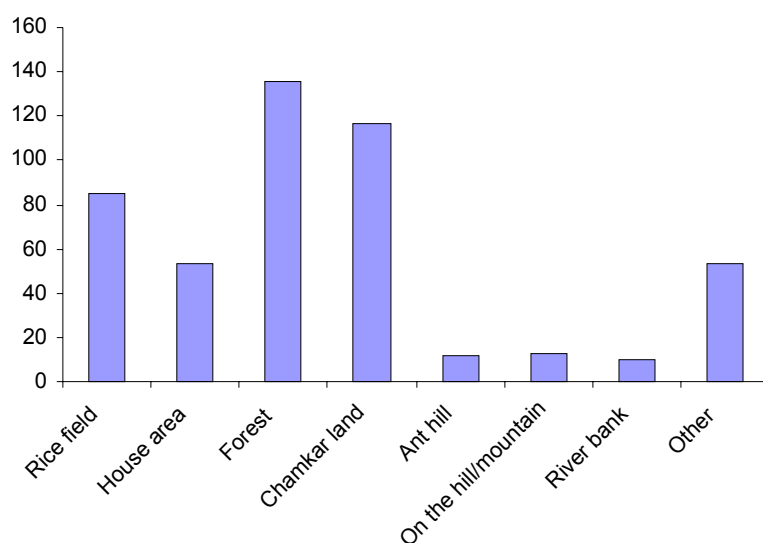
Most people within the communities covered in this research had found or seen an item of abandoned or unexploded ordnance at some time (though it is notable that women are rather less likely to have seen items of ordnance than men.) Thus, in these communities most people have had to choose some form of response to the presence of ordnance contamination.

**Figure 13. Have you ever seen an item of ERW**



The locations where ordnance is found generally relate to the key economic divisions of land around the community. Rice fields and *chamkar* land represent the agricultural base of most communities. The slightly anomalous item in the chart below - ant-hill - results from ant-hills being common locations in which people will deposit items of ordnance that they are moving off their land.

**Figure 14. Where have you found ERW items?**

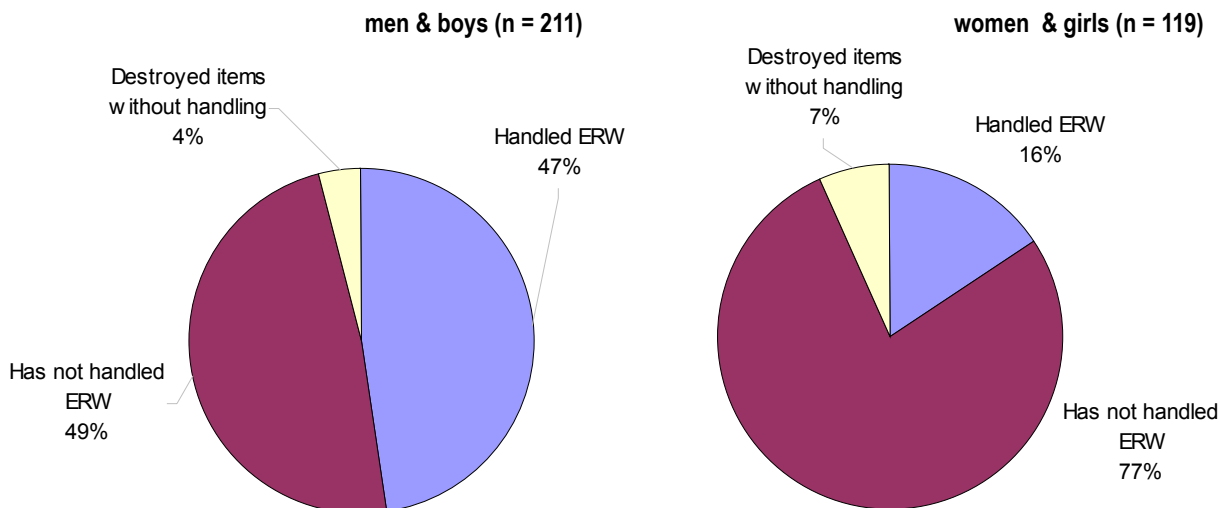


The significance of these categories also needs to be understood in relation to the dynamic nature of community development in the aftermath of conflict and in relation to continued movement within the rural Cambodian population. Items of ordnance are not being found on a regular basis on people’s established area of housing land in the communities studied by this project. Items were found on these areas of land during the process of establishing the housing area or during subsequent expansion of the housing area. We look at this in more detail in the chapter on risk reduction motivations for ordnance handling (Section 5.)

#### **4.2.2 Prevalence of ordnance handling**

Of the people who have seen items of ordnance they have reacted in accordance with the following broad categories:

**Figure 15. Prevalence of different forms of engagement with ordnance that is found**



It can be seen from this data that in the sample under study around 50% of men who had seen ordnance had engaged with ordnance in some way and at some time.<sup>44</sup> For women who had seen ordnance the substantial majority (77%) had not engaged with it. “Destroyed without handling” generally refers to people building a fire next to or around the item whilst trying not to move or handle it (see Section 4.4.2 on “burning live ordnance.”) It should be noted that individual people may have exhibited different reactions at different times. So someone who used to handle items of ordnance may subsequently have found items and decided not to handle them. The opposite progression from non-handling to handling is also found in this report and we look at this in more detail in the section on change over time (Section 9.)

Very importantly “handling ordnance” in this context means handling live ordnance (with some explosive content.) People who handle hollow or empty metal bodies of ordnance are not included as “handlers” in this analysis.

### 4.3 KNOWLEDGE

#### 4.3.1 What can make ordnance explode?

All of the respondents were able to make a suggestion as to what might make an item of ordnance explode. Amongst the multiple responses burning it (88% of people,) hitting it (75%) and throwing it (66%) were the most common. Only 5% of people suggested stepping on ordnance might make it explode. These responses suggest people have a reasonably good general knowledge of the mechanisms by which they are likely to detonate an item of ordnance.

44. This does not include handling ordnance during periods of military service.

#### **4.3.2 What are the risks of handling ordnance?**

Nearly 95% of KAP survey respondents indicated disability and 87% indicated death as risks involved in handling ordnance. 60% also highlighted blindness as a specific possible risk. These responses indicate that the great majority of people are aware that ordnance is dangerous and handling it can have severe consequences. When asked about the impact of such an accident on the family people generally responded that they would become poorer and would be miserable.

#### **4.3.3 At what distance is ordnance dangerous?**

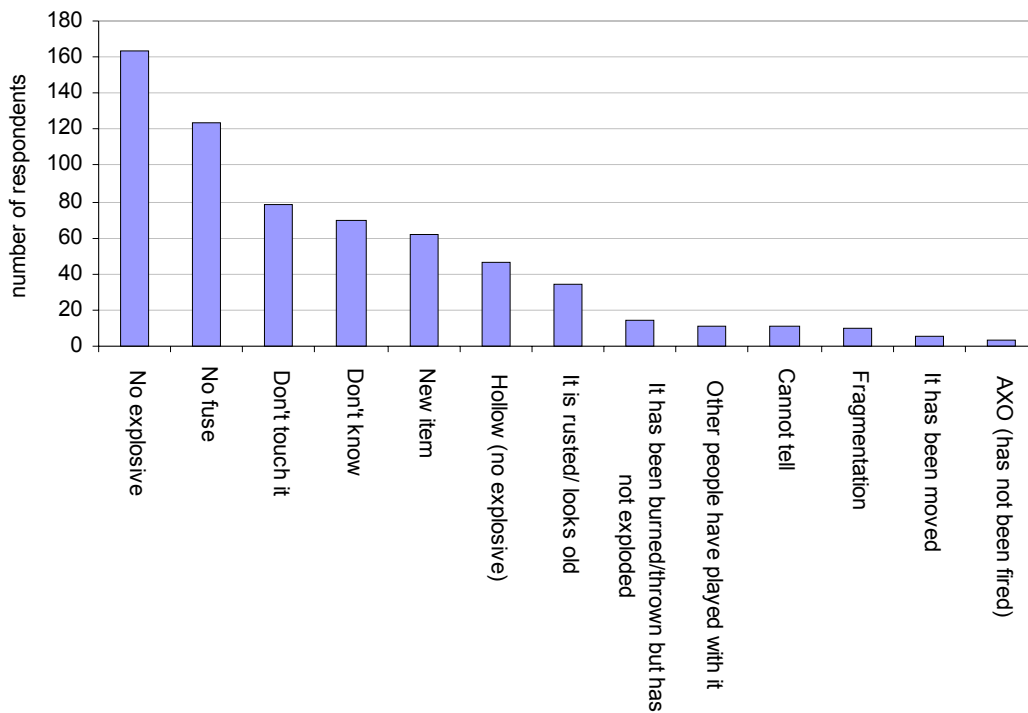
People's sense of the distances at which ordnance was dangerous were rather constricted. Although a large number of people indicated that the distance over which ordnance could be dangerous was dependent upon the type of item, around 60% of the remainder indicated that ordnance could kill and injure up to around 10m from the point of detonation. This data is slightly problematic because of difficulties regarding perception of distances. In qualitative interviews people seemed most often to over-estimate distance, (i.e. saying 50m but indicating a distance of about 20m) but this varies from person to person.

#### **4.3.4 Safe or unsafe: differentiation**

It is important to note that out of 119 people who handled ordnance nearly 76% said that they would not handle all types of ordnance. Differentiation between items that are perceived to be safe and those perceived to be dangerous is very important to people's decisions regarding if or how to engage with items of ordnance that they may find in their environment. We look at this in more detail later, particularly in relation to economic salvaging from ordnance and the scrap metal trade (Chapter 6.)

Asked to name component parts of ordnance items, most people could name explosives (95%) and the fuse (87%). These components also provided the most common grounds for people's differentiation between safe and unsafe items.

**Figure 16. How can you tell if ordnance is safe?**



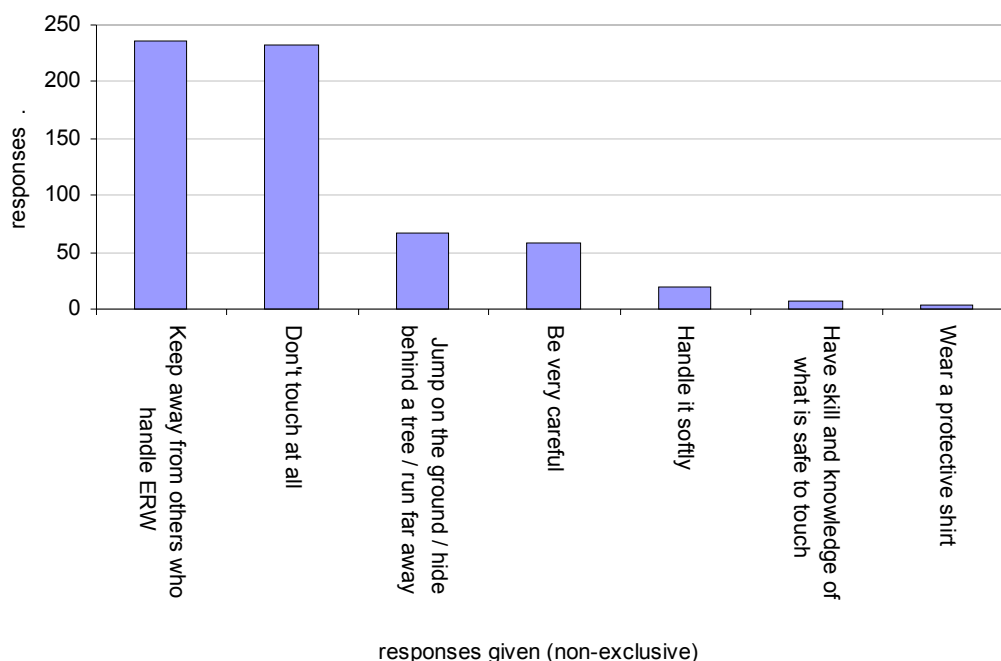
The most prevalent response (42%) was that absence of explosives was the best indicator as to whether an item is safe or not. The responses “no explosive” and “hollow” duplicate each other but represent different presentations of people’s perspectives. Similarly “new item” and “AXO” may overlap, but some people have a perspective based on the technical history of the ordnance rather than the appearance. The most prevalent responses are based on an ability to assess items of ordnance in terms of constituent parts. Such a differentiation can sometimes be very easy (such as when presented with the empty casings of POM-Z mines or hollow mortar bodies.) It is for this reason that many people in communities and in the scrap metal trade feel comfortable discriminating between items as to whether they are safe or dangerous.

**4.3.5 Practice and experience**

Only 20% of respondents thought that the ongoing practice of ordnance handling actually made it safer. Some 73% stated that it did not make it safer and the remainder said they did not know.

In a similar vein, 62% of respondents said that someone who handled lots of ordnance was more likely to have an accident whereas only 16% thought someone handling ordnance for the first time was more likely to have an accident.

Figure 17. KAP survey respondents: how can you protect yourself from injury?



These responses also suggest that most people accept the basic framework of MRE advice which is that not touching ordnance and staying away from people who handle ordnance is the best way to stay safe. Other responses are more geared towards safe conduct in the process of ordnance handling.



In Srae'am village, Kantout, an empty mortar-bomb body is used as a striker for a bell made out of a truck wheel that is hanging from a tree. For the past two or three years the village chief has used this bell for calling people to meetings - including efforts to stop people handling ordnance.

## 4.4 PRACTICES

### 4.4.1 Moving live ordnance

Many people consider it relatively safe to move live ordnance so long as you do it carefully. Dropping items or other such violent acts are to be avoided. People suggest holding the ordnance in the middle not at the ends. It was noticeable that some people sought to destroy ordnance (usually by burning it) without handling or moving items. This is indicative that at least for some people moving ordnance is seen as increasing the danger of an accident.

### 4.4.2 Burning live ordnance



Burning ordnance was one of the most common practices involved both in making live ordnance saleable within the scrap metal trade and as part of risk reduction practices (clearing ordnance off land or removing the threat it poses to children.) Burning ordnance is done in more or less sophisticated ways. Some people prefer not to move or handle the ordnance at all. They will build a fire around the item where they find it. Other people will

collect items together and burn them in a group. In Trampoung village, Odtar Meanchey, people burned ordnance in holes in the ground. This was considered preferable because it reduced the likelihood of low angle fragments if the ordnance detonated - making it both safer and easier to collect metal fragments for subsequent sale. It was also considered that burning items in a hole meant that you did not need to run so far away in order to be safe. Sometimes people were burning out the explosives from items that did not contain a fuse in which case the item would not normally explode.

People usually saw the need to find cover when burning ordnance - either behind a tree or behind a large termite mound. However, concern for the safety of others is not always evidenced so clearly. Some villages reported that people were well aware of ordnance burning practices and therefore they knew to be cautious when they saw smoke rising from fires in the forest. Visibility within forest areas is not always very good however and it may not be possible to see the smoke rising from a fire until you happen upon it. Certain resin collecting practices also involve setting fires either at the base of the tree or in a pre-cut chamber into the trunk.

In some areas local authorities (such as the police or military) would investigate explosions that resulted from burning ordnance. This was sometimes cited as a reason for people not engaging with ordnance in these communities

#### 4.4.3 Dismantling ordnance



Ruan Null, 27, lost the ends of two fingers and a thumb when a detonator exploded after he had dismantled the fuse of a mortar.

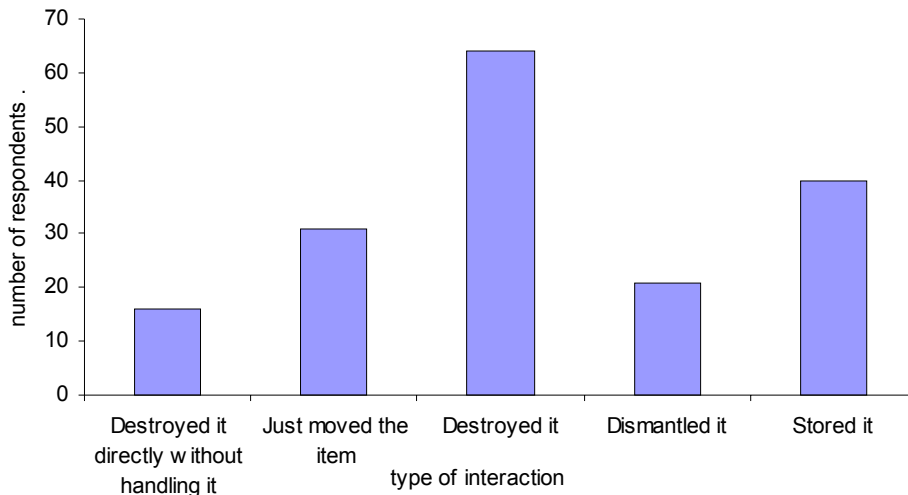
Dismantling practices usually involved removing the fuse so that the explosive chain is no longer intact. This may be done to make the device safe, to sell specific components (such as the fuse) or to use these components again (usually for fishing.) Dismantling ordnance requires rather more confidence and knowledge than most people are prepared to apply. Children as well as adults might remove the fuses from certain types of ordnance, either by unscrewing them or forcing them out with a chisel.

These practices were most commonly encountered as a prelude to fishing with explosives. This involves refashioning an explosive device and detonating it in water. The practices involved in this are described in more detail in Section 6.6. As well as removing the fuse, fishing preparation involves cutting open the fuse so as to extract components from inside. These practices also require different types of explosive content from different items of ordnance.

#### 4.4.4 Prevalence of different practices

Of the people who engaged in ordnance handling practices or burning ordnance without handling it, the following activities were undertaken:

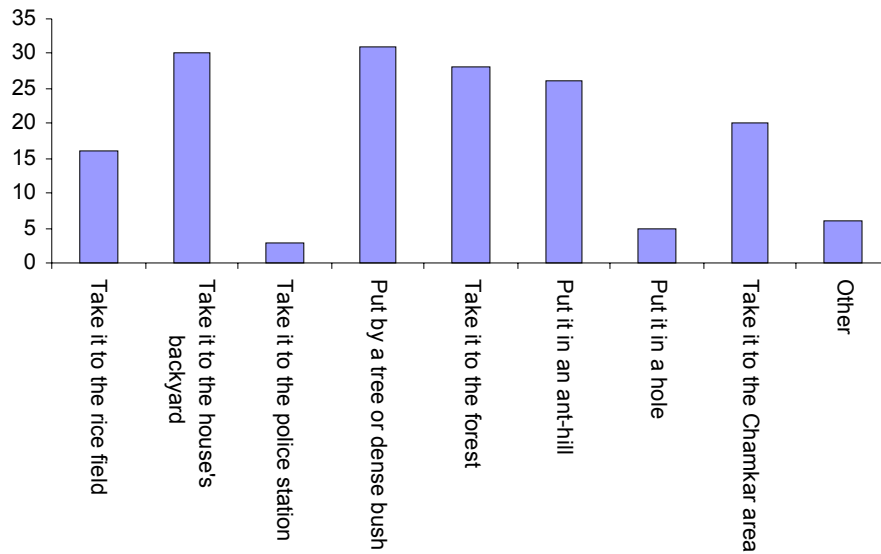
**Figure 18. Prevalence of handling or engaged contact that ERW respondents have undertaken with items of ordnance**



It is important to note with respect to this chart that individual people have often made multiple responses and that this chart does not also represent the frequency with which these different responses have been undertaken. It is striking that destroying items of ordnance is one of the most prevalent actions. Either with or without handling it, over 20% of all of the respondents interviewed in this survey process had destroyed items of ordnance at some point.

People have moved items to a diverse range of locations and these represent different purposes. Ant-hills, holes and trees/dense bushes are used as locations to hide items so that others will not find them, but where they can still be relocated later. Forest, rice and *chamkar* land represent areas where items can be destroyed (because of good visibility or a scarcity of people.) Taking items to the police represents an effort to remove the ordnance from the public domain. Items may be brought to the housing area for a number of reasons: sometimes to be dismantled for scrap metal or fishing, sometimes to be stored for destruction by an outside agency. It is also important to note with respect to this data that people may move an item to a different place within the same area where they found it (bringing items together for destruction for example.) In such a case the location may be based on convenience.

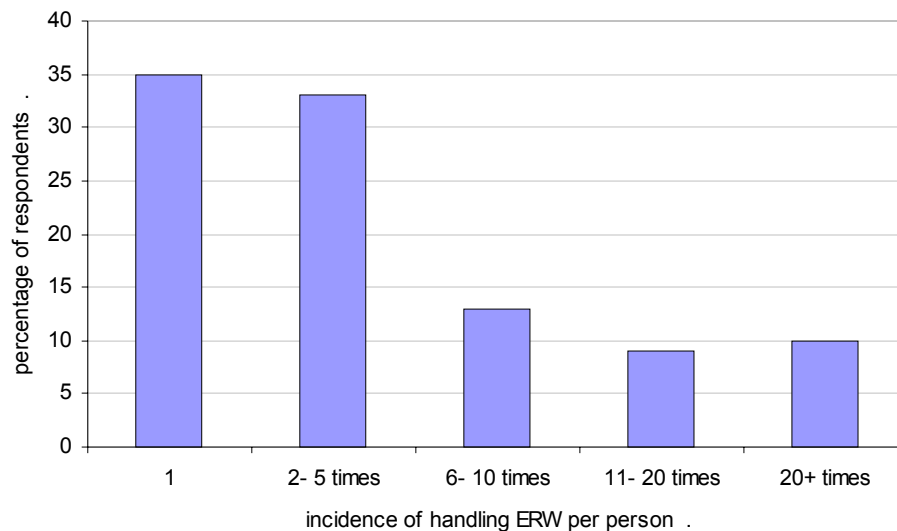
**Figure 19. Prevalence of different locations to which ordnance is moved**



**4.4.5 Incidence of ordnance handling by individuals**

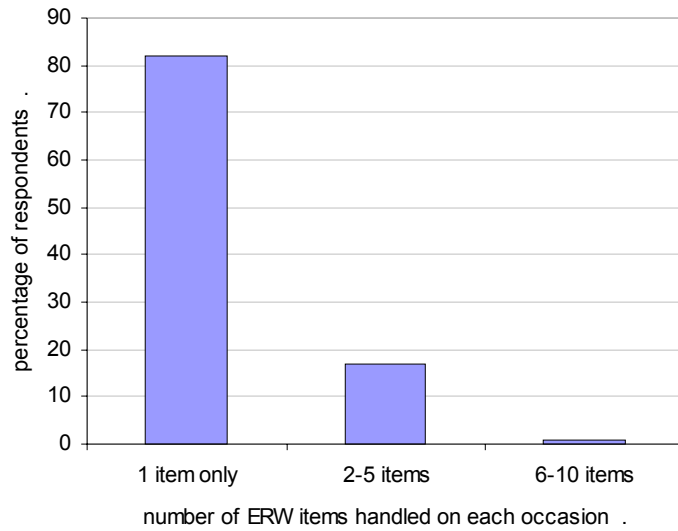
Most people who had handled ordnance in the KAP sample had done so only a few times and then moving only one item at a time. This is represented in the charts below.

**Figure 20. Incidence of handling ERW (excluding zeros) from Pursat and Preah Vihear<sup>45</sup>**



45. Out of 69 respondents due to changes in the questionnaire structure.

**Figure 21. Number of items of ordnance moved/handled in an individual task (from all locations)<sup>46</sup>**



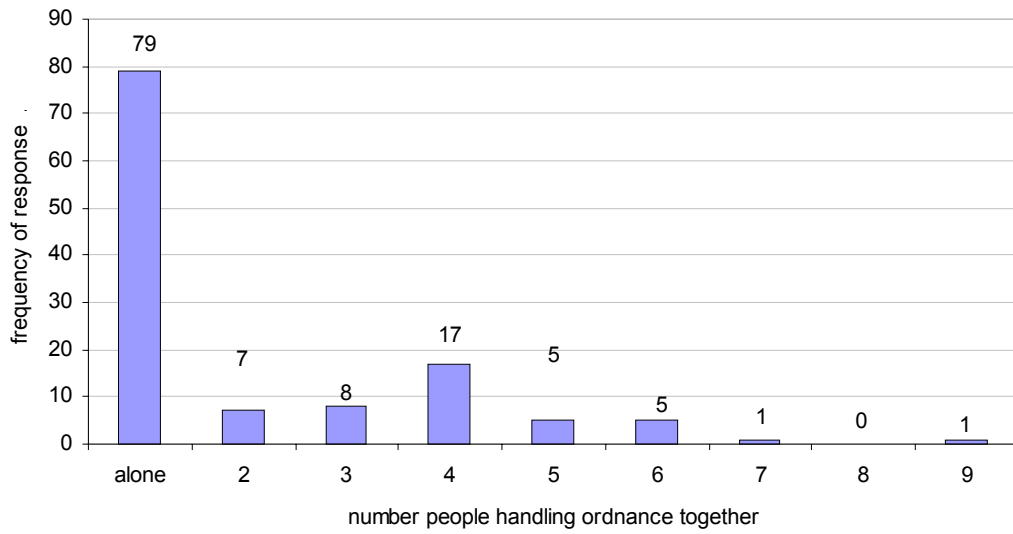
#### 4.4.6 Handling ordnance alone or with others

One noticeable feature of ERW casualty data is the number of people who may be involved in an individual incident. The fragmentation effect of ordnance makes it capable of causing multiple casualties. Although most people undertake ordnance handling alone, people did also report undertaking these activities in groups. This was most usually with male friends, but also included family members (both sibling groups and parent-children groups). In relation to accidents with multiple casualties it should also be borne in mind that other people may be in the vicinity of the incident, but not involved in the activities being undertaken (passers-by).

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46. Out of 119 respondents.

**Figure 22. How many people handle ordnance together?<sup>47</sup>**



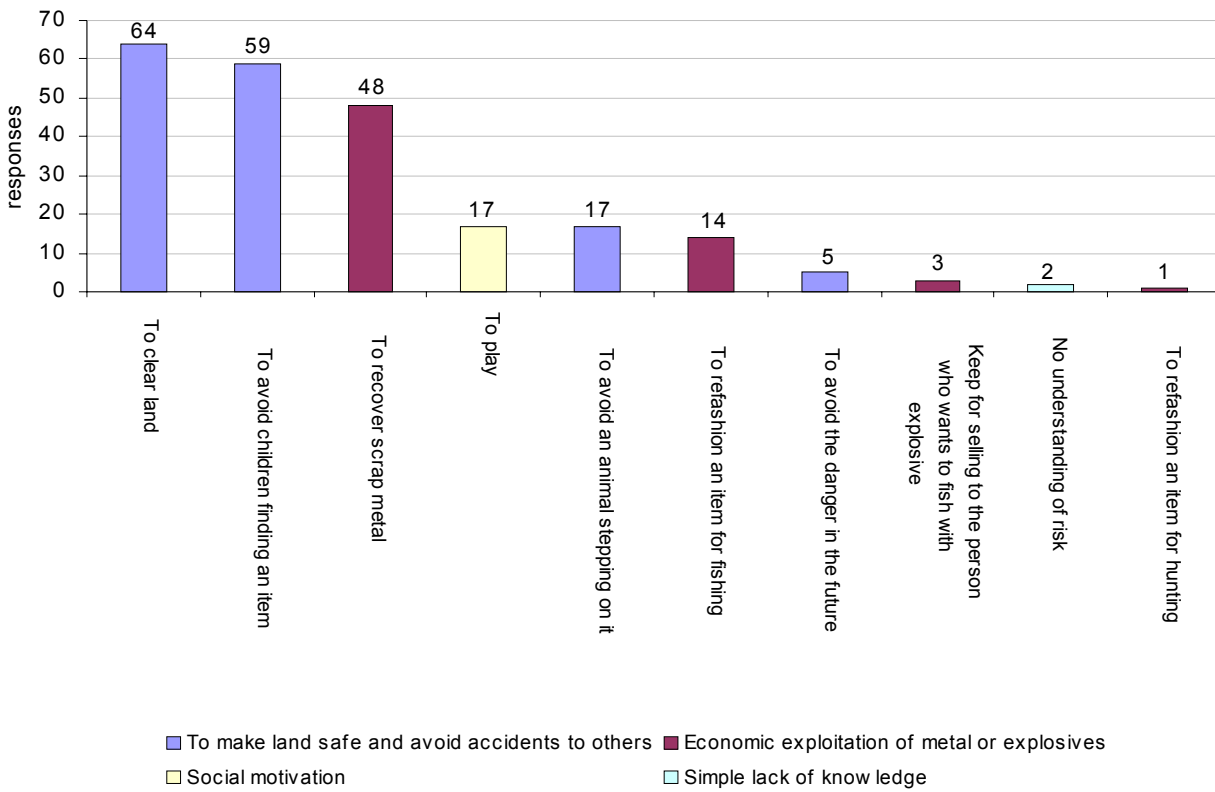
#### 4.4.7 Prevalence of different motivations for handling live ordnance

We also examined motivations for handling or engaging with live ordnance. These are laid out in Figure 23. and cast an important light on some of the data already presented.

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47. Out of 119 respondents.

**Figure 23. Reasons for KAP survey respondents handling live ordnance<sup>48</sup>**



Around 50% of people provided multiple responses regarding their motivations for handling ordnance. It can be clearly seen that protecting children and clearing and expanding land are particularly prevalent motivations for handling ordnance. These two motivations were often identified in combination by the respondents. Collecting scrap metal is also one of the most prevalent reasons. Amongst the respondents in the survey, refashioning for fishing and playing are considerably less prevalent as motivations for ordnance contact. However, this does not mean that these activities are undertaken less frequently by those who engage in them. We will look in more detail at the difference between these behaviours in the individual chapters on motivations.

## 4.5 PERCEPTIONS OF ACCIDENTS

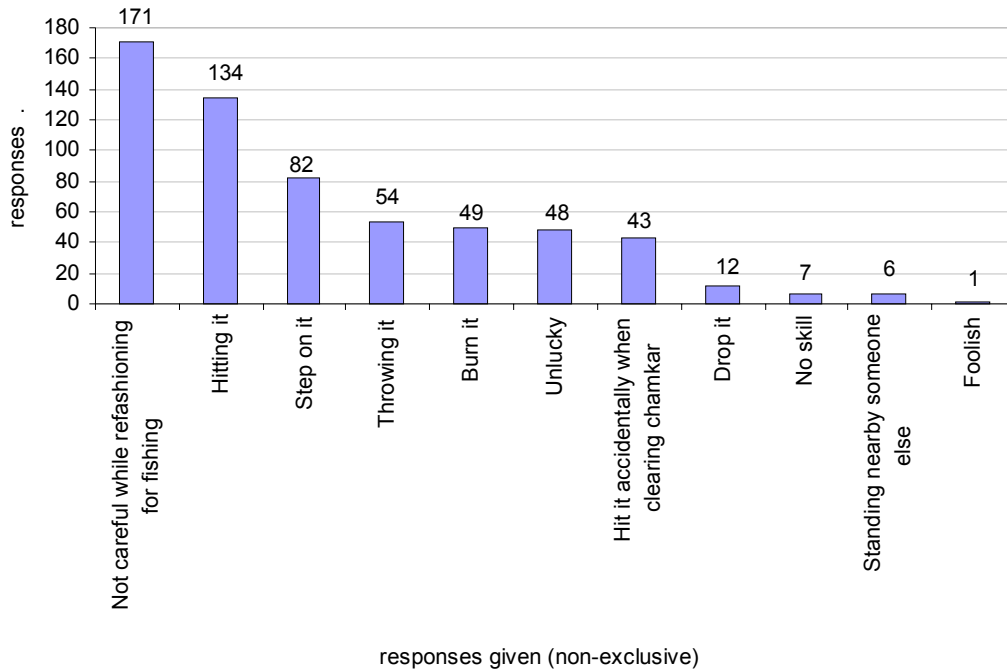
As we have noted, almost all respondents in the KAP survey identified death (87%)<sup>49</sup> and disability (95%) as possible outcomes of accidents with ordnance. People also singled out blindness (60%) and deafness (6%) as more specific impacts.

48. Out of 134 respondents (including those who destroyed without handling.)

49. These figures relate to the percentage of respondents who identified these outcomes in a multi-item response frame.

Some 84% of KAP survey respondents knew someone who had been injured in a ERW accident. The nature of this relationship is unknown, but this does suggest that there is a strong general awareness that ordnance causes accidents.

**Figure 24. KAP survey respondents: reasons why other people have accidents**



It is interesting in this data that fishing with explosives is identified most commonly as a practice that can result in accidents. Although it was not found to be so prevalent as other practices as an activity within the sample group, it seems to have a hold on the popular imagination. Another key point that should be noted from the reasons that people identified for accidents is the straight forward mechanistic attitude that these response indicate. Bad luck is identified as a component in accidents, but most of the responses are focused on mechanical processes of striking the ordnance. We will look briefly later at the role of local protection beliefs as conditioning factors in people’s engagement with ordnance (Section 8.2). However, whilst certain protection beliefs may influence the overall framework through which people assess risk and risk-taking behaviour, this project did not find such beliefs having any significant impact on people’s direct assessment of what will or will not make an item of ordnance explode.

## **4.6 CONCLUSIONS FROM THIS SECTION**

With around 50% of men within the overall sample having handled live ordnance at some point, it should be considered a practice that has been relatively prevalent in the post-conflict period in the areas of under study. Most people's experience of handling ordnance does not result in death or injury. However, the incidence rates of these practices change over time in relation to community and individual circumstances. We will look at this in more detail in Chapter 9.

There are three primary types of motivation for handling of live ordnance and these may operate individually or in combination. Contact for the purposes of risk reduction is undertaken as a way of controlling contact with an item or items so as to reduce the risk they present to that individual or to other people and often to facilitate safe use of land. Economic exploitation of ERW is based around the sale of scrap metal or the reuse of the explosive content of ordnance for fishing. Psycho-social motivations for contact with ordnance (such as playing) may be linked to thrill-seeking or sensation-seeking, issues of identity construction and social group dynamics.

Casualty surveillance data does not capture those deliberate handling activities which less commonly result in accidents and as such it does not provide a clear indication of deliberate handling practices within the broader community. Unsurprisingly, such relatively safe activities are amongst the most prevalent in affected communities. These practices are generally part of a risk management process and involve moving or attempting to destroy ordnance in a controlled way so as to remove the potential threat from uncontrolled contact with the ordnance. This is most common when people are clearing vegetation from land so as to use it for housing or agriculture. Adults often cite fear for their children as part of their motivation for such practices. People engaging in such activities would generally prefer for an external capacity to remove or destroy the ERW that they find. However, the lack of such a capacity or lack of an understood reporting system for mobilising such a capacity means that people will seek to address the problem themselves. Due to the link between such practices and activities of land expansion these forms of behaviour are not usually systematic or persistent, but are dependent upon changing relationships between the household and the land. Engagement in these activities usually involves handling only a small number of items rarely.

## 5. RISK REDUCTION MOTIVATIONS

Bottomley noted (2001: 11) that “most village deminers, when they come across a UXO would either lift it out of the way, burn it *in situ* using fire wood, or simply leave it in place and continue to farm around it.” These responses are linked into the primary motivation for informal village demining, making land viable for the agricultural purposes of the household. They represent the minimum level of risk taking required in order to achieve this purpose and as such support one of Bottomley’s overriding points, that village deminers are cautiously using their skills and experience in order to meet basic domestic requirements; they are not the “foolish brave.”

This study finds that handling live ordnance for risk-reduction purposes is prevalent as a motivation. These practices are most common when people are clearing new land for agriculture or housing.

Generally the people who undertake these practices would prefer for an external organisation to move or destroy the items. However, in the absence of effective reporting structures or EOD capacity people will seek to solve problems for themselves. Adults often report fear for their children as part of the motivation for risk-reduction practices. Such a fear can reduce the period people are prepared to wait before addressing the problem of ERW contamination themselves.

Although they are prevalent, these practices are not usually frequent and are not generally linked to behaviour that involves the ongoing handling of ordnance. Risk reduction contact is usually undertaken by adult men.



Risk reduction contact involves either relocating the items, trying to destroy them or both. People might move items and hide them in vegetation or in termite mounds, they may bring them to their house or to the local police post. People also commonly seek to destroy items by burning them either where they are found or in a more remote location.

Risk reduction contact with ordnance represents processes by which individuals and communities engage with ERW as a threat to be mitigated. It occurs in two primary forms: contact with ordnance to facilitate safe land use, and contact with ordnance to avoid less controlled contact by others (often children). Both forms represent a choice to interact with the ordnance in a controlled and deliberate manner so as to avoid more dangerous forms of contact. It can be seen as a coping mechanism, and it draws upon capacities within the community.

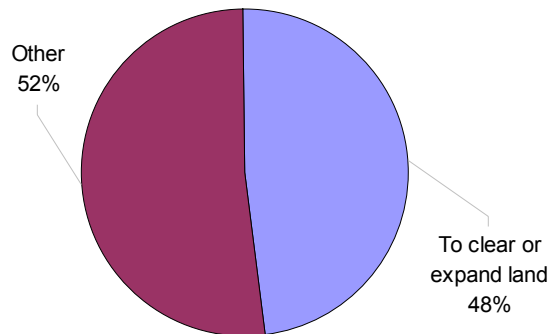
## **5.1 CLEARING LAND**

Handling ordnance to clear land is most common during the period of establishment of new villages or re-establishment of villages in the wake of the conflict. This is not surprising given the need to open up new areas of land during these periods and due to the likelihood of ordnance being present in greater amounts at this time.<sup>50</sup> However, the specific circumstances of particular families may find them engaging in such practices even if they are no longer common within the broader community. New arrivals in an established village, opening up new land for their own use, may find themselves encountering additional items of ordnance.

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50. Where villages have been abandoned during conflict or where there has been conflict in an area where a new village is being established then ordnance contamination is likely to have resulted. Where people have not already been living in these areas then ordnance will not have been reported for destruction by EOD teams and villagers themselves will not yet have applied the coping mechanisms described in this section in order to address the outstanding contamination.

**Figure 25. Proportion of ordnance handlers who cited clearing or expanding their land as one of their motivations<sup>51</sup>**



Where it is linked to the process of opening up new land, risk-reduction handling is linked to economic requirements. It is undertaken to facilitate economic activities rather than to exploit the economic value of ordnance directly. This form of deliberate contact with ordnance has the strongest parallels with the processes of informal or village demining as it is linked to efforts to establish a secure base for the household or community economy. As we noted in section 1.5.1, land denial from ERW contamination is rarely absolute. Unlike situations of landmine contamination, people can often work around items of ordnance that they find on their land. The choice to engage with an item (either moving it or trying to destroy it) rather than working around it may be prompted by an additional concern for the protection of others.

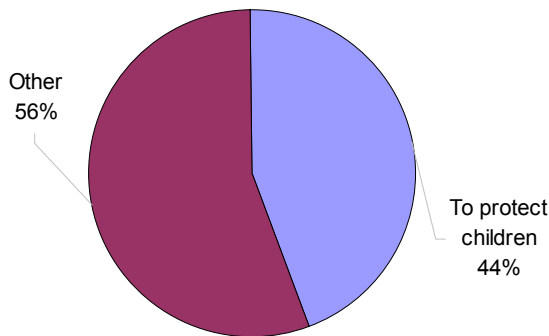
## 5.2 PROTECTING OTHERS

People often reported a concern to protect children as a basis for this form of ordnance contact. Some 60 respondents in the KAP survey reported moving or destroying items of ordnance in order to stop children finding it. Of the 55 people who had children of their own only seven had actually seen their own children handling ordnance. However, 58% of the total group had seen other children handling ordnance.

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51. Out of 134 respondents. It should be noted that this motivation is particularly prominent amongst older respondents. However, this motivation did feature prominently in responses from people in all age groups from 20+.

**Figure 26. Proportion of ordnance handlers who cited protecting children as one of their motivations**

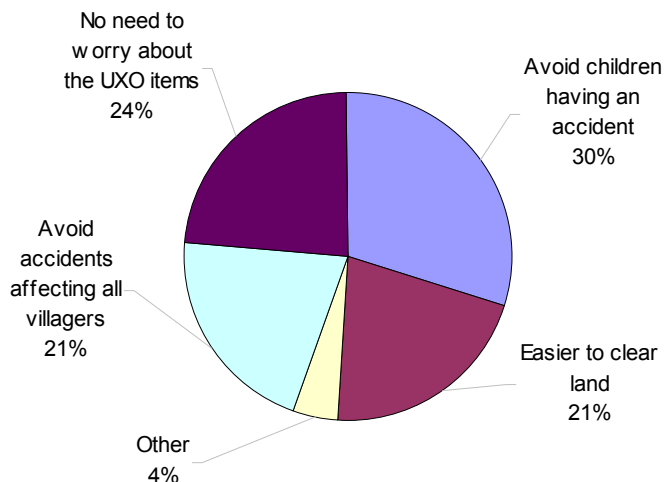


**CASE STUDY:**

One man from Bos Check village, Kompong Cham, had played with ERW as an adolescent (moving items into piles and setting fire to them) and then undertook a similar practice in middle age in order to clear *chamkar* land and to stop children from finding and playing with the items. As an adult though he did not move items, but burned them where they were. He would inform his friends that he was about to destroy these items and he would take shelter behind a tree whilst waiting for the ordnance to explode. From this position he was able to observe if other people were approaching the fire that he had lit and would be able to warn them away. He started doing this after some people in the village were injured when they approached a fire that had been lit only for it to explode when they were near by. The experience of accidents within the village had guided him towards a form of practice that was safer for himself and for others. This man also sold scrap metal derived from ordnance, but only where he knew it was safe. Such items would be the tail ends of mortars and metal cones from the front of rocket propelled grenades.

The same concerns that drive people undertaking these risk-reduction practices are important in their attitudes towards external assistance from the mine action sector. All but one respondent in the survey indicated that it was better to have a team come and destroy ordnance than to leave the ordnance in place. The reasons people stated for this are presented in the chart below:

**Figure 27. Why is it better to have a team that can come and destroy ordnance?**



Avoidance of accidents and facilitating preparation of land for housing and agriculture clearly dominate their responses. It is noticeable also that a significant proportion identify mitigating the specific danger to children as important. However, although people indicate this support for external intervention their actions may be at odds with these statements of belief. In some communities economic reliance on salvaging metal from ordnance meant that people no longer called upon external assistance because this would stop them from being able to extract value from the ordnance.

It is important to note that over the last 5 years (the only period for which the accident data is available in sufficient detail) the CMVIS “tampering” sub-categories “to demine,” “to destroy it” and “to move it” have had 64 casualties attributed to them. On the other hand, some 355 casualties<sup>52</sup> have resulted from non-deliberate handling accidents (the sort which these risk reduction practices are supposed to mitigate.) Although accidents do inevitably occur, the central practices of ‘risk-reduction’ contact with ordnance do not seem to result in accidents to the same extent as more intrusive practices associated with economic exploitation of ordnance or children’s social interaction with ordnance.

However, despite the prevalence of these risk-reduction motivations, they do not dominate people’s perspective of ordnance handling as a practice. Despite nearly 90% of respondents indicating that people who handled ordnance were brave, some 96% reported that people who handle ordnance were not respected in the community. The great majority of these people cited the fact that they put other people at risk as the reason why these people were not respected. It seems likely that this is linked to people having a different sense of ordnance handling as either a response to specific circumstances or as a systematic practice.

52. This data is drawn from UXO casualties in the CMVIS data-set attributed to: “burning,” “clearing new land,” “collecting food,” “cutting / collecting wood,” “farming,” “herding” and “travelling.”

### **5.2.1 Protecting animals**

A significant number of respondents (17 out of 134 people who had engaged with ordnance either through handling or burning) reported that they had handled ordnance in order to stop animals from having an accident. This was the same number of people who reported contact with ordnance in order to play with it, and slightly more than the number of people who reported engaging with ordnance in order to refashion an item for fishing (see Figure 23.). Although reported across a range of ages, this motivation was particularly common amongst children who are often responsible for herding cattle. This motivation has parallels with the problem of children entering minefield areas to extract cattle (MAG, 1998a: 11). Cattle are particularly valuable as stores of wealth for the household and responsibility for the safety of these animals can lead children to engage with risks in the local environment themselves in an effort to mitigate the risk to the animals.

## **5.3 CONCLUSIONS FROM THIS SECTION**

As we have noted, engagement with ordnance in order to clear land (for housing or agriculture) and in order to prevent accidents to others were the most prevalent forms amongst the KAP sample. These forms of engagement seem to relatively rarely result in accidents. This is not surprising; such actions are undertaken out of a recognition that ordnance is dangerous and in an effort to reduce the likelihood of accidents occurring. Such practices are generally congruent with the aims of the formal mine action sector - to see ordnance destroyed so as to facilitate safe use of the local environment by the civilian population. The fact that people have resorted to such practices themselves, rather than acting in accordance with the “don’t touch - call for assistance” directives of the mine action communities is difficult to assess in relation to this data. These practices were reported as being undertaken in the past in some of the communities where they were most prevalent and as such they do not present a commentary on how effectively current mine action capacities are supporting these populations.

## **6. ECONOMIC MOTIVATIONS**

This section analyses behaviour driven by a desire to extract value from ordnance. This is done primarily through the sale of metal derived from ordnance, the sale of the explosive content of the ordnance, or the refashioning of ordnance for use in fishing. The scrap metal trade has established one of the most pervasive and broadest based economic structures in the country and it presents some of the key issues to understanding the ongoing casualties that result from handling ordnance. The scrap metal trade is the primary focus of this section.

This section details the basic elements of the community economy and seeks to establish the role of scrap metal within that economy. It looks at the structures of the scrap metal trade and it examines fishing with explosives as an ongoing practice. Although there is a market for explosives in parts of Cambodia the research for this report found very little evidence of the explosives market playing a significant role in promoting people's contact with ordnance. However, a short section makes some additional notes regarding the sale of explosives.

The economic role of ordnance is dependent upon individual or household circumstances conditioned by the overall economy of the community. For this report, the most important component of that economy is cash. Maclean (1998), discussing Cambodian farming systems, notes:

“The nature of a farmer's demand for cash is a complex issue: cash is needed to buy food not provided by the farm, for farm running costs, for clothing and schooling costs, and for fulfilment of social responsibilities such as weddings and religious festivals.”

The market integration of the scrap metal trade gives people access to cash in almost every village in the country on an almost daily basis. Ordnance represents a form of scrap metal and people's relationship with ordnance as an economic resource is fundamentally conditioned by the structure and role of the scrap metal trade. The particular value of ordnance needs to be understood in its economic context if we are to develop realistic responses to the current situation regarding its handling and use. Intertwined with these economic issues are also social issues regarding people's ability to differentiate

between safe and unsafe items of ordnance. These issues also contribute to our critique of current mine action practices and help us to move towards alternative programmatic responses.

Overall, we see the extraction of value from live ordnance as a process of 'self-exploitation' where the risk of engagement with ordnance and the value realised, are balanced against the availability, drudgery and output of other possible activities. On the whole salvaging from live ordnance is a marginal practice and one which people would prefer to avoid. However, economic circumstances in much of rural Cambodia are such that for vulnerable populations this activity may represent one of the few economic options open to them. We also emphasise that these economic issues are fundamentally important to understanding children's engagement with live ordnance.

## 6.1 COMMUNITY AND HOUSEHOLD ECONOMIES

### 6.1.1 Rice land, *chamkar* and livestock

Cambodian villages generally rely on a few key economic structures. Land ownership is one of the key differentiators between households in rural villages.<sup>53</sup> Rice land and *chamkar* land provide the economic base of most villages. Linked to the pattern of the rains, the working requirements of the rice fields dictate the agricultural cycle of many rural villages. Rice land work dominates wet-season labour. *Chamkar* work may continue over a broader period depending on local conditions.

Of the respondents in the KAP survey 97% had housing land (50% had less than 1 ha). Some 30% had no farming land for rice and around 30% lacked *chamkar* land.

Rice farming is the primary subsistence activity in rural Cambodia. Between the different provinces, average annual yields in 2001-2002 ranged between 1.1 T/ha and 3.4 T/ha with the average being around 2 T/ha.<sup>54</sup> Although it is the primary subsistence activity, rice is also sold at market to raise cash for the household.

*Chamkar* farming refers to a form of market gardening. *Chamkar* land is used to grow such crops as cashew nuts, sweet potatoes, corn, peanuts, sesame, bean sprouts, soya beans, cucumber, sugar cane, bananas and pineapples. The choice of *chamkar* crops is largely dependent upon soil and weather conditions in particular areas. Systems of reciprocity within the community often mean that households will work on each other's lands at certain times so as to complete tasks more efficiently.

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53. Landlessness has been a growing problem in rural Cambodia. This results partly from the growing rural population but is exacerbated by uncertainty with respect to land rights (Bottomley, 2003: 24). Landlessness and uncertain land rights contribute significantly to people being in a dangerous relationship with landmine contamination.

54. Data from Statistics Office Food Balance Sheet Report (2001-2002)

These staples are supplemented (and production facilitated) by livestock - chickens, pigs, cattle and buffalo. Cattle and buffalo are used as draft animals for the transport of goods and preparation of land. They also represent a store of cash that can be realised if necessary (through sale either as breeders, draft animals or for slaughter.) Pigs are primarily reared for cash whilst chickens are either sold or eaten at home (Maclean, 1998). Livestock as a 'store of cash' are the product of cash investment and other inputs over time. As such the cash value of livestock is best realised at certain times (when the animals are at their most valuable) in order to get the best returns on the investment.

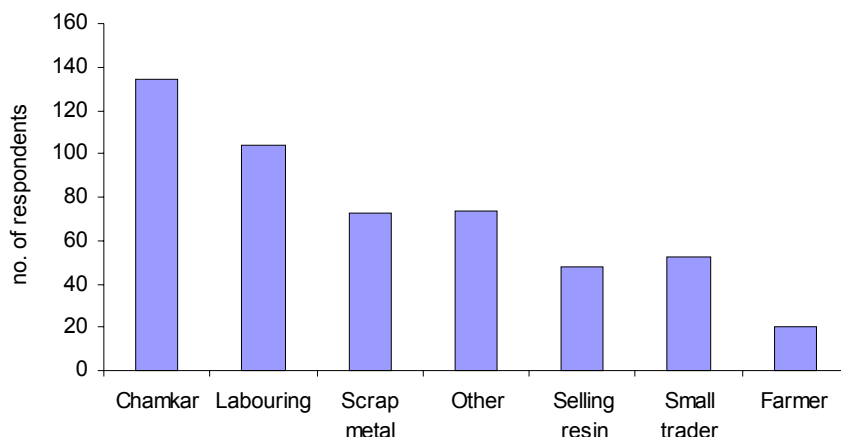
### 6.1.2 Additional primary resources

Most households will draw upon a range of other resources in order to raise cash to pay for immediate or ongoing requirements. These are most commonly resources that can be collected from the local environment and are not dependent upon land ownership. Typical resources that villagers may collect and sell are wood, rattan, scrap goods (metal, plastics and glass,) different types of tree resin, fish, forest fruit and vegetables, honey, gem-stones, cashew nuts and animals for food or traditional medicine. Different villages have access to different resources depending on the local environment but, where necessary, people will travel long distances staying for extended periods in the forest in order to exploit a particular resource.

People can also sell their labour, working on the land of richer people or commercial farms. However, manual labour opportunities can be sporadic and people need to be integrated into some network by which to find out about opportunities. Manual labour fits into the same economic bracket as resource collection in that it generates cash.

The largest group of respondents in the KAP survey were farmers (49%) with a further 25% still studying (children.) The next most significant group were *chamkar* farmers (18%.) Apart from working on their own *chamkar* land, employment as a *chamkar* labourer (23%) and selling scrap metal (19%) were the most prevalent forms of supplementary income. Other people sold resin, worked as small traders or undertook other labouring work.

Figure 28. KAP survey respondents: supplementary income sources for adults



Villagers with land will typically put greater emphasis on these additional resources during the dry season (when rice and *chamkar* requirements are less). For people without land, some combination of these additional resources is likely to provide the economic base for their household.

### 6.1.3 Relative value of resources

The relative value of different resources (as perceived by the individual or household drawing upon these resources) is dictated by the price that can be secured, the difficulty of collecting the items<sup>55</sup> and the difficulty of realising this cash value due to lack of local market integration. So whilst the cash price provides the incentive to collect a certain resource this is conditioned by two other critical factors.

“Difficulty to collect” includes physical “risk” as well as the time or labour required to collect a particular resource. It may depend on such factors as overall scarcity of the resource, distance that must be travelled to a place where the resource can be found, suspected landmine contamination in the area<sup>56</sup> and effort involved in the physical process of collection. Specific individual or household capacities may also have a bearing on these components. Knowledge regarding the location or quality of particular resources may speed up collection or make collection more efficient. Access to a mode of transport may facilitate collection of certain resources in greater quantities. Certain skills may facilitate access to resources that other people cannot reach - literally in the case of certain tree resins.

55. “Difficulty to collect” as conceived here is broadly equivalent to the concept of “drudgery” in the works of Chayanov (1986).

56. Foraging practices “collecting wood” and “collecting food” account for some 25% of landmine casualty activities at the time of accident according to the CMVIS data for 1999-2003. Bottomley (2003: 26) further highlights the fact that people in many areas of Cambodia choose to brave minefields in an effort to collect local resources due to the limited economic alternatives available to them.

Both the “cash price” and “relative difficulty to sell” are dependent on the market context, particularly market integration. Lack of market integration can result from physical isolation of the community, lack of transport in order to take goods to a local market, lack of knowledge regarding the value of the resources held by the community, or the absence of a local market for the particular goods. Poor market integration has two key effects:

- The first is that villagers rarely have control over the price at which the resources they collect will be bought. Traders or dealers come from outside the village and they set the price. Thus “difficulty to collect” is not recompensed in the “price” because the external market value is not related to the labour or skill involved in the activity of collection. In a self-sustaining way rural poverty further exacerbates this. Poor communities lack either alternative resources or alternative markets and therefore have little capacity to refuse to accept the prices that are set for them. A further complication of this effect is that fluctuations in price may not be communicated to villagers in advance; where goods are centralised in the village for sale to external dealers the village entrepreneur may be buying goods from the villagers at a price that turns out to be only marginally profitable, if profitable at all.
- The second key effect is that people do not necessarily control when they can realise the cash price for the goods. If the goods will be bought by other villagers, or if dealers for that resource come to the village on a daily basis, then the cash price can be realised quickly. If not, then it could be some weeks before the goods can be exchanged for cash. The importance of this last factor in determining the overall value of the resource is dependent upon the needs of the individual or household at a specific time. Special needs (such as the requirement to buy medicine for an ill family member) may increase the relative value of resources from which cash can be quickly realised (through better market integration.)

This analysis serves to emphasise that resources are not perceived only in terms of their cash value. It also highlights the fact that individual capacities or vulnerabilities mean that different people may find greater value in some resources rather than others and that this may change over time due to specific individual or household circumstances.

#### **6.1.4 Secondary and tertiary economic activities.**

As well as agriculture and resource gathering, some villagers undertake secondary or tertiary economic activities. These might include craft activities, shop-keeping, running a small restaurant, iced-drinks stalls, hairdressing or other such activities.

## 6.2 THE STRUCTURE OF THE SCRAP METAL TRADE

*Aid Chay* is the Khmer term that encompasses the scrap trade. The scrap metal trade in Cambodia is one of the most pervasive economic structures in the country. It is directed towards the international market, primarily Thailand, and represents a chain of economic relationships that can link children in rural villages to the macro-economics of international industries. Ordnance is one of the most significant sources of scrap metal. However, after an accident in Thailand in 2001 the Thai companies who import metal from Cambodia have now established fines for any consignment that contains live ordnance.<sup>57</sup> Formally or informally, this has been communicated down through the scrap metal system so that it is generally understood that ordnance containing explosives cannot be sold.

Figure 29. KAP survey respondents: will scrap dealers buy items containing explosives?

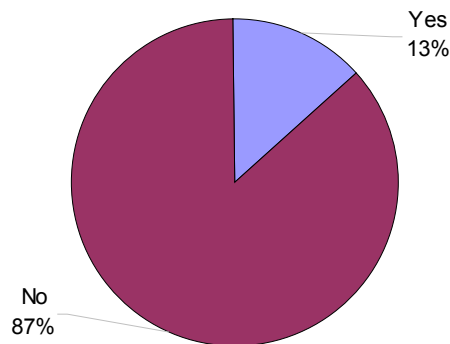
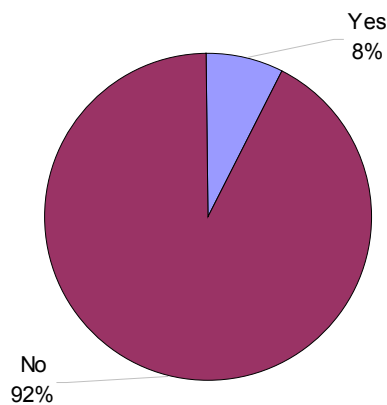


Figure 30. KAP survey respondents: will dealers buy items that still have a fuse?



57. Initially it seems that the import of any form of ordnance-related metal was banned. However, the system now seems to be one of penalising any items that cannot be seen to be safe. For this reason dealers report having to cut open items so that they are visibly safe. People reported that the fines were levied by the companies purchasing the metal in the form of reduced payments for consignments. It is not known who is technically responsible for evaluating the items of ordnance within the Thai companies or whether there are other fines or costs associated with this process (such as payments to the police.)

However, this establishes a number of very important problems. The first problem is the capacity of people at different levels of the trade to differentiate between safe and unsafe items. The second problem is what is done with the unsafe items that are filtered out by the dealers. The most important problem is that an economic incentive is established for rendering live ordnance saleable. Where people within the scrap trade will not buy items that contain explosives, people in rural communities then have an economic motivation to engage with ordnance in an effort to remove the explosive content. This is perhaps the most important issue regarding current ordnance handling practices in Cambodia.

### 6.2.1 Local collectors and dealerships



A 250kg air-dropped bomb in a scrap yard in Kompong Cham. This bomb was taken away to have the explosive content removed by local salvagers.

The scrap metal trade has established one of the most effectively integrated markets in Cambodia. No village visited during the conduct of this study lacked the capacity to sell goods into the scrap trade on a more or less daily basis. Whilst this form of market integration still has the price set by the purchaser, it does allow people to get access to small amounts of cash almost immediately in almost every village in the country. The primary resource of the scrap trade is money - the ability to pay out in advance, deferring the full realisation of the transaction until later. It is for this reason that the purchaser sets the price, because the resource that make the business possible is cash liquidity. The scrap trade in Cambodia comprises a wide network of dealerships that become specialised as they become greater in size. At the lowest level there are two models of scrap dealership:

- **High population density:** In areas of sufficient population density, people travel from village to village (or through the streets of more substantial towns) collecting scrap from households and businesses. The collectors travel with a hand-cart, bicycle or moto, usually buying all different types of scrap. They then sell their collected wares at a local dealership.
- **Low population density:** In areas of low population density (where the distances are too far for a collector to travel easily between villages) the people of the village will take on the role of scrap collectors, bringing in to the dealership materials that they have found. This model tends to specialise in scrap metal rather than the broader types of scrap.

Both of these models of dealership are likely to buy at the same rate. However, in the former model the scrap collectors travelling between villages act as a buffer between villagers and dealers. In the latter model the villagers sell directly to the dealer, resulting in significantly higher income for the goods that they sell (e.g. 500 riel/kg rather than 200 riel/kg).

It is at these local dealerships that the scrap is separated into different types and from here on up the trade will be in a specialist product rather than scrap as a whole. The main types of scrap are car and motorbike batteries, general scrap metal, tin cans, plastics and glass bottles.<sup>58</sup> Most of these goods are sold by villagers as the product of household refuse - waste products remaining from previous household purchases. By this mechanism a small amount of money is reclaimed against the purchase price of other products. Scrap metal is unusual because, unlike the other scrap resources, it exists freely available in the environment of many communities as the debris of conflict.

When a sufficient quantity of a specific product has been amassed at the local dealership the dealer will call a larger merchant who will send a truck to collect the scrap that they trade in. For general scrap metal (into which ERW items fall) the national trade is focused towards sending the metal to Poipet in western Cambodia and from there it goes over the border into Thailand.<sup>59</sup> There is no significant processing of scrap metal in Cambodia and so the whole trade is based around the collection and movement of the material. During the wet season in Cambodia the trade often stops as a result of deteriorating road conditions. The trucks that move the metal are hired by the scrap metal dealers and the general increase in travel times (coupled with the possibility of a truck getting stuck for a protracted period) mean that haulage costs become too great for the business to be profitable.<sup>60</sup> As a result, local level scrap collectors significantly reduce the price at which they buy metal during the wet season because they are unable to realise value from their investment until some time later.<sup>61</sup>

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58. Phnom Penh scrap dealers bought at the following approximate prices: Metal: 500 r/kg, Plastic: 700 r/kg, Paper: 250 r/kg, Aluminium: 4,000 r/kg, Glass bottle: 100 r per bottle. Copper also has a higher value than other metals but its price was not reported by the dealers. The higher prices for copper and aluminium can also promote intrusive contact with ordnance in order to separate out these specific sources of value.

59. Even in Kompong Cham, on the border with Vietnam, dealers were primarily sending metal to Thailand. However, it is possible that scrap metal is also sold over the border into Vietnam from areas further east. The Vietnamese market is certainly an important driving force in the scrap trade of Lao PDR. Some scrap metal dealers spoke of competition between Thai and Vietnamese dealers having driven up the price of metal. In Lao PDR there has been growing concern regarding the increased use of Vietnamese-made metal detectors to facilitate the process of scrap metal collection possibly increasing people's contact with ordnance (email from Paul Davies, Technical Advisor, Programme & Public Information Unit, UXO Lao to David Hayter, Programme Manager, MAG Cambodia, 18 June 2004). We make some further comments regarding this in Section 6.5.2 and Section 6.5.3.

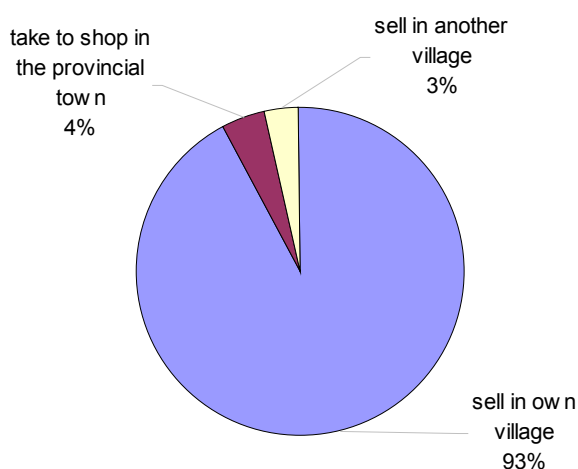
60. A scrap metal dealer in Kompong Speu reported that transportation of his metal to Poipet usually took two days in the dry season. During the wet season he said that it could take 4 or 5 days and that if a truck got badly stuck it might not be possible to recover it for up to a month.

**Table 1: Approximate scrap metal prices (buy / sell in Cambodian riel per kilo)**

	Local collectors	Local dealers	Poipet
<b>Metal (iron and steel)</b>	200 / 500	500 / 650	650 / 800

The table above shows the prices at which different components of the scrap metal trade buy and sell general scrap metal at different stages in its transfer to Thailand.

**Figure 31. KAP survey respondents: where they sold scrap metal<sup>62</sup>**



In every community surveyed during this project it was possible to sell scrap metal either in the village to a travelling scrap collector. In most villages it was possible to sell scrap metal on a daily basis. Similar evidence of the prevalence of the scrap metal trade has been identified in Vietnam where 148 of 149 villages surveyed in Trieu Phong district, Quang Tri, were found to have people involved in the scrap metal business.<sup>63</sup>

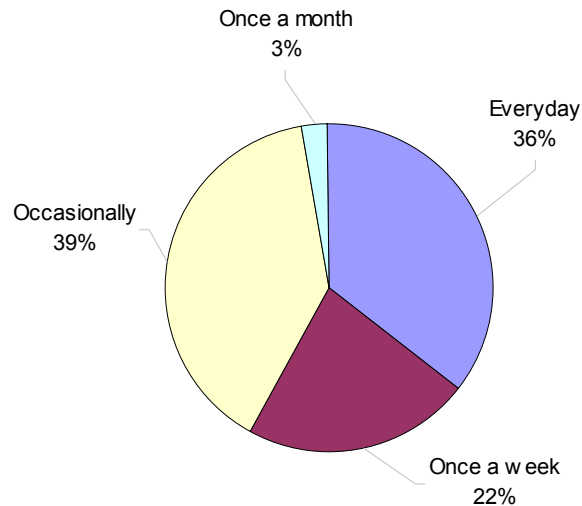
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61. This drop in prices during the wet season, coupled with other labour demands and an increased labour market, may explain further the reduction in casualties that are experienced during the wet season. The end of the dry season, on the other hand, tends to be a comparatively lean period during which people are more reliant on secondary economic activities (email from Ruth Bottomley, 28 June 2004).

62. Out of 89 people selling scrap metal.

63. Findings of Project RENEW, *Report of Landmine/UXO Impact Survey in Trieu Phong District, Quang Tri Province, Vietnam*, November 2003, quoted in Wells-Dang, 2004.

Figure 32. KAP survey respondents: frequency of selling scrap metal<sup>64</sup>



We saw in Figure 28. that some 14% of adults in the KAP survey reported selling scrap metal as a secondary source of income. We can see from the charts above that most people are able to sell metal in their own village and a significant proportion sell metal everyday. This is indicative of the levels of market integration achieved by the scrap metal trade; for other resources, such as tree resins, villagers may have to wait a week or more before a trader visits the village.

### 6.2.2 Poipet

Poipet, in the northwest of Cambodia on the border with Thailand, is the focal point of the Cambodian scrap metal trade. Some of the dealerships have substantial compounds with plant for loading and unloading trucks and weighbridges for easily assessing loads. Most, however, rely primarily on manual labour contracted on a casual basis - expanding and contracting their work-force in accordance with daily requirements. Poipet's role in the scrap trade is founded in part on Thailand's importation restrictions. Transfer of scrap metal across the border into Thailand can only be done in Thai registered trucks and the primary role of the Poipet dealerships is to arrange transfer from one mode of transport to another. Like the provincial dealerships across Cambodia, the purpose is to facilitate the onward movement of the goods.

Dealers report that they sell metal at around 8 Thai Baht (approximately 800 riel) per kilo. All the dealers in Poipet confirmed that the Thai companies to whom they sold metal could and did levy fines for any live ordnance found within a consignment. They reported that one item of ordnance would be fined 10,000 Baht or USD 250.<sup>65</sup> However, empty items of ordnance were not a problem.<sup>66</sup>

64. Out of 76 people selling scrap metal. The most important aspect is the prominence of selling scrap metal on a daily basis. 13 people reported that they had collected scrap metal everyday but that they no longer did so because of the decline in the availability of metal. These people are not represented in this data.

All of the dealerships had a collection of ERW items put to one side that were not considered appropriate for onward sale. The dealers reported that they and their staff would select which items to put to one side and these would then be taken away and destroyed by CMAC. Any items put to one side in this way are likely to represent some financial loss for the dealership. One dealer reported that, over a three year period, he had accumulated some 20 tons of live ordnance that were subsequently destroyed.



**ERW in a scrap yard at Poipet. The HALO Trust found over 3,300 unsafe items in two scrap yards owned by this same dealer. Photo from The HALO Trust.**

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65. Knowledge of this fine was indistinct amongst the dealers selling metal up to Poipet. Four out of seven dealerships surveyed in Phnom Penh had heard that the Thai companies were levying a fine on any consignment found to contain UXO and they reported that this could range between 5,000 to 50,000 Baht (USD 125 - 1,250).
  66. The HALO Trust noted that dealers reported that they were required to cut open ordnance-derived items before transporting them to Thailand so that items could be seen to be safe.

In September and October 2003, The HALO Trust examined eight scrap yards in Poipet and arranged for the destruction of all unsafe items.<sup>67</sup> Their data on the quantities of unsafe and safe items found is represented in the table below.<sup>68</sup>

Yard Owner	No. unsafe items	No. safe items	No. total	% of items that were unsafe
<b>A</b>	99	72	171	58%
<b>B</b>	2,368	13,440	15,808	15%
<b>C</b>	1,299	1,762	3,061	42%
<b>D (2 yards)</b>	3,367	5,592	8,959	38%
<b>E (2 yards)</b>	527	547	1,074	49%
<b>F</b>	1,774	4,289	6,063	29%
<b>TOTALS</b>	<b>9,434</b>	<b>25,702</b>	<b>35,136</b>	<b>avg. 27%</b>

The ordnance found ranged from hand-grenades to 250kg air-dropped bombs. The large quantities found at this time resulted from a Thai policy to refuse any items of ordnance in the wake of the 2001 accident in a Thai smelting works. The Poipet scrap yards therefore were forced to filter out ordnance of all sorts before sending consignments across the border.

### 6.2.3 Differentiation within the scrap trade

As we have already noted most scrap dealers will not buy certain items of ordnance because they do not believe they can sell them on. This principle operates at every level of the trade in Cambodia. However, every scrap metal dealership visited during research for this project<sup>69</sup> contained ordnance of different sorts. Most commonly the items no longer contained explosives. However, most dealerships also contained items that were still live or were of uncertain status. Generally, dealers are concerned that they cannot sell items which still have a fuse. Others will go further and say that they cannot sell items that contain explosives. The latter position is more in line with the situation faced by the dealers in Poipet whose requirements ultimately dictate the terms of the trade.

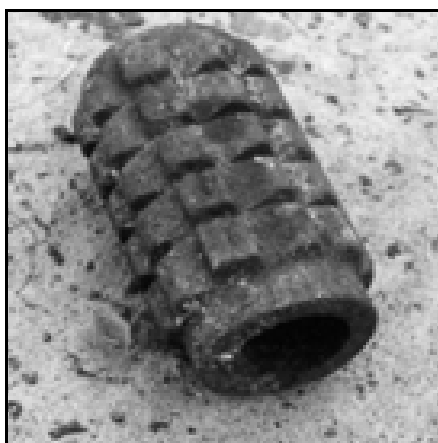
In most scrap yards, suspect items would have been separated out from the other metal. Dealers frequently reported that they had not paid for these items, but that collectors had brought them in and,

67. Destruction of ordnance from the final scrap yard was undertaken by CMAA after CMAA requested that it take over the task from HALO.

68. Data is taken from The HALO Trust Cambodia report "Poipet UXO Clearance Operation."

69. During the course of this project interviews were conducted with people from 17 scrap metal yards of different sizes and in different Provinces.

having been refused payment, decided to leave the items there anyway. Items of live ordnance represent an economic risk within the scrap metal system. Apart from householders selling domestic scrap, or people collecting scrap metal from the forest, everybody working within the scrap trade has paid for the items that they are selling on. Therefore any party stands to make a loss on items that they buy, but for which they cannot find a market. Where dealers cannot sell these items they are left in scrap yards across the country until some effort is made to deal with them. This may come from the mine action sector or from local police concerned about the presence of ordnance in village or urban areas.<sup>70</sup> It is not uncommon for dealers to ask for mine action organisations to buy from them the items that they want to destroy. In such situations the mine action agency may need the support of the police in order to take the ordnance away without paying for it.<sup>71</sup> Alternatively, where a large item is brought in that still contains some of the fuse and booster assembly, dealers may pass it on to local specialists in the removal of ordnance fuses. This involves moving the item to a rice-field or forest area and cutting off the fused end of the ordnance with a saw.<sup>72</sup> These practices focus on large aircraft bombs (of high scrap metal value) and are thus likely to be more prevalent in the east of the country in areas that were subject to heavy bombing by the USA.



**The fragmentation casings of POM-Z mines are a common form of ordnance-derived scrap metal. Such hollow items are easily identified as safe.**

The ability of scrap dealers to differentiate between safe and unsafe items is of critical importance. This process is being undertaken everyday and the decisions that these people make affect the likelihood of others being exposed to live ordnance within the scrap metal system. Given the extent of the scrap metal trade it is neither appropriate nor feasible for mine action agencies to search through all of this metal before it is sold. On the other hand, it does not seem feasible to remove ordnance-derived metal from the scrap trade altogether. Ordnance-derived material provides a substantial component of the overall trade. Most importantly certain items of ordnance (such as POM-Z casings or the empty bodies of mortar bombs) are clearly safe. To deny any capacity to differentiate between these items is at odds with the knowledge and experience of people in conflict-affected communities and people working in

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70. It is very valuable to note that The HALO Trust operation in Poipet was initiated by HALO contacting the police to reaffirm their willingness to address concerns that the police may have regarding ordnance. The police had apparently been becoming increasingly concerned about the large amounts of ordnance that were building up in Poipet but which nobody was addressing.
71. It is also not unheard of for mine action agencies to try to sell back to scrap dealers fragments of the metal that they have taken away.
72. Interview with scrap metal dealers in Kraek Commune, Kompong Cham.

the scrap trade. That this is the case is already tacitly accepted through the practices of mine action agencies.

The HALO Trust reported that the safe items found during their Poipet operation, having been inspected and found to have no explosive content, were returned to the metal dealers for them to cut open and sell: “returning the safe items to the dealers was seen as being an essential incentive to gaining the cooperation of the dealers to declare any future stockpiles of remnants of war.”<sup>73</sup> Similar relationships have been established between MAG and scrap yards in Kompong Cham and elsewhere. Under such arrangements MAG’s EOD teams may visit the scrap yards and take away for destruction those items that the dealer has set to one side as causing concern. These approaches accept the economic validity of metal derived from ordnance. Such an acceptance is almost certainly necessary in order to develop responses to the problems of ordnance within the scrap trade that are sensitive to the economic circumstances of people involved in the trade at different levels. As the HALO Trust report noted above, the development of confidence between the mine action sector and the scrap metal trade will be very important if these issues are to be addressed effectively.

However, the acceptance of differentiation between safe and unsafe items by people working in the scrap trade presents a challenge to the traditional position of mine action agencies. The mine action sector will need to develop beyond its traditional “don’t touch ordnance” approach if it is going to provide assistance to the people working within the scrap trade who are faced with the presence of ordnance on a regular basis. A process of training should be implemented to establish consistency and improved safety in the discrimination between safe and unsafe items. This needs to be supported by a process of periodic auditing or monitoring so as to evaluate the effectiveness and application of this process,<sup>74</sup> and improved responsiveness of EOD capacities to the ordnance being filtered out by the scrap trade.<sup>75</sup> Developing a structured and effective working relationship between the scrap dealers, mine action agencies and the police will be very important in achieving this. Whilst mine action bodies can establish and organise a programme of training, the scrap trade needs to be brought under an effective policing regime if it is to be appropriately and safely controlled.

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73. HALO Trust report “Poipet clearance operation”.

74. In our recommendations we propose a pilot project training scrap metal dealers who all sell metal to the same dealership in Poipet. This would allow for monitoring of the effectiveness of their discrimination process from the Poipet scrap yard. This could be done comparatively with another yard in Poipet where people had not received training (though efforts would need to be made to determine if the two dealerships were receiving comparable levels of ordnance at the onset of the project.) Under any regime (and even if there are no other changes to current practices) the police and the mine action sector need to periodically examine the materials being collated at Poipet to ensure a level of public safety.

75. This report recommends that the police be established as a single unified reporting structure for items of ordnance. Such a development is recommended as part of a process of programmatic partnership with the police with respect to ordnance and other related issues. Developing police capacity and systematising reporting structures with respect to ordnance should improve the responsiveness of the current EOD teams within the mine action sector.

As we examine later in Section 10.4, sale of ordnance or explosives is illegal in Cambodia. This establishes an additional mechanism by which the relationship between the scrap metal trade and ordnance can be managed. The police have the right to examine scrap yards and should be supported in exerting this right to ensure that scrap dealerships are not creating a public safety hazard through a failure to act responsibly with live ordnance that they receive. However, whilst it is important to control the movement of potentially dangerous ordnance at these levels, this control is also very important in order to exert influence on the relationship between communities and the scrap metal trade. It is in this relationship that the cause of many ordnance related accidents is found. Local-level scrap collectors can encourage or discourage people from undertaking dangerous, intrusive contact with ordnance. They are in a position to identify children who have been undertaking, or are likely to undertake dangerous behaviour with ordnance. They are in a position to report live items that may have been gathered for sale, but which, due to the danger they present, have now been left abandoned. Efforts could be made to encourage and support responsible behaviour within this group. At the same time, local communities and the police should also be supported to demand more responsible behaviour from this group, particularly in their engagement with children. The possibilities for programmatic responses at this level are explored further at the end of this chapter.

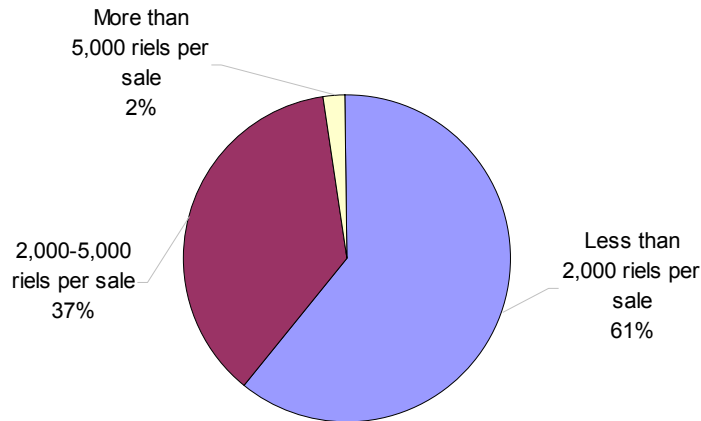
### **6.3 SCRAP METAL IN THE COMMUNITY ECONOMY**

Based upon our earlier analysis (Section 6.1), the importance of scrap metal in the community economy is dependent upon the economic base of village (availability of rice and *chamkar* land) and the relative value of scrap metal (as defined above in terms of difficulty to collect, price and market integration) by comparison with other locally available resources. Research in different areas of Cambodia showed significant differences in the economic role of scrap metal between different villages. Whilst some of these differences were linked to very specific village circumstances (such as landmine contamination constricting the economic base of one village rather than another,) broader features could also be identified that linked the economic role of scrap metal to the process of community development over time.<sup>76</sup>

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76. This is explored further in Section 9.

Figure 33. KAP survey respondents: approximate income from individual scrap metal transactions



As we examined previously “difficulty to collect” with respect to scrap metal can depend on the following factors: quantity of scrap metal in the environment; distance/time to collect; safety of the area (in terms of the landmine threat,)<sup>77</sup> the availability of safe or dangerous sources of metal and the perceived risk of engaging with dangerous items. It represents the negative aspects, or “drudgery” of the physical enactment of this economic activity. Over time, all of these factors usually become less favourable as people will typically collect metal from safe ordnance, in safe areas, from closer to the village, first and foremost. As they do so the overall level of scrap metal in the local environment is also decreasing. Unless matched by similar changes amongst other available resources, this will result in a decline in the relative value of scrap metal derived from ordnance over time within an individual community. Many communities covered in this study reported the declining availability of scrap metal as one of the key reasons for the declining prominence of the scrap metal trade in the village. However, this model may also result in a greater risk from scrap metal salvaging activities as live ordnance becomes an increasingly prominent part of the scrap metal available (yet this less attractive resource remains a focus for more economically marginal people.) This pattern was broadly apparent from this research which found new villages, or recently re-established villages, drawing more significantly on scrap metal as a resource.

In Kompong Cham, where villages were relatively affluent and had been stable since the early 1980s, scrap metal did not have a significant role in the adult economy at a village level. The scrap metal trade is still strong in the area. However, at a village level it was most commonly children who were scouring the local environment for saleable materials. Thus, after the economic role of scrap metal for adults has perhaps diminished, it can persist as an economic resource for children. In Pursat and Preah Vihear, scrap metal retains a more central role in the community economy. However, even within the specific communes under study there were significant differences between adjacent villages.

77. Given that a substantial number of landmine casualties are incurred whilst people are undertaking foraging practices this can present a difficult dilemma for impoverished communities: how does the danger of salvaging from live ordnance balance against the threat of landmines whilst salvaging from an alternative resource?

The price of scrap metal is subject to substantial variations<sup>78</sup>. In a number of villages rising and falling prices were cited as being central to people's decision making regarding scrap metal collecting and salvaging from live ordnance. In Srae'am Village people reported that the price had been high recently, (around 500 riel/kg) but that now it was falling and at a time that coincided with increased *chamkar* demands and the onset of the wet-season<sup>79</sup>. Thus what had been recently a common practice was diminishing due to reduced returns and other economic requirements. High prices during the first 6 months of 2004 were reported in the Cambodian newspapers<sup>80</sup> and highlighted by CMVIS as the key background to an increase in ordnance handling accidents during the period that this research was being implemented. People have also noted increased scrap metal prices promoting increased contact with live ordnance in Vietnam and Lao (Wells-Dang, 2004.)<sup>81</sup>

As we have noted previously, children (particularly between the ages of 10 and 14) present the highest level of casualties from deliberate handling of ordnance. On this basis we will look at scrap metal and ordnance within children's economies and then go on to look at the role of scrap metal in adult economies.

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78. See Section 6.2.1 regarding the different structures of dealership. As well as changing prices over time the local structures of the scrap trade make a very significant difference to the price that is available to local people.

79. As we have noted already the wet-season curtails the scrap metal trade and results in reduced prices (see Section 6.2.1)

80. The Cambodia Daily, 1-2 May, 2004, "Living Dangerously": "According to bomb scavengers here, the price of scrap metal has more than doubled since last year, rising on the back of world steel prices. Hovering at around 650 riel per kilogram, the price of bomb scraps has lured villagers like Heng Neang into the risk business."

81. Drawing on an Associated Press story of 15 April 2004, Wells-Dang notes: "Citing the rising price of scrap, for instance, 24 students in Quang Tri's Cam Lo District quit secondary school in March 2004 in order to scavenge for ERW full-time. The district education department has urged the students to return to school".

## 6.4 SCRAP METAL IN CHILDREN'S ECONOMIES

### 6.4.1 Children's sources of income



Children in Srae'am village weigh scrap metal that they are selling.

Bottomley (2001:44) reported that for village deminers selling mine or UXO casings for scrap metal is rare and, although she suggests it was more common in the past, it is portrayed as “a relatively minor activity” in the target group and area of her study. She reports that “villagers often described the selling of mines for scrap metal as an activity carried out by children, who were then able to buy candy with the money.” Scrap metal collecting seems to persist as an economic activity for children (primarily young adolescent boys) after it has declined as a critical economic activity for adults. The scrap metal trade provides young adolescent boys with an economic structure with which they can engage on their own terms. Adults generally maintain control of the scrap output of the household. Thus tin cans, plastic bottles and the like are sold by adult householders as a way of reclaiming value against previous purchases. Scrap metal from the local environment is a resource over which parents have no prior claim. As such it provides an ideal resource for children to draw upon as a supplement to pocket money distributed by parents.

Mothers generally distribute pocket money to children. Some children receive no pocket money but most receive between 100 and 500 riel per day. Almost all children in the sample supplemented this with income from sale of resources that they can collect from the local environment. Figure 34. shows the pocket money rates of children interviewed in the KAP survey. We then go on to look at children's sources of additional income.

Figure 34. KAP survey children: pocket-money per day

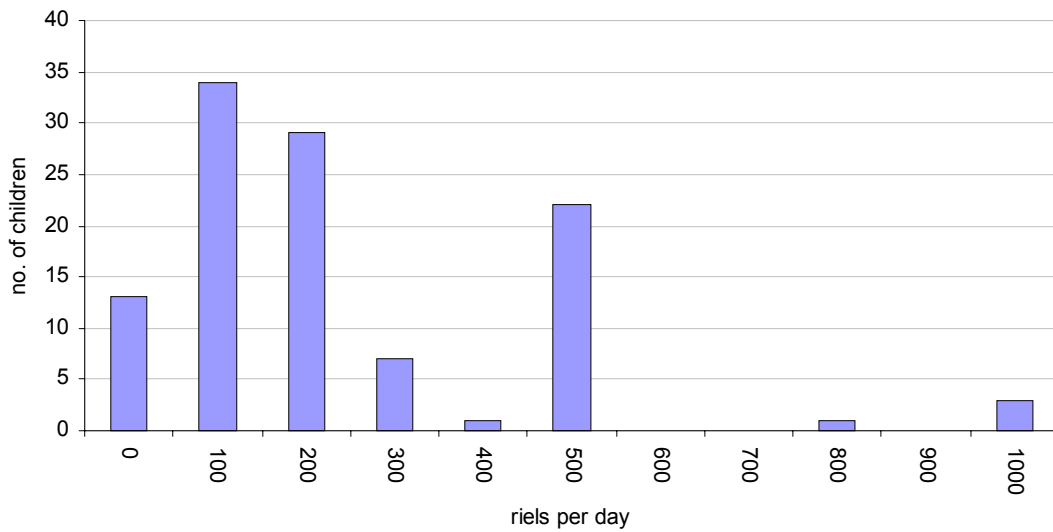
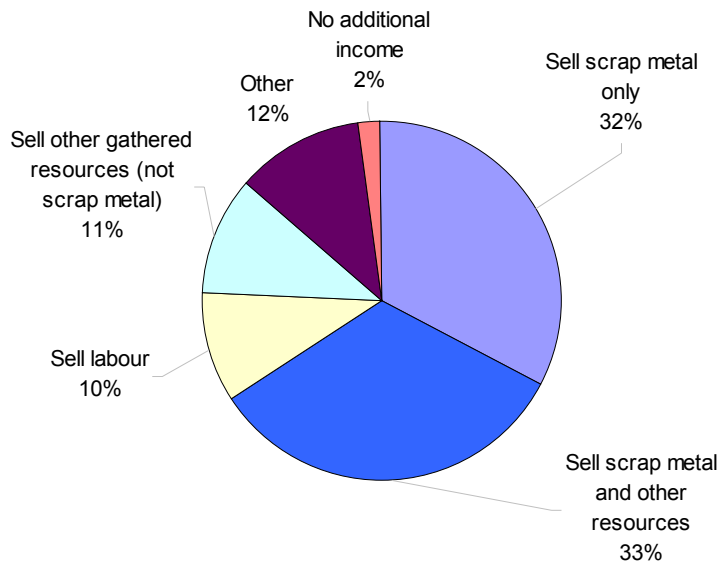


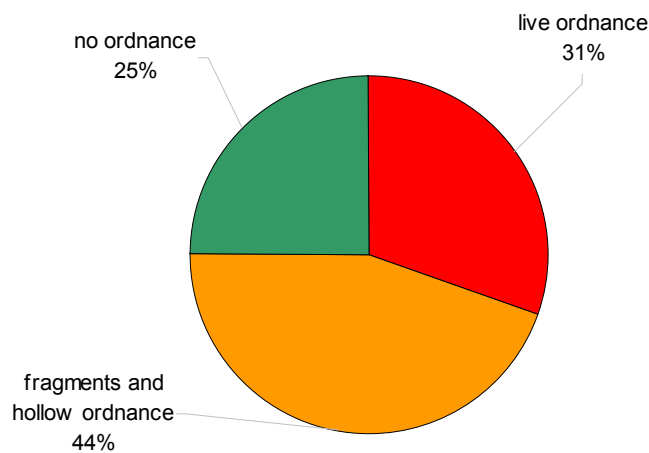
Figure 35. KAP survey children: sources of additional income



One of the most striking features of Figure 35. is the fact that only 2% of children reported that they did not draw upon some form of income in addition to their pocket money. Within the age group represented here (between 10 and 18 years old in the KAP sample,) almost all children sought additional sources of income. As can be seen in this chart, some 65% of children interviewed drew upon scrap metal as a source of additional income and scrap metal alone was the single most prominent source of cash for children. The extent to which scrap metal is utilised by children is very important in understanding their contact with ordnance.<sup>82</sup> With large volumes of scrap metal being derived from

ordnance the process of discrimination between safe and dangerous items becomes even more important.

#### 6.4.2 Children who sell scrap metal: ordnance handling.



The chart above further reinforces the fact that children amongst the sample communities are involved in an ongoing process of discrimination between different conditions of ordnance. It is very important to note that the children who have handled live ordnance are not necessarily only handling live ordnance, or handling live ordnance regularly. It can be seen though that a significant majority of children involved in this practice within the sample group make some differentiation between whether items of ordnance are safe or dangerous.

The potential scrap metal value of an item is often cited as the reason for children picking up live ordnance in the first instance. This is particularly true with respect to separated fuses which children seem to identify less easily as dangerous. Many “playing” accidents are likely to result from contact with items that children have picked up because of their potential scrap value.

#### 6.4.3 Children’s expenditure

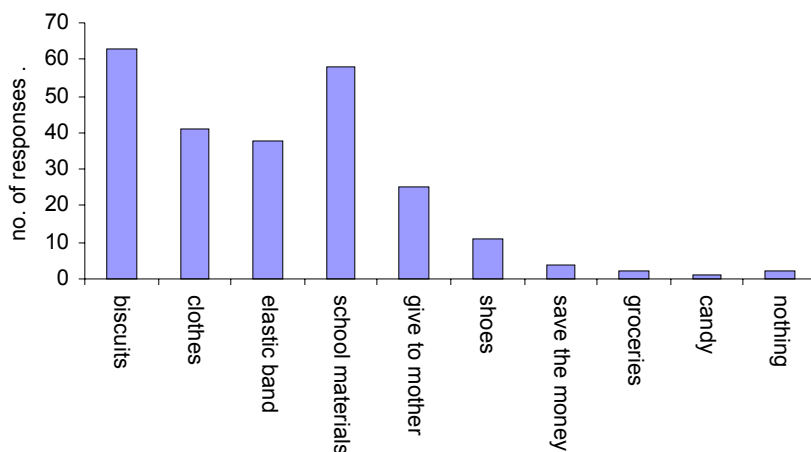
The focus of children’s economic ambitions are generally conditioned by the economic circumstances of the village or household. In newly established or re-established villages, children were more likely to report rice, clothes and school materials as a focus of their spending plans.<sup>83</sup> In better established

82. Handicap International (1997: 34) noted the role of children within the scrap metal trade in Lao PDR and suggested that scrap traders sent children out to hunt for metal.

83. In general in this report we have only looked at economic opportunities in terms of alternative forms of income or production, rather than opportunities for reduced consumption. Most rural Cambodian communities presented little evidence of clear areas where consumption could be further cut-back in an effort to alleviate the need for additional sources of cash income. It is interesting to note the prevalence of school materials within the expenditure of children. This could be considered as an area where external intervention could seek to alleviate this as a spending requirement for children. It is unlikely that this would have any impact unless it was undertaken as part of a package of activities.

households or communities spending plans are more focused towards food and games. Cake, biscuits and elastic (rubber) bands<sup>84</sup> were the commodities commonly reported as the focus of their ambitions.<sup>85</sup>

Figure 36. Prevalence of different expenditures for children



#### 6.4.4 Children relating to ordnance as part of scrap metal

Two children from Angkrong village provide a further insight into the scrap metal salvaging practices of children, and of the mental world that accompanies this.

##### CASE STUDY:

Long Kong Meng (aged 12) and Preap Monta (13), from Angkrong Village, Pursat, sell scrap metal everyday. Occasionally, they also sell explosives.

Meng cuts the fuses off mortar bombs with a chisel and sells them to people in the village who fish with explosives. He has tried to do it with a knife but can't. Sometimes he uses an axe to hammer in the chisel with more power.

Monta opens up rifle grenades so as to render them saleable to scrap metal dealers. Both boys restrict their activities to the items with which they feel confident and have built up experience.

84. Elastic bands are sought after by children as a key component of many of their games. They are also woven together to make elastic for the catapults used by rural boys.

85. It is important to note that children's expenditure from scrap metal is not always focused towards economic 'necessities.' Judy Grayson, UNDP Chief Technical Advisor, Sri Lanka, reported an accident in Sri Lanka resulting from children collecting scrap metal that they planned to sell so as to buy sweets and ice-cream (email, 29 July 2004.)

They claim not to be afraid of the items exploding whilst they do this because of the preparations that they undertake. Before chiselling off the fuse, Meng hides behind a large tree and throws the ordnance. If it doesn't explode he says it is safe to chisel open. Monta follows the same process. They claim to have developed this technique themselves.<sup>86</sup> None of the items that they have thrown have yet exploded and none of the items have exploded whilst they are opening them either. The validity of their technique remains ambiguous.

They used to burn ERW items as an alternative to throwing them. The boys differ over whether you should attempt to open an item after it has been burned but has not exploded.

They say that burning ordnance in order to sell it is a waste of money. Meng can sell the fuse and main explosive charge for around 5,000 riel and get a further 1,000 riel for selling the metal body for scrap (it weighs around 3 kilos). This is significantly more than adults in this area can earn from a day working as a *chamkar* labourer. Whilst they are collecting scrap metal from the forest the boys also collect sour fruit to sell. They argue about the price of fruit and whether fruit is more profitable than metal.



The children work alone and say that they are afraid of other people taking the metal if they don't. They explain that their families have no money. They spend the money they get from scrap metal on school materials (books and pens,) clothes, shoes and biscuits.

They say that nobody has told them not to do this. However, they think that if they had an accident they would probably die.

They say that their parents would be sad and they would have a funeral. Meng thinks he would go to hell because he has behaved badly - he cites hunting birds and not being grateful to his parents as key examples.

Meng has not told his parents what he goes to the forest for. He says he doesn't tell them because they would be afraid he might be killed and injured and so they would try to stop him. Monta tells his parents just that he is selling scrap metal, not that he dismantles items of ordnance to do so. He also says his parents would tell him to stop. At this point they reinforce an apparently established admonition to some other children nearby that their parents must not find out.

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86. Actually this technique was reported quite often amongst children who handled live ordnance. Some children reported that they would hide behind a tree and throw the item numerous times in order to check that it would not explode. This was not always a prelude to removing the fuse however but a general precaution to test the status of the ordnance.

They have different ideas on how parents can best get children to obey their wishes. Meng says he would hit his children if they did this whilst Monta says he would explain the dangers to them. However, he says that he doesn't think talking to them would actually stop them, but he would be afraid of hurting them if he hit them. Meng maintains that hitting them would be the most effective method. Either way, they would prefer that their parents did not find out so as to ensure these questions remained unanswered.

Neither have seen an item of ordnance explode and say that they think it might stop them if they saw an explosion. A slightly older girl listening to the discussion says that she has seen an item being destroyed by CMAC or MAG. She says she thought it was good, but it wasn't frightening.

They know another boy who collects ordnance also, carrying three or four at a time in his *kramar* (scarf.) They say that he was upset after being interviewed by the research team the day before and had started crying.<sup>87</sup>

This story is unusual because the market for explosives in the same village substantially increases the money available to the children. However, it also demands a form of practice that is probably more dangerous than most people employ when preparing ordnance to sell as scrap. Most commonly people will burn items, but this destroys the explosive content and would greatly reduce the money that can be made. The testing process (by throwing the ordnance) and the dismantling process are both dangerous. However, equally important to note from this example is the sophistication of the children's attitudes. They are methodical in the way that they interact with the ordnance - applying certain techniques that they have developed and focusing on specific types of munition to which their techniques apply. They also know the likely consequences of an accident. They know what their parents reactions would be and admit the validity of these reactions.

It is worth noting that most (75%) of the children who handled ordnance in the KAP sample reported that they had learned how to do this by themselves. The next most common source of learning was from friends and then from relatives and other people. This suggests that children are capable of developing their practices themselves rather than simply imitating the practices of adults.

As this story highlights, there is an interface between the children's economies of scrap collecting, other adults within the village and the adult business of the scrap trade. Someone buying mortar fuses from children to use in fishing will likely know that collecting these is exposing the children to considerable risk. This raises issues of responsibility within the household and the community. These responsibilities

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87. The meaning of this was not clear. Some members of the research team thought he had started crying because he was afraid that having talked about his behaviour his parents would find out about it.

relate to parents' relationships with their children and to the ability of the community to police behaviour (such as fishing with explosives) that is providing a market for explosives and hence increasing the risks that people take. The following example provides further material regarding the same themes:

**THE STORY OF IAP AND HIS FRIENDS:**



Iap (aged 12) and his older brother Long (15) found a small pile of ordnance near to their village in Kompong Speu Province. The older brother Long picked up two of the shells and started to carry them back to his house. Iap tried to carry two, but they were too heavy and he could only manage one.

They wanted to sell the shells to the scrap collector who visited the village every day. They had tried to sell ordnance before, but the scrap collector would not buy it because it was still live. The scrap collector had said he would only buy ordnance that didn't have a fuse in the end.

At the back of the house Iap and Long tried to remove the fuses by twisting them out but they couldn't get them to move. Long gave up trying and went away.

Iap came up with another plan. If he burned the ordnance it would explode and he would be able to collect the scrap metal fragments and sell them. He called together a group of friends, 5 other boys and a girl, who would be interested to help in this plan. They took one of the shells around fifteen metres from the back of the house and tried to dig a hole. Iap used the fused end of the shell to dig, but the ground was hard and he was only able to make a small hole - not enough for the shell to fit inside. The friends gathered together rubbish into a pile around the shell to make the fire. None of them had any matches.

Iap went and found his sister to ask her for some matches. He told her he was going to cook sugar palm because if he told the truth she would have tried to stop him.

They got the rubbish pile burning and lay on the ground nearby waiting for it to explode. They waited and nothing happened. The fire they had lit went out.

They gathered together more rubbish and lit the fire again. One of the boys stood near the shell and pretended to hit it. He didn't hit it though, he was only pretending. Then he too lay on the ground nearby.

The shell exploded with a huge noise and the children were afraid. But then they cheered "Ho!" because their plan had been successful and they would sell the scrap metal to buy some sweets. Excitement turned to dismay when they realised that the explosion had sent the metal fragments all over the place. They could not find many fragments near to where they were and it looked like their efforts would prove fruitless.

The whole village had been surprised and alarmed by the explosion and people started to come over to find out what had happened. Some soldiers stationed nearby came over to investigate, but they left when the adults said what the children had done. The man from the house next door beat all of the boys. Iap's brother-in-law beat him also and told him he would beat him more if he ever did it again.

Iap and most of the other boys say they will not do it again because they are afraid of their relatives hitting them. One small child says that he wishes Iap would do it again because it was so exciting: "You get to hide and jump on the ground round at somebody else's house." He was afraid when it exploded, but being a little bit afraid is OK. He says he wants to know how much he is afraid. All of the boys agree that it was the bravest and most exciting thing that they had ever done.

This story contains key elements that are of primary importance to understanding children's relationships with ordnance:

- **Economic motivation:** It is not necessarily motivated by necessity, but can be to buy small luxury goods. However, it is the economic motivation that starts the process.
- **Interaction with the scrap trade:** It is the scrap dealer's refusal to buy live ordnance that necessitates the more intrusive engagement with the ordnance. This is a point at which the children's handling of live ordnance could have been identified before it became more intrusive. The scrap dealer may see an economic motivation in supporting the children's contact with ordnance or may be ambivalent to it. However, if this scrap dealer visits the village every day the local community should have the capacity to demand some responsibility in return for their business.<sup>88</sup>

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88. In Section 11.4 we present recommendations regarding programmatic engagement with the scrap trade - including the need to develop advice for scrap dealers on responsible behaviour.

- **Secrecy from authority figures:** Iap lies about what he is doing in order to get the matches. This makes it clear that he knows that the behaviour he is engaged in is likely to cause alarm amongst responsible adults.
- **Social motivation:** Carrying out their plan together is enjoyable for the children. When the ordnance explodes it is exciting and frightening, but the children are left elated.
- **Discipline:** Ultimately a series of beatings seems to have dampened the children's enthusiasm for further such actions. The extent to which that is true is difficult to determine because there were adults present during the discussion. However, the normal narratives of such incidents (including mine risk education materials) tend only ever to present death and injury as the negative outcomes of dangerous behaviour. In reality people often undertake these forms of behaviour without suffering such extreme consequences.

These are themes that we will pick up on later with respect to recommendations. However, the role of the scrap metal dealer and the capacity of the community to exert discipline in response to transgression should be seen as inter-related. Both of these are issues where the household and the community should be responsible for establishing and managing what is acceptable and unacceptable behaviour, drawing on the police if necessary.

People at all levels within Khmer society (the police, parents, even children themselves) tend to present ignorance as being the reason for children being involved in such accidents. Part of the reason for this may be that Mine Risk Education, as an external effort to address these behaviours, has tended to present knowledge as the solution. Out of 157 children questioned in Kompong Speu, however, 48% were able to draw one or more items of ordnance from memory and all but 8% were able to name<sup>89</sup> one or more items from the ordnance identification chart. This 92% who could either draw or identify items all stated that these items were dangerous. Most related this danger to the likelihood of it exploding if hit, burned or played with. Asked where they learned about this most referred to their own experience of finding ordnance in the local environment.<sup>90</sup>

The most important purpose of this section is to draw us away from seeing children's accidents as resulting primarily from uninformed curiosity or the social benefits of risk taking. Ordnance comes in diverse forms and lack of knowledge does still cause accidents in Cambodia. We also examine the social role of risk taking further in Section 7. However, the economic potential of ordnance has to be seen as an important component in children's behaviour. Adolescence is a time of emerging economic

89. Naming involved providing the local name for specific items. Sometimes the names given by different children for different devices varied. The purpose of these questions was not to determine if the name was 'correct' (because as we have noted there is variation in the names given to items) but to determine how many children felt sufficiently familiar with items of ordnance to know names for different items. Given the range of different types of ordnance it should not be suggested from this data that the children were familiar with all of the possible forms of ordnance.

90. Some 22% related this knowledge to MRE and 14% said that their parents had told them. Over 50% related this to direct experience when out herding, foraging or in the fields.

identity and almost all children in the areas of study relied on their local environment for income that is independent of their parents. Often it is cited as the primary motivation or the element that precipitated contact in the first place (people see something that they think has value.) Nevertheless, in order to extract this value children need to interact with the adult world. Despite children's best efforts to keep their behaviour secret, communities do have opportunities to identify and address children's behaviour before accidents occur. This cannot be done through the traditional process of communicating MRE messages, but needs to rely instead on communities establishing their own strategies for identifying and managing unacceptable or irresponsible behaviour and for engaging confidently with internal or external parties that promote or sustain this behaviour.<sup>91</sup>

## 6.5 SCRAP METAL AND ADULT ECONOMIES

Scrap metal has a fundamental role in the economies of children in most of the communities studied for this report. For adults the role of scrap metal was generally less fundamental. However, its role is very much dependent upon the circumstances of the community and the specific economic circumstances of the household. Key factors that are likely to give greater prominence to the role of scrap metal in the adult economy are landlessness, landmine contamination on land that is owned and the relative value of scrap metal (in terms of price, availability and market integration) by comparison with other available resources.

### 6.5.1 Scrap metal as a supplement

#### CASE STUDY:

One man in Rovieng Village, Pursat, who worked most days as a *chamkar* labourer along with his wife, also collected and sold scrap metal as a source of supplementary income. This man had no *chamkar* or rice paddy of his own, only the land his house was built on. He complained that the forest was government land and conservation legislation meant that they couldn't cut wood to clear land for farming.

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91. In handing such a role over to communities we have accept the possibility that they will not adapt the same absolutist position that the mine action sector has traditionally adopted. Set against such as position is the possible economic value of children's risk-practices within the household. Looking specifically at pre-revolutionary Russian peasantry, Chayanov (1966) suggested that, where land is in short supply and the household has excess labour (which also means increased consumption), then this labour capacity needs only to be involved in an economic practice that is of marginal value in order for the overall situation of the household to be improved. He noted this particularly in the context of households renting land at high rates in order to use the land in a way that would be unprofitable in a capitalist economy. However, in the environment we are studying, where the opportunity to rent land is not apparent, people draw more heavily on other economic practices that are not dependent on land. From the perspective of the household economy, children need to be engaged in economic activities as soon as possible in order to set the production/consumption balance on a more positive footing.

He would go with a friend to a battlefield area in the forest nearby and salvage metal from the derelict vehicles and from items of ordnance. He reported that his friend had been in the military and it was this friend who informed him about which items were dangerous and which were safe to take away. He said that when he saw an item and needed to inspect it further to see if it was dangerous, he would roll it over using a stick. In this way he could tell if the item was already broken open or no longer had a fuse. These were the criteria by which they judged which items could be taken. The man reported that having done this with his friend for some time he was now happy to decide for himself which items were dangerous and which were safe. He said that he and his friend never tried to dismantle or detonate live items that they found, but instead they would leave them in place.



**Items of ordnance collected from the surrounding countryside. These were being stored away from people's houses because they were considered a risk.**

Being reliant on travelling scrap collectors (rather than being able to go directly to a dealership) the price at which he was able to sell the metal was around 200 riel per kilo. He said he would expect to sell around four kilos at a time, but only on those days when he went to the forest area. By comparison, both he and his wife would earn around 3,000 riel per day working as *chamkar* labourers. Despite being confident to discriminate between safe and unsafe items of ordnance, salvaging scrap metal from the forest also presents the risk of landmines:

“When I am collecting scrap metal from the forest area I am sometimes afraid. When I am on the path I use everyday I am not worried, but when I use a new path I am afraid.”

In such circumstances the labouring work is preferable if it is available. However, by salvaging only from safe items and not attempting any intrusive contact (such as dismantling) the risks from ordnance are kept low. Having an alternative source of income through labouring work, there is no need to take the additional risk of engaging with live ordnance.

### 6.5.2 Detecting for scrap metal

A type of metal detector made in Vietnam has become easily available in the east of Cambodia.<sup>92</sup> The battery powered detector costs around USD 25 and is sold primarily as a tool for finding scrap metal. A group of young men interviewed in Huch Kaet village, Kompong Cham, had purchased these detectors so as to make their searching for scrap metal more effective. They used the detectors to search for scrap metal particularly on battle-field areas where it was most abundant. The two men who were interviewed said that they had only housing land and no land for agriculture. They had no other work and as a result, both had taken to scrap collecting as their primary occupation (although one man supplemented this with *chamkar* labour work on a rubber plantation nearby.) They said that there were around ten men in the same village who had purchased detectors and were engaged in this structured search for metal. They would take the metal they collected by bicycle to a small scrap dealership in Kraek village where they could sell aluminium, steel and copper.



**Metal-detectors made in Vietnam are used by scrap collectors in Kompong Cham Province.**

The men were aware of the dangers from ordnance and said that on detecting a buried item they were very careful about how they approached it. They would dig around the location of the detector signal rather than directly on top of where they believed the item to be. They also said that they did not pick up or sell items of live ordnance, but took only fragments of ordnance or empty items. It is worth considering that the use of such detectors to facilitate scrap metal collection may actually make this work safer. By making it easier to collect metal as a resource in general, live ordnance may become less attractive as a source of income. This is still dependent on there being sufficient supply of safe metal for people to draw upon. The following story from The Cambodia Daily presents the contrary position:

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92. A report in The Cambodia Daily, 9 June 2004, "*Scrap Prices, Land Mine Deaths Soar*," also referred to the use of detectors by people searching for scrap metal in the Western provinces of Cambodia. As was noted in footnote 59., the use of these Vietnamese-made detectors in Lao PDR has been a cause of growing concern to people working in the mine action sector there who anticipate a rise in ordnance related accidents as a result. Paul Davies (email 28 June 2004) notes that these detectors are being made available to people in Lao PDR through credit arrangements with the scrap metal dealers. This has interesting implications regarding the scrap metal trade's own use of credit to enhance its internal capacity and to bind 'collectors' in the field to specific dealerships and we will drawn upon this further in our recommendations. The recent expansion in the use of these detectors in Lao and Vietnam is also noted in Wells-Dang (2004.)

**The Cambodia Daily, 10 May, 2004, “Metal Hunters Detained”**

“Sixteen metal hunters excavating unexploded ordnance from a Lon Nol-era military base in Russei Keo district were detained Saturday and their land mine detectors confiscated, police said Sunday. The group, from Kandal province’s Ang Snoul district, had unscrewed and left in a nearby rice field the explosive heads of 43 artillery casings, said Phnom Penh Thmei commune police Chief Hang Mony. Police re-educated and released the men, Hang Mony said. He said “hungry stomachs” spurred them to scavenge despite the risks. If they do demining on the ground, it is good for our villagers, [but] they need to learn from [the Cambodian Mine Action Centre] first,” commune chief Chum Saray said.”

This story highlights some useful points. Again the police are seen to be taking a positive role in an effort to enhance community safety. The quotation from the police chief is sympathetic to the motivations behind the scrap collector’s actions. The focus of the police involvement seems to be that the men left the dangerous explosive elements behind. This is indeed irresponsible and in such circumstances people should be encouraged to report the remaining danger to the police or to a mine action organisation. It is here again that we encounter a possible tension between ordnance handling as an economic practice and the legal context of this behaviour. If such behaviour is considered illegal in itself it becomes more difficult to get the people involved in these practices to report dangerous items that they have uncovered.

**6.5.3 Detectors and motos: as possible tools for enhanced control over scrap collecting practices**

The use of detectors as part of a more systematic process of economic exploitation of scrap metal in the Cambodian environment makes it all the more important to establish a process of structured engagement with the institutions that can condition and manage these practices. The scrap metal trade, the police and the mine action sector need to establish a framework by which to promote responsible practices and punish irresponsible behaviour that poses a threat to community safety. There have been reports from Lao PDR<sup>93</sup> of scrap collectors getting detectors on credit, possibly from the scrap dealers themselves. In Cambodia, some scrap dealers also reported that they had provided ‘motos’<sup>94</sup> on credit to the scrap collectors who were attached with their dealership. Over time the scrap collectors pay off the credit through their work.

These practices involve dealers facilitating an improvement in the capacity of the collectors associated with their dealership. The credit relationship also binds the collectors to a particular dealer, creating a more formalised structure of economic relations. These more formalised relationships and the credit that

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93. Email from Paul Davies to David Hayter (MAG Cambodia), 18 June 2004.

94. Mopeds or motor-scooters, low engine size (generally 125cc or below) motor-bicycles.

is bound up in them could be utilised to exert control over the scrap trade. In a positive role, external projects could support such credit relationships as an incentive for acceptance and maintenance of certain good practice principles. As a form of sanction, the police confiscated the detectors in the story above. The bonding of collectors to dealerships is valuable in terms of external interventions because it creates a more stable and predictable economic structure which is more amenable to programmatic engagement. The enhanced scrap collecting capacity that detectors or transportation afford could be used to offset efforts to get the collectors to adopt more responsible practices with respect to risk taking in the local community, or dangerous items that they uncover, but decide to leave behind.

#### **6.5.4 Scrap metal as a key resource: Trampoung village**

However, for other households in different areas labouring work may be available only infrequently if at all. With a constricted base of agricultural land, due to landmine contamination rendering their rice-fields unusable, people in Trampoung village, Odtar Meanchey, turned to scrap metal as a fundamental community resource. A man from Trampoung village reported that he collected scrap metal from ordnance when he had no money and needed to get some to buy food or other goods. He stated that:

“When I say ‘no money’ I mean no money, no rice and no assets to sell, nothing at all. We never keep any money in the house. Yesterday I spent 5,000 riel on rice and food for the family. Today I have no money left so I will go into the forest for three days to collect resin and scrap metal and then I will be able to buy some more.”<sup>95</sup>

People in this village were living at a very poor economic level and almost every household had some members who collected scrap metal on a regular basis. However, Trampoung is a new village and the community’s relationship with ordnance contamination had changed since the village was first established only a few years ago. People here abandoned the practices recommended by the mine action sector out of preference for the economic utility of ordnance:

“When people first came to the village in 2002 there was ordnance on the land we were clearing for houses. Some people left the items in place and marked them with sticks. Some people moved them and burned them in the forest. Another man collected them together to report to CMAC. We also reported this problem to the military at the base nearby.”

“The military came and showed us what to do. They showed us how to twist the head off the ordnance and how to burn them. Then we practised doing this. Sometimes the military would come and take away items that we had taken the heads off. Probably

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95. The market integration of the scrap trade is very important to this analysis - it means scrap metal is a way of getting cash for urgent needs. People with no money may, however, be able to draw upon support from reciprocity groups within the local community to provide credit and alleviate the need to raise cash immediately.

every family in the village will have found two or three items like this when they were preparing the land for their house. We wanted to get rid of them in case children found them or somebody stepped on them by accident.”

“We didn’t keep the items to sell because at that time there was nobody here to buy them. Only in 2003 did people come here and start the scrap metal business. The dealers came here from Anlong Veng and said they would buy any scrap metal that we found. People collected the fragments first because we were afraid of the live ordnance to begin with. Now there are not many fragments to be found and more of the live ordnance, we still have no money so we take the risk to burn items and sell them.”

“We used to report items to The HALO Trust, but we have not done this for some time now. We want to keep the items to sell and if HALO Trust destroy them we will not get the fragments.”

The items that they are salvaging are some distance away from the village (around 10km) and seem to pose little humanitarian threat other than to the people who seek them out in order to exploit their scrap value. This changing pattern of contact with ordnance and with external parties is very significant. The villagers first adopted cautious and safer practices in response to the ordnance that they found on their land (though there was a variety of different responses amongst the villagers - including burning items.) However, serious economic problems, growing confidence with ordnance (inspired in part by the local military,) establishment of scrap metal dealerships within the village itself and diminishing amounts of safe scrap metal have resulted in deliberate handling of ordnance becoming a persistent economic practice. In such circumstances, increased risk-taking (as a function of increased contact with live ordnance), is a form of working harder, representing greater ‘self-exploitation’ in the face of land shortage and constricted economic alternatives.

The scrap dealerships in Trampoung were established by villagers themselves, in negotiation with dealers from the town of Anlong Veng. Three such dealerships were established in the village, each dealing only in scrap metal. However, at the lower levels of the trade diversity of scrap goods within the dealership normally serves as a form of insurance against price fluctuations. The final markets for these goods are disconnected; thus a drop in steel prices will not necessarily be matched by a drop in the price for plastic bottles. Diversity does not remove all economic impact from such fluctuations, but it does greatly reduce the chance that a decline in the price of one commodity will threaten the economic status of the business:

**CASE STUDY:**

One local scrap metal dealership in Trampoung village went out of business during the period that research was being conducted in the village. The woman who ran the business also ran a small grocery shop, the only commercial enterprise in the village

other than buying and selling scrap metal. Her scrap metal business was structured along the lines of the 'low population density' model of dealership discussed previously (Section 6.2.1.) which meant that villagers sold directly to the dealership rather than relying on travelling scrap collectors. This meant villagers were getting a comparatively high price for the metal providing a significant additional incentive for scrap metal foraging.

After she had been buying metal for some weeks at her standard price of 500 riel per kilo the dealer from Anlong Veng arrived and told her that he could only purchase at 480 riel per kilo, 70 riel less than his previous purchasing price, because the price he was able to sell at had dropped. The woman lost around USD 8, a significant amount in such a marginal community.

She closed her business because she lacked effective insulation against price fluctuations. Without any means of communication it was not possible for the dealer who purchased from her to communicate price fluctuations in advance of arriving to make a purchase. Economies of scale for the dealer she sold to also meant that the velocity of her sales was slow. This amplifies the effect of any price changes between sales by making the business less reactive to the external market. Without sufficient cash she was not in a position to reject the currently available price and hope to sell the metal later. Neither was she able to continue in the business; she was left without cash and without cash she was not able to purchase the metal that villagers were bringing in.

The high price that the villagers could secure for metal was one of the key motivations that they reported for handling live ordnance. Some 65 hectares, divided equally between the households of the village, were not being used for this reason. Although people were growing rice and some other vegetables on their *chamkar* land, suspected landmine contamination on their rice fields meant that they could not hire a tractor to plough the land. This created a fundamental constriction on the economic base of the village. Scrap metal was the only resource for which a market had been established in the village itself (making metal a source of cash that could be realised immediately.) Their other primary foraging resources were tree resins and gem-stones. Both of these were reliant on external dealers. The village is physically isolated and people lack the ability to take goods to market themselves. People in the village said that they knew nothing about gem-stones and generally they had to accept the prices offered by the external dealer because they did not know what they were selling. As we noted earlier, metal salvaging had already seen most of the safe metal removed from the local environment, creating an increased reliance on salvaging from ordnance.

Such a situation, where every household in the village has an interest in salvaging metal from live ordnance (primarily by burning items out in the forest) forces us to ask questions regarding the role and

capacity of the mine action sector. Ordnance contamination is certainly not a straight-forward 'problem' for Trampoung village. Ordnance is not presenting an impediment to other social or economic activities and it does not seem to present a great risk of accidents except to those people who travel out looking for it.<sup>96</sup> In reality, the ordnance in the forest is one of their few resources available to people here. Poverty, however, is a problem in Trampoung. It is this poverty that makes handling of ordnance so widespread. Removing ordnance, as a form of external programmatic engagement, is not addressing the fundamental need for alternative resources and other forms of poverty alleviation.

There is certainly little that the mine action sector, in its current form, can offer communities in this position. The analysis below suggests that none of the key components of mine action in their current form are capable of offering any real assistance to the people in Trampoung. This is despite the community presenting all the forms of contamination and vulnerability that the sector purports to address.

#### **6.5.5 Trampoung village: the limitations of current MRE practice**

People are aware of the appearance and danger of ordnance - they have been burning items almost every day. They are aware that if they report items of ordnance to a mine action agency then that organisation will seek to assist them, but they choose not to do so. People stated that they were afraid when engaging with ordnance and that they would stop if they had enough land or other economic resources. In discussion with a group of some 15 people who salvaged ordnance around Trampoung it did transpire that some people used different techniques and safety precautions whilst undertaking this work. However, the mine action sector continues to rely on the absolutist "don't touch any ordnance" message and struggles to engage with the potential for improvement in locally developed practices for fear of 'encouraging' or 'legitimising' them. Whilst current MRE activities do have a role in other environments, when we reach some of the most fundamentally vulnerable populations the utility of these approaches deteriorates.

However, people do not necessarily need the mine action sector in order to improve their safety. Discussion amongst the villagers themselves regarding their practices, precipitated admittedly by an external body, did facilitate information sharing and discussion about the relative merits of different techniques. Such discussions could be used to facilitate decision making within the community as a whole regarding what was acceptable and unacceptable behaviour, what was considered safest practice and how information could be shared to reduce the likelihood of one person's burning ordnance affecting somebody else.<sup>97</sup> Through such a mechanism the villagers would be able to reduce risks whilst still recognising that risk behaviour was tolerable due to their specific economic circumstances. There is

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96. Even for those people who do travel out in search of ordnance it is difficult to determine the level of threat that it presents. If people are acting carefully and taking efforts to preserve their own safety whilst handling or burning ordnance the risk from these practices may not be very great.

nothing in such an approach that essentially encourages handling ordnance, nor is there any “responsibility” for people’s subsequent behaviour left on the shoulders of the mine action sector. Nor should there be; rural communities should be supported to take responsibility for managing their own interaction with risks in the environment.<sup>98</sup>

These mechanisms are not suggested as a replacement for all current practices. Signboards alerting people to the appearance of the full range of ordnance items, informing them that these items are dangerous and providing contact information through which assistance can be sought from the mine action sector are an important form of basic information provision. However, in order to precipitate behavioural change more emphasis needs to be placed on the communities’ own responsibilities and less on the obligations of external agencies to fill a possibly spurious “knowledge gap.” Certain current approaches may be fuelling community dependency on external agencies, ultimately impeding acceptance of responsibility. However, given the range of challenges faced by the most vulnerable communities, and the complex and socially fragmenting histories of many of these communities, external vacillation of these self-help processes needs to be explored.

#### **6.5.6 Trampoung village: the limitations of current landmine clearance capacity**

The fundamental problems in Trampoung village (of which, as we noted, ordnance handling is an indicator) relate to the constricted economic base of the community and its physical and economic isolation. Economic improvement would be the most effective way of removing the emphasis on foraging for scrap metal. Part of this economic constriction results because the rice field areas of the community are suspected to be contaminated with mines. Since the village was only established in 2002, the fields need to be cleared of trees and ploughed with a tractor before they can be used. The villagers had arranged together that they would secure a loan in order to hire a tractor to clear the land of vegetation. However, they suspect that there are mines on the land and the tractor owner was unwilling to put his machinery at risk. As a result some 65 hectares of land, owned equally between the households of the community, cannot be used.

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97. For example, the villagers might decide that burning ordnance in the forest was acceptable, but bringing live ordnance into the village was unacceptable; they might agree that carefully moving ordnance and burning it in a hole was safer practice than burning ordnance on the surface; they might decide that the scrap metal shops in the village would only buy metal from children after they had spoken to their parents.

98. Durham (2004: 13) clearly summarises some of the key challenges involved in such a programmatic approach: “Meaningful participation implies giving communities choice. It means that people in positions of power have to be willing to surrender their power in favour of democracy. In providing programme beneficiaries choices, donors and implementers may become marginalized or even exiled from the decision-making process. This cannot only be uncomfortable, it also raises a number of questions. In this instance, what would the donor and implementing agencies have done if, for example, in the course of a participatory planning process, the target communities had said that they did not want the proposed programme? Or if the target communities suggested strategies that were incompatible with the agendas of donors and government agencies?”

This presents a problem that is difficult to evaluate. It is not known to what extent landmine contamination does exist on the land, but many people in the village were in the Khmer Rouge fighting in this area and it is from them that the concern regarding the mines has arisen. If the whole area were to be cleared it would be an extremely expensive task for the mine action institutions currently operating in Cambodia. With the cost of landmine clearance at roughly USD 0.80 per m<sup>2</sup> this would require an investment of over USD 500,000<sup>99</sup> - a sum that seems incongruous in relation to a village that has so little. However, because this land is not currently being used and is not causing accidents directly<sup>100</sup> it is not likely to be established as a priority for clearance by the current mine action resources anyway. Current systems of prioritisation rarely address the need for substantial areas of privately owned agricultural land as the economic base of communities. There is growing concern in Cambodia that mine action work is being directed towards the 'needs' of development organisations, where these needs may not represent the most effective use of these valuable technical resources.<sup>101</sup>

It would not be appropriate to deploy the current mine action resources on clearing this area. Current resources could undertake some process of survey and verification in order to gather better information on the nature of contamination here. If the risk is concluded to be low perhaps a process of mechanical clearance could be used as a further risk-reduction mechanism. However, if the land does need to be cleared manually in order to establish an acceptable level of safety then the human-resources of the local community should be drawn upon in order to undertake the job. Given that they are only occupied on part of their agricultural base (*chamkar*) and are undertaking risky activities in order to find cash income, this body could be usefully employed to undertake the clearance of their own land.<sup>102</sup> Wages for such work would need only to be equivalent to the local labour rates that are available infrequently in their

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99. The cost per m<sup>2</sup> utilised here is taken from discussion with David Hayter, Programme Manager, Mines Advisory Group. Given differences in the reporting of overheads between different agencies it can be difficult to get accurate comparative information between mine action organisations.

100. The landmine contamination on this land may be thought of as causing casualties indirectly if people in Trampoung village were to be suffering accidents in their efforts to forage from ordnance - fortunately they have suffered no ordnance related accidents so far. In reality the fact that a mine-contaminated area is causing accidents does not necessarily mean it will be prioritised for clearance either.

101. There are a number of issues bound up in this that are related to the ongoing (and problematic) relationship between mine action and development. Where funding is channelled through development agencies to mine action agencies this tends to give development agencies a primary role in the planning of operations and the direction of resources. As a result the mine action capacity may become a somewhat mindless technical implementer in support of the plans of the development body. Such a relationship removes the potentially very valuable role of mine action agencies in analysing how best to deploy mine action resources in the community environment. Linked to this, Level 1 Survey information may paint whole areas as suspect, making it difficult for development organisations to implement projects on land without having the land cleared (so as to dismiss the suspicion established by the survey data). Bound up with this, mine action has tended to work in partnership with physical development projects - such as the construction of schools or health centres. Facilitating the construction of such facilities may be easy to represent positively to donors but they may not represent the core requirements of target communities. Where such communities lack sufficient agricultural land due to landmine contamination these partnerships may see mine action agencies failing to address the root need (which falls wholly under the responsibility of the mine action sector) whilst being paid to clear land for which there is little evidence of contamination in support of a project that is actually a secondary requirement for the community. We explore these issues a little further in Section 10.3

current economy.<sup>103</sup> The reliability of such employment, and the output of their own rice land as a result, would make it economically appropriate for local people to be employed at such a level. The risks involved in working as a trained, equipped and supervised deminer are surely less than those involved in rendering live ordnance saleable to scrap metal dealers - a practice that dominates their current economic activities. If such a process of clearance were implemented by a Cambodian body with low overheads, drawing on experienced Cambodian demining personnel as trainers and supervisors, it could be undertaken at a far lower cost than the current structures of formal mine action allow.

If poverty reduction is the key to reducing deliberate handling of ordnance in Trampoung then the economic impact of landmine contamination is of central importance. However, it would be inappropriately expensive for agencies of the mine action sector to undertake clearance as this sector is currently structured. Cambodia needs to evolve mine action organisations capable of undertaking clearance operations at a lower cost than the current institutions if the fundamental problems of landmine contamination are to be tackled. Although some may appeal that additional money needs to be made available for mine action work, the scope for reduction in current costs needs to be thoroughly explored if mine action agencies are to fulfil their mandates and fundamental obligations to affected communities.

#### **6.5.7 Trampoung village: the limitations of Explosive Ordnance Disposal (EOD)**

As we noted in Section 6.5.4, people are already rejecting the EOD capacity of the mine action sector in favour of the financial benefits available from scrap metal salvaging. With the ordnance from which they are currently salvaging being located in a remote area away from the village, the destruction of this ordnance by a professional EOD team would be of little immediate humanitarian value. The key concern for the villagers is that demolitions using explosives leave them with little in the way of metal

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102. MAG has been developing and implementing a model for "Locality Demining" which is based on the training and employment of people from the affected community to undertake landmine clearance. The model suggested here is based on this same principle, but suggests even lower salary rates and the need for implementation by a Cambodian institution (without extensive bureaucratic overheads) in order to get costs down to their true minimum. By training people from the local community, deminer transport and accommodation costs are removed from the cost of implementation. Salaries can be reduced because people are being recompensed through the return of their own core economic resource (agricultural land.) Medics would also be trained from within the community providing a basic provision of medical skills at a local level. The equipment and demining technique would be the same as in current clearance practices, supervised by experienced Cambodian demining personnel. Such a structure would probably represent the most cost-effective model for large site clearance operations capable for the formal mine action sector. Even with salaries reduced to a locally appropriate minimum, this steady income would have a substantial impact on the community as a whole. Efforts could also be made to work with the community on how they could pool this cash resource to make it most effective - perhaps by working to address their chronic lack of market integration.

Although implementation of such a structure by a Cambodian institution represents the best long term goal, it would probably need to be supported and monitored by established institutions at the onset. There is also a need to see the Cambodian Army involved more effectively in landmine clearance. It is a challenge for the Cambodian Mine Action Authority to ensure integration of the army into the mine action sector in order to reaffirm the commitment of the Cambodian Government to addressing these problems.

fragments and no individual claim over the fragments that do remain. For individuals who rank the economic value of the ordnance ahead of its potential humanitarian impact there is little value to be found in requesting EOD assistance. Where the ordnance is located away from the community and is not being brought into the community such a situation predominates (as the only people engaging with the ordnance are those that choose to do so.)

### **6.5.8 Conclusions regarding Trampoung village**

The situation in Trampoung village was the most extreme out of any of the areas of study. It was the most fundamentally vulnerable and economically marginal of all the villages where research was conducted. It also presented the clearest examples of ordnance handling as a widespread ongoing practice. This does not represent typical community circumstances, but by being at the extreme it does allow us to see some of the difficulties that confront the mine action sector in attempting to address accidents resulting from deliberate handling of ordnance.

It is striking that none of the central disciplines of the mine action sector, in their current formulation, offer anything of value to this community.<sup>104</sup> This should be considered very alarming. It is the central obligation of humanitarian mine action NGOs to find a way of providing assistance to communities in such circumstances. However, substantial ideological and structural inertia within mine action institutions may need to be overcome if the real needs of such impoverished rural communities are going to be addressed.<sup>105</sup>

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103. Indeed, in Kompong Cham Province one village reported that men from the area were currently working as deminers for the owner of a local rubber production company, clearing land for his house. The business man was paying them a local labour wage and they were undertaking the work without appropriate equipment or training. Given that this was deemed economically acceptable to people in that area there should be no difficulty in recruiting people to clear their own land, in a well structured and organised way with proper training and equipment. Nor should the mine action sector have any qualms about doing so.
  104. It should be noted that The HALO Trust had previously facilitated the construction of a pond in the village. Given chronic water shortage problems this resource is very important.
  105. It is not being suggested here that mine action agencies should be able to solve the problem of rural poverty in Cambodia. It is being suggested, however, that the mine action sector could provide more effective assistance to such a community if it revised some of its operating structures and concepts.

## 6.6 FISHING WITH EXPLOSIVES



Fishing with explosives is particularly common amongst soldiers and ex-soldiers. It is a complicated process but one which many people seem interested to watch.

Fishing with explosives, a practice reported in a number of post-conflict environments, requires a series of relatively complex interactions with items of ordnance and their explosive content. Different types of explosive filling are recovered from different items and refashioned to create a new device. This item is detonated in water in order to kill fish which are then recovered from the surface of the water (usually with a 'dip-net.')

This practice is illegal in Cambodia and inhabits something of a sub-culture of knowledge transmission and practice.

Fishing with explosives is almost exclusively done by adult men. It requires knowledge of the workings of different items of ordnance and the characteristics of different types of explosive. Fishing with explosives was relatively rare amongst respondents to the KAP survey (only 14 people had done this.)

All the people who had fished with explosives reported that they did this as part of a group, predominantly of male friends. Nine of the respondents reported that they only shared the fish to eat, they did not sell them for cash.

Fishing with explosives seems to have something of a hold on the popular imagination in rural communities. Out of 49 respondents who said that they would stand nearby when someone is handling an item of ordnance, 25 explicitly stated that they would do this so as to learn how to refashion either fuses or explosives for fishing. Lack of care whilst refashioning an item for fishing was also the most prevalent suggestion people made regarding why accidents happened.

### 6.6.1 Refashioning a device for fishing



**Grinding black powder to use inside the fuse of the fishing device.**



**Filling a length of intra-venous tube with explosive powder to make a fuse.**

The process includes a number of stages at which an accident can occur. Fishing with explosives requires people to cut open items of ordnance, open detonators and grind explosives into fine powder.

The first stage of the process is the gathering of explosive content for the new device. There are two or three types of explosive used for different elements of the most common fishing devices. Gathering explosive content generally requires intrusive contact with a number of items of ordnance.

Some components, such as the detonators from inside mortar fuses, require detailed knowledge of ordnance in order to recover them. The most common form of device uses a tin-can body to hold the main explosive charge. A detonator is embedded in the main charge within a fuse well.

The fuse is made from a hollow plastic tube, filled with gunpowder. It is inserted through a hole in the base of the can and extends down the fuse well to the detonator. The fuse is lit, usually from a jost-stick, and the device is thrown into the water.

Perhaps the most dangerous part of this sequence is the recovery and preparation of the detonator that will initiate the main charge. The detonator is generally taken from an unfired (AXO rather than UXO) 60mm or 81mm mortar bomb. To do this the fuse is first unscrewed from the body of the mortar that contains the main explosive charge. The fuse is then cut open with a saw. The first cut allows the firing pin to be removed - thus reducing the chances of accidental initiation of the detonator. The second cut allows the detonator to be tipped out of the bottom. The outer skin of the detonator is then peeled open at one end so as to insert the plastic tube of the fuse.

removed - thus reducing the chances of accidental initiation of the detonator. The second cut allows the detonator to be tipped out of the bottom. The outer skin of the detonator is then peeled open at one end so as to insert the plastic tube of the fuse.



**The explosive of the fuse, within the plastic tube, will continue to burn even when the device is thrown into water.**

The fuse is made by grinding black-powder explosive and tapping it down inside a length of soft plastic tube cut from an intra-venous (IV) line. These fuse will continue to burn under water.

It is not surprising that fishing with explosives consistently causes accidents. It requires intrusive contact with ordnance and it requires explosives to be detonated at relatively close range (compared with the distances at which people can hide when burning ordnance). Fishing is also commonly undertaken in groups which increases the number of casualties who may be involved in individual incidents.

#### **CASE STUDY:**

A soldier living in Angkrong Village, Samraong District, Pursat Province was injured whilst preparing to fish with explosives.<sup>106</sup> He had taken a 60mm mortar fuse from the military store and was trying to cut it open in

order to extract the detonator. He claims that this was the first time he had tried it and that he had only watched people do it before. It is difficult to know whether or not this is true. He says he was hoping to catch enough fish to sell so as to buy rice, between 3 - 5 kilos. His injuries are very minor and none of the other 5 or 6 people who were with him at the time suffered significant injuries.

Angkrong Village appears to be an island of safe land in the middle of an area of landmine contamination. Only land for housing has been demined, leaving people to extract a livelihood from areas marked as dangerous by mine action agencies. The soldiers in the village still draw around USD 10 per month in military pay. There is a lack of land for rice farming and alternative resources are scarce. The injured soldier collects resin and dead wood from the forest. He will collect *rattan* if a merchant comes to the village to request it and occasionally picks up scrap metal. In the fruit season some of the villagers pick fruit to sell to Khmer tourists.

The people here blame environmental NGOs and the government for blocking them from using areas of forest and prohibiting the cutting of wood for housing. The soldiers make death threats against the staff of one such NGO.

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106. The CMVIS data-gatherer for Pursat reported that this accident was recorded as "Tampering/To play with it" in the casualty surveillance data.

Fishing with explosives is most commonly undertaken by soldiers and a number of communities reported that the practice had stopped since soldiers moved away from the village. Soldiers spoken to in Kompong Speu reported that their commander had ordered them not to fish with explosives anymore. However, they still had all the necessary materials available (as is seen in the illustrations above) and were keen to demonstrate their techniques. Although they recognised that accidents were quite common amongst people fishing with explosives they said that they had skill and would certainly continue to fish with explosives if they had not been ordered not to. As we note in Section 9.2.4, villages that have experienced multiple casualties from ordnance handling tend to present a higher proportion of fishing related accidents according to the CMVIS data on people's activities at the time of accidents. Despite accounting for a significant proportion of casualties from ordnance handling (at least the 19% recorded by CMVIS over the last 5 years,) fishing with explosives seems to be persistent within a specific male/military culture.

Ruan Null (27 yrs.) had an accident in February 2004 whilst preparing a device for fishing. His two friends wanted to fish like this and they had already filled the can and the fuse with explosives. Ruan was preparing the detonator. He had found an unfired mortar in the forest and had removed the fuse, cut it open and removed the detonator. When he was peeling open the detonator, using the firing pin he had already extracted from the mortar fuse, he accidentally stabbed it into the detonator. The detonator exploded, injuring his hands.

Ruan claims that his specific economic circumstances at the time were part of the cause of the accident. He says he was afraid to be doing what he was doing and that in the past he had only fished with explosives a few times because he was worried about having an accident. He learned to do this as a soldier and has tried it 3 or 4 times since 1992. He says that it was because he was afraid that his hands were shaking and this is why he accidentally stabbed the detonator. He had only lived in the village since 2002 and has no workable land other than that on which his house is built. He moved here when he got married and lives with his wife and two young children. He had started clearing land to grow rice, but stopped after his accident. Now it is coming up to the planting season and he will not be able to clear the land in time.

He says this sort of fishing can catch around 8 kilos of fish at one time. He was planning to use his share to make Khmer cheese (*Pra Hok*.)

### 6.6.2 Fishing with explosives as an economic practice<sup>107</sup>

It was difficult from the relatively small sample of people who admitted to fishing with explosives (either in the KAP survey or in qualitative interviews) to get a clear understanding of the economic role of these practices. As we have already noted, nine people out of 14 who reported that they had fished with explosives in the KAP survey said that they kept the fish for themselves. This suggests that fishing with

explosives is not so geared towards cash generation as is scrap metal collection. However, the sample size is so small that it is not possible to make such an assertion. Of the remaining 5 people, 1 had an accident during his first fishing attempt and the others spent the money on groceries, wine and cigarettes. In other interviews people generally considered fishing with explosives as an economic practice, but it did not appear to be a practice that had any kind of stable or systematic role within the household economy. People were encountered who were reliant on salvaging scrap metal from ordnance. However, the people who fished with explosives appeared to do it too infrequently for it to have a fundamental economic role.

### **6.6.3 Responding to fishing with explosives**

The role of the police and of military commanders is important in efforts to reduce fishing with explosives as a practice. Without looking at the impact of this practice on fish stocks or other environmental factors it appears to be a problematic form of behaviour which is prone to causing accidents, but which maintains a fascination for certain groups of people. This practice requires particularly dangerous forms of contact with ordnance, but its economic role seems generally to be marginal. A number of communities reported that the police would investigate explosions that they heard and that for this reason people no longer fished with explosives.

## **6.7 SALE OF EXPLOSIVES**

As we noted in the introduction to this Chapter, relatively little information was gathered about the sale or trade in explosives in Cambodia. Apart from the requirement to extract explosives for use in fishing (as discussed above) no KAP respondents cited sale of explosives as a motivation for ordnance handling. In the case study in Section 6.4.4 we saw children extracting the fuses from ordnance to sell to people in the village who fished with explosives. In Kompong Cham a 250kg aircraft bomb was taken away from a scrap yard for local salvagers to remove the remaining explosive content. The case would then go back into the scrap metal trade and anecdotal evidence suggests that the explosive content may be sold on for quarrying. In Kor Mouy village, Preah Vihear, some people reported that they could sell recovered explosives at the scrap dealership, but a visit to the dealership was uninformative. Although significantly more could be learned about the economy of explosives, very little evidence suggested that economic exploitation of explosives was a significant motivation for ordnance handling in the areas under study.

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107. In Kompong Cham and Preah Vihear Provinces people were observed fishing with electricity (electrofishing.) This practice is also illegal, but may serve to supplant fishing with explosives as a way of increasing fishing yields. The fishing technique involves wearing a car battery strapped to the back as a power supply. Some people reported using a transformer to step-up the voltage. The fisherman then uses two long bamboo poles down which wires are run from the power supply. The poles provide a stand-off distance between the fisherman and the fish and a stand-off between the fisherman and the electrical current. The electrodes are dipped into the water to kill fish in their vicinity.

## **6.8 CONCLUSIONS FROM THIS SECTION**

This section has sought to highlight the economic basis for much contact with live ordnance. The role of scrap metal in children's economies must be seen as of fundamental importance in understanding their contact with ordnance. The levels of market integration achieved by the scrap metal trade are very important to understanding the relative value of scrap metal as a resource that can be gathered from the local environment. We have also highlighted how the structures of the scrap metal trade currently promote more intrusive contact with live ordnance in order to render it saleable.

The economic value of ordnance presents a fundamental problem. On the one hand it is hard not to conclude that for certain households or communities salvaging metal from live ordnance does represent a valid economic option. People undertake such activities with a knowledge of the risks and in the face of few if any economic alternatives. Landmine contamination may make such a reliance on foraging practices more likely, as may a range of other vulnerabilities. However, children are also undertaking risky behaviours within economies that may be less driven by an externally acceptable concepts of necessity. Such different circumstances demand different approaches. Very importantly the capacity for ordnance handling to present a public safety threat also means it must be brought under an effective legal regime that can be enforced by the police. This legal regime must also support communities to ensure that the scrap metal trade is not exploiting vulnerabilities - particularly with respect to children. Constructing an effective response to such a complex network of economic needs and social responsibilities presents a challenge to Cambodian society. However, given the duration over which ordnance contamination is expected to persist as a problem in Cambodia, external agencies should focus on facilitating the construction of such a response. Whilst such a process would slowly start to address accidents from ordnance, it would also start to engage the mine action sector in the processes of social development that are fundamentally important to Cambodian society.

## 7. SOCIAL MOTIVATIONS

### 7.1 PLAYING

“Playing” with ordnance is consistently the most common cause of ordnance handling accidents according to the CMVIS data for 1999-2003. There are a number of key issues that need to be understood with respect to playing accidents:

- **Casualty data:** The incidence of “playing” accidents seems to be misrepresented in the CMVIS data for 1999-2003. It is not possible from this study to determine the extent to which this is the case but it is likely to be substantial (we would suggest that possibly less than 50% of casualties currently recorded as playing are solely motivated in this way.) This results from some problems in the data-gathering process, from the fact that people often have multiple motivations for their actions and from misrepresentation of accidents by the local population.<sup>108</sup>
- **Ignorance<sup>109</sup> or known risk:** Although this study finds that most people in the target communities know what ordnance is and what it looks like, accidents do still occur as a result of ignorance. These incidents are very different from situations where the possible danger is known to the actors involved and may be part of the motivation for playing.

Over 98% of KAP survey respondents said that it was not safe for children to play with ordnance. Some 76% of these people identified the way children play with ordnance (throwing, burning and hitting it) as being the main reasons why it was dangerous. Some 50% indicated ignorance that it was an item of ordnance, or that it could explode, as being a reason it was dangerous.

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108. We have noted already the important role of scrap metal in children’s economies in the affected communities studied in this project. In Section 8.3 we look in more detail at the misrepresentation of accidents by the affected populations themselves - primarily as a result of anxiety regarding the legal status of practices relating to scrap metal salvaging and fishing with explosives.

109. The term ‘ignorance’ is used in this report to indicate ‘lack of knowledge.’ The term is not judgemental about the reasons behind such a lack of knowledge.

However, much of children's deliberate handling of ordnance is done with the knowledge that there is danger involved. Deliberate risk-taking behaviour is considered universally as part of the process of adolescence and the positive outcomes that these people experience from deliberate risk-taking with ordnance are much the same as those sought by adolescents in other environments. That addressing deliberate risk-taking poses challenges for MRE projects and that the factors that underpin it have often been ignored, has been acknowledged within the sector (Filippino, 2000.) It has also been noted that effecting behavioural change within this group presents a persistent difficulty for MRE projects (Wheatley, 2000.)

### 7.1.1 Children's knowledge

This project interviewed 117 children as part of the KAP survey and an additional 157 children in Kompong Speu to provide a further assessment of children's knowledge with respect to ordnance. Given the prevalence of children within the age range 10-14 in the CMVIS casualty data the focus of research was on children between the ages of 10-18, rather than younger children. The research in this project suggests that in this 10-18 age range, children are generally knowledgeable regarding the appearance and basic nature of ordnance items.<sup>110</sup>

Out of the 157 children interviewed in Kompong Speu, 48% could draw one or more items of UXO. Of the rest, 43% could name one or more items off a UXO identification chart.<sup>111</sup> 92% identified these items as dangerous because they are liable to explode. Some 22% related this knowledge to MRE and 14% said that their parents had told them about the dangers of ordnance. However, over 50% related this to direct experience when out herding, foraging or in the fields.<sup>112</sup>

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110. Handicap International (1997: 34) in relation to Lao PDR found a different situation: "survey results [...] show that 70 percent of children who were involved in an accident whilst playing with UXO, did not realise beforehand that they were in any kind of danger."

111. Children were first asked to draw one or more items of ordnance from their own knowledge. They were then shown the ordnance identification chart (as represented in Figure 3.) and asked if they could name different items of ordnance. Given the diversity of different ordnance it is difficult to assess children's knowledge of all different items. However, children's ability to identify ordnance items, coupled with their widespread ability to identify the explosive danger from ordnance, does strongly suggest a reasonably level of background knowledge.

112. Where children provided multiple sources for their knowledge they are categorised here as MRE first, then parental contact, then personal experience in their environment. So, for example, a child who reported that they had received MRE at school and had seen ordnance whilst herding is categorised in the percentages above as getting knowledge from MRE, not from the environment. In this way, these statistics present the most positive representation of the role of MRE in these children's knowledge base.

### **7.1.2 How is playing categorised within casualty surveillance data?**

As part of this project the research team investigated casualties from Kompong Speu Province attributed to “playing” in the CMVIS data-base for the period 1999 to 2004. This was a total of 30 people involved in 11 separate incidents. It was only possible to get further information on eight of these incidents, accounting for 23 casualties. All of the casualties below were categorised as playing:

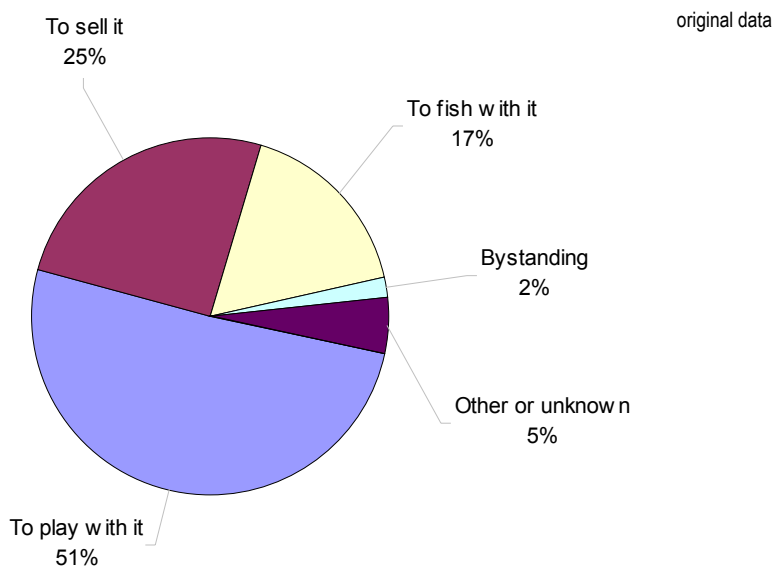
The incidents can be summarised as follows:

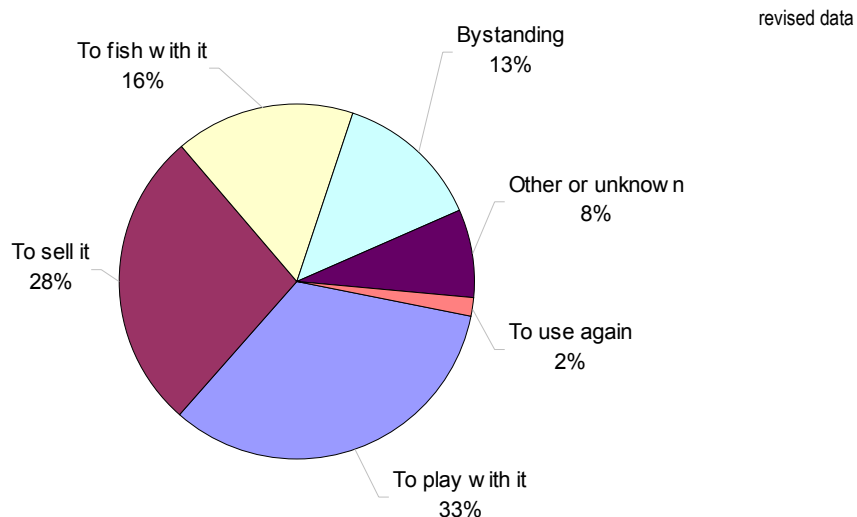
- A boy (age 12) threw the fuse from an item of ordnance at one of his cows when he was herding. He did not know what it was and threw it in the same way as Khmer herders often throw stones at animals in order to direct them (1 injured casualty - suggested alternative activity: “other.”)
- A boy (age 14) threw a item of ordnance on the ground in an effort to break it so as to get copper to sell. In this same incident one of the children reportedly ignored warnings from others that it was dangerous, saying they would “die together” if they had an accident. One girl was killed and another was injured but they were not directly involved in the activities that caused the accident (2 killed, 2 injured - suggested activities: 2 x “to sell,” 2 x “bystanding.”)
- Children found a 60mm mortar that had been burned and the fuse had become separated. They played with it for some time rolling it along the ground. Then they walked home with one boy (age 16) striking the fuse against the body as he walked. The fuse exploded killing him and injuring three others. Some people reported that they did not know that the items were dangerous (but it is not possible to confirm this.) One of the injured had not been with the boys who were playing and was just walking with them at the time (1 killed, 3 injured - suggested activities: 3 x “playing,” 1 x “bystanding.”)
- One boy was killed and another was injured (both age 9) when they were hitting an item of ordnance that they found. Two other boys who were with them had left the scene afraid of what was happening. The injured survivor reported that “bad spirits” had made them hit the ordnance and he did not know why they did it (1 killed and 1 injured - activity: 2 x “playing.”)
- One boy (age 14) took the fuse out of a B40 rocket because he wanted to take the B40 to make a lamp. His friend wanted to throw the fuse away but the first boy decided to put it back into the B40 and at this point it exploded. Two other children (ages 9 and 14) were herding nearby and had been called over by the boy with the ordnance. As they approached the item exploded (1 killed and 4 injured - activities: 3 x “playing”, 2 x “bystanding.”)

- A boy (age 6) reportedly found a fuse and hit it without knowing what it was. He had moved away from the area now and it was not possible to interview him (1 injured - activity: "playing.")
- A man (age 30) was embroiled in a dispute and threatened his neighbour with a grenade. In the process he dropped the grenade and when he picked it up again it exploded (1 injured - activity: "to use again.")
- A girl and two boys (ages 10, 11 and 12) were playing with some form of ordnance. Another child (age 10) approached them thinking they were playing with elastic bands. When he saw the ordnance he ran away but was still injured when it exploded. Another man who was nearby was also injured and his injuries were classified as "bystanding." (3 killed and 2 injured - activities: 3 "playing", 2 "bystanding.")

There were still some 8 casualties for which no information could be gathered. The process of categorisation is difficult. In the re-categorisation suggested above people are still recorded as playing if they seem to have been involved in the activity of play even if it was not their actions that detonated the item. The difference that this re-categorisation makes to the balance of motivations behind deliberate handling accidents is represented in the charts below. According to this analysis, of 23 "playing" casualties assessed here, perhaps only 50% were categorised correctly.

**Figure 37. Tampering and bystanding casualties in Kompong Speu Province, 1999 - 2003. Comparison between current CMVIS records and revised version after further analysis of "playing" accidents.**





The CMVIS data for Cambodia shows the great majority (89%) of boys “tampering” accidents, where details of tampering activity has been collected, are categorised as playing. Only a little under 5% of such accidents are recorded as tampering in order “to sell it.”

Discussions during this research strongly suggest that there is a problem in directly relating these categories of activity with broader issues of motivation for handling ordnance. We spoke to accident survivors who said that although they were “playing” with the ERW item at the time of the accident, they intended to sell it afterwards. Data-gatherers often expressed a sense that “playing” encompassed all handling activities and was thus the appropriate sub-category for almost all types of tampering accident. This issue becomes more difficult still when it is seen that some “playing” activities are actually necessary preparation for selling the metal as scrap. Children report that they like to burn ordnance (because it looks like a firework) and because afterwards they can collect up the metal to sell. Given the prevalence of ordnance handling as precipitated by economic motivations it seems very likely that this is substantially underestimated in the current casualty data.

### 7.1.3 Types of playing

This project found “throwing” ordnance<sup>113</sup> and setting fire to it to be the most common forms of playing activity. Other children reported using items for bowling games, making a firework, hitting items with a stone and using items as the wheels of toy carts to be dragged.<sup>114</sup> However the KAP sample of children

113. Some KAP survey respondents noted that the ordnance was shaped like a ball (presumably referring to the spherical cluster munitions found in eastern Cambodia) and this was one of the reasons for playing with it. In such circumstances it is not known if the explosive potential of the item was also a factor in their play (as it is in other motivations.)

114. This latter practice is most likely done with mines to create a toy similar to the “mine-carts” previously found in Afghanistan and northern Iraq.

who directly admitted to playing with ordnance is very low (only 12) and it would be wrong to draw strong conclusions from this. In terms of their motivations for such practices five cited curiosity as to what the item is. Half of the children identified the loud noise as the particular appeal. One of the respondents sought to determine if the exploding item would break two rocks placed on either side of it.<sup>115</sup> Three of the respondents noted that you have to be brave in order to play with ordnance as part of their explanation of the motivation. Adults who moved items of ordnance so as to stop children finding them expressed a similar balance of ideas regarding the motivations of these children for engaging with items; curiosity and demonstration of bravery were the motivations that most of them identified.

These practices, and others described by children, are quite diverse in the level of sophistication that they express. When children utilise ordnance to make fireworks it requires them to identify specific types of explosive content from different items. Where children are engaging with items with a clear knowledge that there is risk involved they express excitement at the explosion as their motivation. In other cases (such as using items of ordnance in ball games) there is no apparent requirement for the item to be explosive - its utility comes only from its shape.

More broadly, children reported that boys and girls would play together, though others indicated that the games that they played were for boys not for girls. Children reported playing skipping games with elastic bands, throwing flip-flops at targets (sometimes for money,) chasing games, catching games and hopscotch as the most common children's games (though others also played types of pool and football.)

#### **7.1.4 Positive outcomes of risk behaviour**

Social development psychologists emphasise the need to understand the meaning of the outcomes of risk-taking behaviour to adolescents – for example peer-approval, autonomy or independence (Jessor, 1992). A tendency to view risk-taking in a negative light can result in a failure to understand its positive role for the practitioner (Neumark-Sztainer *et. al.*, 1997:48). Failure to recognise or engage with the positive outcomes of risk-taking behaviours often undermines education programmes that just reiterate possible negative consequences. People's experience of undertaking risk practices without experiencing these negative consequences undermines the validity of the messages. It is also noticeable with respect to Mine Risk Education in Cambodia that the emphasis is always on the extreme possible negative outcomes (death or injury) rather than on other socially enforceable negative outcomes (for example parental discipline.)

It was difficult to get children to talk self-consciously of the positive outcomes of risk-taking behaviour. The two key categories that they identified were linked to sensory excitement and bravery.

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115. He also remarked that afterwards he would sell the metal as scrap.

- **Sensory excitement:** This was derived from the sound of explosions, the sight of explosions and the sight of burning explosives. These are usually triggered by burning items of ordnance (or taking out explosives and burning them separately.) Sometimes people described triggering detonations by throwing items and then diving to the ground or behind a tree. There is no doubt that the experience of detonating ordnance represents a dramatic and powerful sensory experience. There are few other sources of similar excitement in the local environment.
- **Bravery:** Some 89% of KAP survey respondents said that the people who handle ordnance are brave. They said that such people were daring or had courage and a significant number linked this to being not afraid of dying. As we noted above, children also identified bravery as being part of the experience of playing with ordnance. Being brave is also linked to peer group identity. There may be complex group dynamics in the circumstances of any single ERW handling behaviour. In the Kompong Speu data one child sought to stop others from playing with an item of ordnance that they had found. One of the group shouted back that they were “going to play with it and if they died they would all die together.” Discussing health and sexuality in Cambodian society, particularly the role of prostitution, Gorman (1999:31) draws on previous research and survey work that finds “peer pressure is a significant influence in risky behaviour, especially for boys who socialise in groups.” Given the disparity between male and female patterns of ordnance handling, and the links between this and concepts of bravery (see 8.1.1), it should also be strongly considered that adolescent risk taking behaviour is concerned in part with establishing and constructing gender identity.<sup>116</sup> It should also be noted that handling ordnance is usually an illicit or possibly anti-authoritarian practice. This has implications when external actors are working towards behavioural change.

These categories represent familiar themes in the literature of adolescent risk-taking in the west (focusing on such activities as drug use, road safety and patterns of sexual behaviour.) Where MRE projects seek to present positive alternatives to ordnance handling behaviours it is alternatives to these positive outcomes of the risk behaviour that should be the focus of analysis. The economic utility of ERW also helps to reinforce interaction with ERW amongst younger people. These positive social outcomes, it should be remembered, are also bound up with the financial benefit that children can extract from ordnance. This financial benefit is also operating within a social framework of children’s emerging economic identity and independence. Where MRE materials do try to suggest positive social outcomes from alternative practices (i.e. reporting ordnance rather than handling it) they tend to focus on social approval from authority figures (such as teachers) or from external authorities (such as mine

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116. We explore this slightly further in Section 8.1.1, however further analysis would be needed to provide much greater insight into these issues.

action organisations.) The advantage of this is that these groups represent people from whom an appropriate positive response should be expected (though the extent to which it is given in practice remains unknown.) The disadvantage is that these people are essentially external from the social group within which the key identity issues are being negotiated.

Social Learning Theory models of risk-taking behaviour emphasise exposure to high-status individuals who are engaging in risks as creating norms that are supportive of risky behaviour and a sense that risk behaviours are “standard practice” amongst age-mates. However, much of the evidence in this project points to children learning on their own or amongst peer groups. Only two people out of 119 in the KAP survey who had handled ordnance said that they had learned to do this from their parents. Some 86% of people said that they had either taught themselves or learned about ordnance in the military.<sup>117</sup>

A further informative perspective is Lyng's (1990) suggestion that risk-taking for people living in adverse social environments can be a psychological mechanism that counteracts feelings of a broader loss of control. Lyng presents the concept of “edgework” as risk behaviours through which people can negotiate boundaries. Individuals believe that success in these practices rests with their ability to exert control over situations. Feelings of success and self-actualisation that come from the successful conduct of edgework activities reinforce these behaviours and promote repetition. People also come to value the skills that they draw upon in the conduct of these risk practices. Bottomley (2001: 60) describes a few village deminers who admitted to being “addicted” to clearing mines and links this to “an enjoyment of the adrenaline provided through participating in a dangerous activity.” However, Bottomley notes that this experience was only reported by a few informants. Amongst people interviewed during this project grudging engagement with ordnance for purposes of risk-reduction or economic exploitation was far more common than any sense of ongoing risk-taking as a process of social self-construction.

#### **7.1.5 Warning and fleeing**

It is worth noting from the short summaries of Kompong Speu accidents that in a number of them children either warned others that they were doing something dangerous or fled the scene. Other accident survivors interviewed during this project also noted that people had told them that the item that they had was dangerous prior to their accident. The fact that these warnings were given is perhaps more important than the fact that they went unheeded. Warning others and fleeing from unsafe behaviour is one of the central themes of the MRE activities in Cambodia with respect to children and ordnance. It is not necessarily surprising that their warnings went unheeded. Peer relationships with respect to risk-taking behaviour are primarily about exploring or establishing boundaries with respect to what people will and will not do; establishing the division between those who flee and those who stay is part of the

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117. However, it should be noted that in qualitative interviews gleaning the source of people's knowledge was often difficult. People would claim to have learned by themselves information that almost certainly would have had to have come from an external source - even if the process of learning was informal.

actualisation of “bravery” in this context. However, it should be seen as positive that children do have the confidence to walk away from friends who are engaged in activities that they do not feel comfortable with.

#### **7.1.6 Positive risk**

When asked about other “brave” things that they did children identified climbing trees, swimming, fighting and catching snakes. Knudsen (2000) in a brief description of Save the Children (USA) MRE activities in Afghanistan highlighted an awareness of a need to “steer children away from risky activities” by providing alternative play areas. With respect to ordnance contamination in Cambodia there is little feasibility of restricting children’s access to the ordnance contaminated environment. However, Knudsen’s comments do point to the need to think of behavioural change more broadly than as a response to information. Exposure to “positive risk” can be utilised as a mechanism for recreating similar positive outcomes for the individuals, but with limitations on the potential severity of negative outcomes. The key difficulty in this is in establishing an appropriate programmatic response. However, the mine action sector has the capacity to most closely replicate the sensory experience of detonating ordnance. Children can be given access to that experience in a safe and controlled manner. This could also be used to address the key knowledge-based problem for MRE with respect to ordnance which is to communicate the power of explosives in a comprehensible form. An additional challenge would be to establish a social framework for that experience that further reinforces safe practice as more positive than handling ordnance.

## **7.2 CONCLUSIONS FROM THIS SECTION**

This section has suggested that social motivations for risk-taking behaviour should be played down by comparison to their prevalence within the casualty surveillance data. At the same time, the section emphasises the need to look at the positive outcomes of risk-taking behaviours. This is particularly important where risk education programmes seek to provide alternatives to the behaviours that they seek to stop. Such approaches should provide alternatives to the positive outcomes and meanings of risk behaviour as experienced by the practitioner rather than simply alternatives to the risk actions in themselves. Such positive outcomes can, of course, include positive economic outcomes as well as positive social outcomes.



## **8. CONDITIONING FACTORS**

This section looks at some of the broader social themes that condition or modify people's interaction with ordnance. We look primarily at gender, local protection beliefs and issues of social authority.

### **8.1 GENDER**

One of the most striking aspects of the casualty data is that women suffer so few ordnance casualties compared with men. The roots of this can be seen in the fact that far fewer women handle ordnance that they encounter (see Figure 15.) This research is not able to cast any dramatic light on this pattern other than that it is linked to ideas about bravery and more general constructions of what are male and female roles. Even where women did handle ordnance this rarely meant that they challenged the basic assumptions that handling ordnance was primarily a masculine activity.

Bottomley's work with informal deminers presented similar patterns although she also notes that sexual division of labour is not strict, and that women do also undertake high risk tasks. She notes (2003: 32-33):

Mine-clearance is predominantly an activity that falls within the sphere of men [...] The male orientation of the activity relates both to the division of labour within Cambodian households and also the fact that most village deminers learned their demining skills in the military [...] This is also reinforced to some extent by social attitudes towards appropriate and valued behaviour for men and women. Many village deminers stress that they do not allow their wives or children to go near the areas where they are clearing mines because of the dangers involved, thus acknowledging that high risk work belongs in the male domain.

In line with Bottomley's broader findings, research for this report did find women who handled ordnance, sometimes systematically, and there was certainly no sense that these women were breaching any strict

code regarding appropriate or inappropriate behaviour. However, in general ordnance handling behaviour is much more common amongst men than amongst women.

### 8.1.1 Bravery

Many respondents, men and women alike, reported that women were not brave and that this was the reason that they tended not to handle ERW items. 89% of respondents stated that men who handle ordnance are brave - it is a prerequisite of this behaviour. On the other hand 82% of people said that the reason women did not handle ordnance as much as men was because they are not brave.<sup>118</sup>

One woman in Rovieng Village, Pursat Province, was able to name all of the mines and ordnance illustrated on the identification chart used by the research team. She had previously lived with a man in Khmer Rouge and said that she used to ask him the names of the different items. However, despite her knowledge of different mines and ordnance she reiterated the general sentiment that women were not brave: "Most women are not brave. If something can make people die then they are afraid." She suggested that most of the men had been soldiers and that this made them better able to handle ordnance. Although Cambodia had a few women soldiers, she thought that most of them worked as cooks.



**The child's mother complains that it is impossible to stop him from playing with bullets from a box they keep under their house - a piece of string would solve the problem immediately.**

In Section 7. we looked at social motivations for contact with ordnance, primarily in relation to "playing." In that context we saw expression or enactment of bravery as one of the positive outcomes of successful ordnance handling behaviour (rather than simply as a pre-requisite to such behaviour.) It should be considered that the particular prevalence of ordnance handling (and related accidents) amongst men and boys results from ordnance handling being part of the construction and expression of gender identities. Adolescent boys then can be seen to be a particularly vulnerable group due to the potential role of ordnance in relation to their emerging economic and gender identities.

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118. Bravery is generally seen as a positive virtue for men.

### 8.1.2 Technicality

Those people who did not identify bravery as the reason for men handling ordnance more than women related this instead to women lacking the skill or knowledge to handle ordnance. Gorman (1999: 45) emphasises the concepts of “technicality” with respect to the division of rural labour between men and women. She notes:

Among adults, there is no strict sexual division of labour, but “where there is an engendered division of labour, it is constructed around the idea as to what constitutes physically demanding labour or what constitutes technically induced forms of knowledge” (Halcrow, 1994). [...] Work which is seen to be technical, or to involve large machines or tools, is also perceived as male.

She goes on to note that “male activities involving tools are valued more highly, because tools are associated with complexity and are considered to require skill and knowledge” (Gorman 1999: 49). Such background perceptions may also inform ordnance handling activities. However, as we noted above, bravery was by far the most prevalent concept used to explain the differences between men’s and women’s behaviours.

#### CASE STUDY

Systematic handling of live ordnance by women is generally rare. However, one woman in Trampoung Village, Odtar Meanchey, regularly collected scrap metal from live ordnance with assistance from her daughter.

She explained that she had seen people handling ERW items without having a problem. Other villagers told her that she could collect scrap metal this way and sell it in the village. Her husband had died and she expressed this as indicative of further responsibility on her to provide for the family. The scrap metal shop she sold to in the village was buying at 500 riel per kilo - though the price fluctuated and was set by the dealer in Anlong Veng. They could collect between 10 and 20 kilos at a time providing her with up to 10,000 riel. This is nearly three times as much as a person could earn for a day of paid *chamkar* labour. They buy food and rice with the money that they earn.

If the ordnance has a fuse then they burn it in the forest. They collect a few items together, maybe only two or three, and build a wood fire over them. Then they run away. They suggest around half a kilometre is a good distance, but it is hard to be sure in the forest. They hide together behind a termite mound - the bigger the better. The forest is the best place to burn items because there are no other people around.

She will not move items that are partially buried or that look too new. If they look new they are more likely to work. A man listening to the discussion says he would only move items if they have no fuse in the front and the back. She says that men know more about the danger and have more skill. Her daughter says that she is afraid every time she moves an item for the first time, she is afraid every day.

They moved to the village from Kompong Cham in 2003. Previously they had very little land and she knew people in this village and had heard that there was a lot of land available here. She started collecting scrap metal in March 2004. She says she was afraid at first, but all the households in this village have someone out collecting metal. They are afraid of mines also, but always follow the paths.

Like all of the villagers here, she has rice fields, but cannot use them without getting a tractor to plough the land and clear the trees. They cannot get a tractor to work on the area because the owners are afraid of the mines. Now she is clearing vegetation from her own *chamkar* land and will plough it before sowing rice. This is new land and will be her first rice crop since she moved to the village. She is worried that there will not be enough rain.

In the case study above, the respondent has started interacting with live ordnance for primarily economic reasons. Her economic circumstances are dictated by problems within the community as a whole (such as the mines blocking use of the rice field land,) vulnerabilities inherent in her position as a new arrival in the village (which means she not yet planted a rice/*chamkar* crop) and her personal circumstances as a single parent. Her statement that men have more knowledge of the danger and more skill at handling ERW items falls into line with common expressions from both men and women regarding gender differences and ordnance handling.

## 8.2 PROTECTION BELIEFS

That local beliefs about religious and spiritual protection can condition peoples attitudes towards risk-taking behaviour has been widely identified in previous literature (Bottomley 2001, Landmine Action 2002). The following quotation presents an outline of some of the different protection beliefs held in Cambodia:

Most people working in such situation always have “Kru” which means some sort of spirit that protects them. In return they have to take a lot of precautions, in Khmer called *Dam norm* or “contra-indication”, such as not to use words that can be the trigger of accidents, maintaining proper behaviour, not swearing at others etc. Also they sometime have a sort of self-fulfilling prophecy that they always follow (e.g. last night I didn't have good dream, thus a bad thing may happen to me today so ‘I had better take precautions’

or 'I should not do that today'). These people often have tattoos, or Yoan (a piece of cloth from a monk which can protect them), or they wear the fang (canine tooth) of tigers or wild pigs.<sup>119</sup>

Bottomley (2001: 54-55) states that:

"...there are strong associations made between village deminers and various magic 'devices', which are believed to protect the owner from harm. Village deminers often do have tattoos, or keep protective charms such as Pali inscriptions or forest pig teeth, usually obtained during their military days. However, the majority of village deminers interviewed during the qualitative research said that they no longer had any confidence in these protective objects, and that they can only be protected by their own knowledge."

No respondents in the KAP survey or qualitative interviews suggested that religious or spiritual protection beliefs were a significant factor in either their attitude towards handling ordnance or in their behaviour with respect to ordnance. This is not to say that such beliefs and practices no longer exist or condition people's behaviour. However, people generally presented a very straightforward and mechanistic model for what would make ordnance explode and for why accidents happen. Only 15% of people cited bad luck amongst their reasons why people had accidents. Far more (53%) said that lack of care whilst refashioning an item for fishing was a cause of accidents and 42% said that people hitting items of ordnance caused accidents. No protection beliefs were indicated in response to questions about how people can stay safe from ordnance.

### **8.3 DISOBEDIENCE & AUTHORITY - BLAME, SHAME & GUILT**

Handling ERW is illegal in Cambodia. It is also generally considered an inappropriate or negative activity which contravenes public spirited education messages of the mine action sector, village chiefs and other authorities. Some 96% of KAP survey respondents said that people did not respect those who handled ordnance. The primary reason that they gave for this was that they could cause an accident to people nearby. Other people suggested that this behaviour was "insolent" - meaning rude or inconsiderate.

These perceptions condition the ways in which people feel they can discuss their behaviour and practices. CRC data-gathering staff reported that people did not tell them the truth, or were partial with the truth, in recounting the background to ERW accidents that occurred. Village chiefs also reported that people in their village were not open with them about their behaviour with explosive ordnance.

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119. Email from Dr. Sotheara Chhim, Managing Director, Transcultural Psycho-social Organisation (TPO) in Cambodia.

Parents commented that they could not be sure what their children really got up to when they were on their own or with friends.

These patterns of secrecy were linked by village chiefs and CRC staff to issues of authority. Sometimes this was portrayed as a fear of breaching the law. However, further discussion suggested that the reluctance was less formalised than this. Sometimes it was portrayed as “shame” at not following the advice and instructions of the authoritative figures, or a fear of being “blamed” by these people. This again seems to draw upon the knowledge that certain activities are dangerous and are frowned upon. People display a desire not to have to disobey an instruction to stop.

People in poorer communities seemed less likely to be evasive in discussing these issues. In communities where salvaging from ordnance was widespread people tended to talk openly about it, including the village chief. Generally they would express the attitude that they would stop if only they had more land or other alternative resources. Even in such circumstances, apparently open informants might seek to mask certain aspects of behaviour in the village, such as the role of children in collecting scrap from live ordnance. Such attempted misinformation seemed also to stem from a sense of anxiety that children were engaging in dangerous activities with the knowledge and acceptance of their parents.

These sentiments are indicative of people continuing to undertake a practice that they have been warned against. It suggests that even where current risk education efforts struggle to change behaviour they do serve to establish a sense of how external authorities view these practices. These feelings make people less willing to discuss their practices openly; leading to misrepresenting the causes of accidents and possibly an increased risk from the practices themselves.

A story was reported of two brothers aged 12 and 15 from Veal Veng District, Pursat. They were trying to refashion an item of ERW for fishing, but wanted to do it in secret, afraid that people would stop them otherwise. They had an accident, but nobody knew where they were and they were dead when people eventually found them.<sup>120</sup>

People reported that villagers were ashamed to be open about their activities after village chiefs, mine action agencies or other bodies have told people that they should not do something. This was seen by some CRC CMVIS data-gatherers as contributing to the over emphasis on “playing” within the CMVIS casualty surveillance data.<sup>121</sup> Fishing with explosives and scrap metal collection have been stigmatised and some people do not want to admit to these practices. It was suggested that such stigmatisation could also result in some people not going to hospital for their injuries. The following case study

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120. Reported by the village chief of Rovieng Village, Samraong Commune, Pursat.

121. However, these same data-gatherers also expressed the opinion that “cutting open” an item of ERW is the same as “playing” with the item. This suggests that “tampering” and “tampering / to play with it” are almost synonymous.

highlights certain interjections from parents during a process of interviewing two children injured in an ERW accident:

### **CASE STUDY**

Two brothers and another child were injured in an accident in Rovieng Village in March 2002. They were injured by a mortar fuse that they had found. When we met to interview them the father immediately blamed CMAC for not clearing the area of land properly. The organisation working in the village was MAG not CMAC, but this confusion over names is common. He claimed that the children had found the item on an area of land that MAG had cleared. He reported that MAG had explained that they had a technology problem and that was why they had missed this item. As a result, he said, MAG were not sure how many ERW items were left in the area that they had cleared and this was why they had come back again. He said that they had cleared well since the accident.

In reality, the area where the children finally claimed to have found the mortar fuse was not in an area that had been demined by any mine action agency. Other villagers also confirmed that the children had found the fuse outside the area where MAG had been working.

The brothers had gone to visit the Pagoda in Rovieng village. They had found an object that looked like gold near a small road into the village. They picked it up because they wanted to sell it for scrap metal. As they told the story the mother interjected at this point to say that this was the first time they had decided to sell scrap metal. According to the brothers, one of the monks took the item off them and shook it by his ear, listening to it. He then told them it was a fuse and was explosive and dangerous and then he threw the item away.

One of the brothers picked it up again and put it in his pocket. The other, slightly older, suggested that they should burn it and hide while it exploded. However, before they could take this plan further it was time to eat lunch and the younger brother continued to keep the fuse in his pocket. During lunch the boy hit the fuse against the table and it exploded, injuring the two brothers and another boy.<sup>122</sup> He could not recall whether he had hit it against the table deliberately or had dropped it.

The boys revealed that they had collected scrap metal subsequently, (if not also previously) but not from live ordnance. They spent the money from this foraging on clothes, biscuits, "sweet ice" drinks and elastic bands.

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122. This accident was recorded as "tampering / to play with it" in the CMVIS data. The appropriate designation is unclear in some ways and "playing" might well be most appropriate. However, this does overlook the economic motivation that brought them to pick up the item originally.

As well as providing a good illustration of some of the complexities involved in ascribing motives to accidents, this story further illustrates some of the social difficulties people have in relation to handling ERW. The father wanted to explain the story primarily in terms of the failure of outside agencies - specifically a "technology" failure. The mother wanted to assert that they had not tried to collect scrap metal before; suggesting either that they were not aware of the dangers or that the parents had not been remiss in failing to stop their children or to warn them of possible risks.

Parents do not want to be blamed for failure adequately to warn or protect their children. Individuals (whether adults or children) do not want to be blamed for disobeying the instructions of authority figures. People will seek to place the blame for accidents on the failure of external interventions (either undertaking clearance or mine risk education). Whilst there may be failings within those external interventions this should not be allowed to stop communities from accepting their own responsibility to manage these issues themselves. However, as we have already noted the current mine action messages are not focused towards instilling this responsibility within communities but instead focus all responsibility on the external agencies. This structure is impeding the ability of mine action agencies to get beyond their current "don't touch" stance and reinforcing the dependency of the communities themselves.

These issues are pertinent both to our critique of current responses and efforts to recommend new responses to deaths and injuries caused by ERW contamination. The authoritative approaches of mine action organisations can result in communities seeking to ascribe to these organisations ownership over the landmine / ERW contamination 'problem.' The mine action agencies in turn tend to appropriate these problems for themselves, through narratives that demand rural populations do not seek to address their own problems, but should wait for professional external assistance. Whether you are stuck in a minefield, worried about whether it is safe to farm your rice land or finding an item of ordnance the message is basically "stand still and call for help."

## 9. CHANGE OVER TIME

### 9.1 PERIODS OF COMMUNITY DEVELOPMENT

Different communities analysed during this study had experienced different conflict histories. Whilst in some areas villages had been established for over 20 years, others were only some three or four years old in their current form. These different locations, and people's narratives about the changing circumstances in their locations, are suggestive of how a community's relationship with ordnance can change over time.<sup>123</sup>

Drawing on narratives from all locations, certain possible phases might be summarised as follows:

- **Clearing land** - during the period in which a village is being established or re-established in the wake of conflict, vegetation needs to be cleared for housing and agriculture, levels of ordnance contamination are at their highest because nobody has addressed the problem and there is ordnance in the immediate vicinity of housing land. People respond through risk-reduction practices. If there is a mine action capacity available they are likely to use it to address these items. However, if no such capacity is available or the capacity is not responsive they will address the problem themselves usually by moving and burning the items.
- **Establishing an economic base** - people are likely to be economically vulnerable until they have established a base of rice and *chamkar* land. Other people in the village may have no claim on land and will be reliant on foraging, wage labour, or other practices. Whilst people are working to establish an economic base they need to find sources of income and scrap metal represents a resource with a market. As described in section 6.3, people will tend to take the safe items from safer locations first and foremost.

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123. This is not to reduce all ordnance-affected communities to a single linear model and it is not to underplay the way that the specific trajectories of individual households may affect their relationships with ordnance contamination.

- **Marginal economies** - if the majority of people in the village are able to establish an agricultural base and engage in other secondary economic activities (such as wage labour) the economic motivation to salvage from ordnance tends to become a marginal economic activities. The items may be found further away and there may be a shortage of safe items that can be sold directly. They may become the focus of children's economic activities in secret from their parents.

Another key dynamic force conditioning these economic roles of scrap metal and by extension ordnance, is the price at which it is being bought. With the buying price capable of substantial fluctuations, and being unrelated to any parallel changes in local costs, it is possible for price changes to have a very significant impact on the economic value to be found in salvaging from ordnance.

## 9.2 OTHER FACTORS PROMOTING CHANGE OVER TIME

### 9.2.1 Vulnerability as a dynamic experience

People's experience of vulnerabilities that may promote deliberate handling of ordnance are dynamic rather than static. There are a range of events that may place increased strain on the individual or household economy. Family members fall sick and people need to buy medicine to treat the illness.<sup>124</sup> This may mean selling an increased amount of the household rice crop, drawing on credit or assistance available from local reciprocity groups, or it may mean hunting out and burning some ordnance in order to sell it. The former option, drawing on the investment of labour that the rice crop represents, leaves a gap in the household economy that must still be filled over the months ahead. The latter option can be done at no cost to the household other than the time and risk involved. It is not only illness that can increase cash needs, specific schooling costs, weddings and other social functions can all demand increased cash. It is important to recognise that, in such constricted economies, individual circumstances can change quickly.

### 9.2.2 Reduced opportunities

A key factor in the changing relationship between a community and ERW items is the reduction in the amount of ordnance over time. Whether destroyed by villagers, destroyed by mine action agencies or sold to scrap metal dealers, many communities reported a reduction in the amount of ERW as a key factor in reducing their contact with these items. Even in communities where salvaging from live ordnance continued and was prevalent people were anticipating a point when there would no longer be

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124. As has been noted previously, malaria was frequently cited in some areas as a persistent cause of illness for which medicines needed to be bought.

sufficient metal to sustain this as a practice. It is a finite resource which may become difficult to systematically exploit as it becomes less easy to find<sup>125</sup>.

### **9.2.3 Changing culture**

The presence of soldiers in certain communities was seen as increasing the levels of contact with ERW items. Other communities specifically reported that handling of ordnance had declined since soldiers had moved away from the area - particularly fishing with explosives.

The introduction of the scrap metal trade into a community can also have a wholesale impact on ordnance handling practices. It was only after the introduction of the scrap metal trade into Trampoung village that salvaging from live ordnance became a systematic practice. Previously contact with ordnance had been in an effort to establish usable land for housing and farming and people had sought to report items for destruction by external parties.

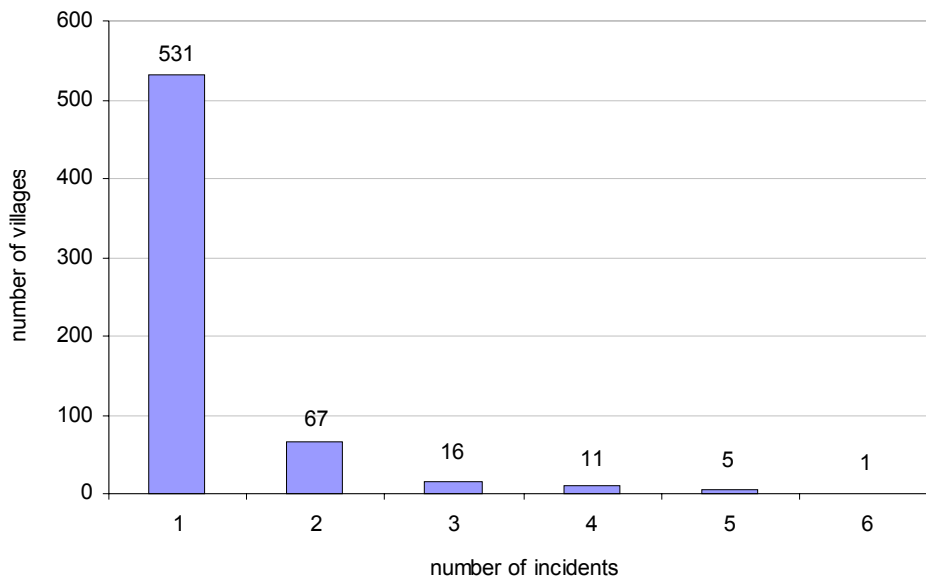
### **9.2.4 Accidents as a disincentive to continued contact with ordnance**

The power of explosives is unlike any force that people experience in daily life. It is impossible for people to conceptualise the forces involved unless they have seen or experienced them for themselves. For children particularly, this lack of perspective means that they cannot fully realise the capacity of a small, inanimate object to cause massive damage. The experience of an accident in a village can also be horrific with people sustaining injuries of shocking severity. It is not surprising then that the occurrence of an accident in a village often has a significant impact on people's activities. People frequently reported that handling of live ordnance had declined subsequent to the occurrence of accidents.

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125. It is worth noting that increased use of metal detectors may prolong the period over which metal and ordnance may be systematically drawn upon as a resource.

**Figure 38. Incidence of “tampering” accidents in the same village, 1999 - 2003.**



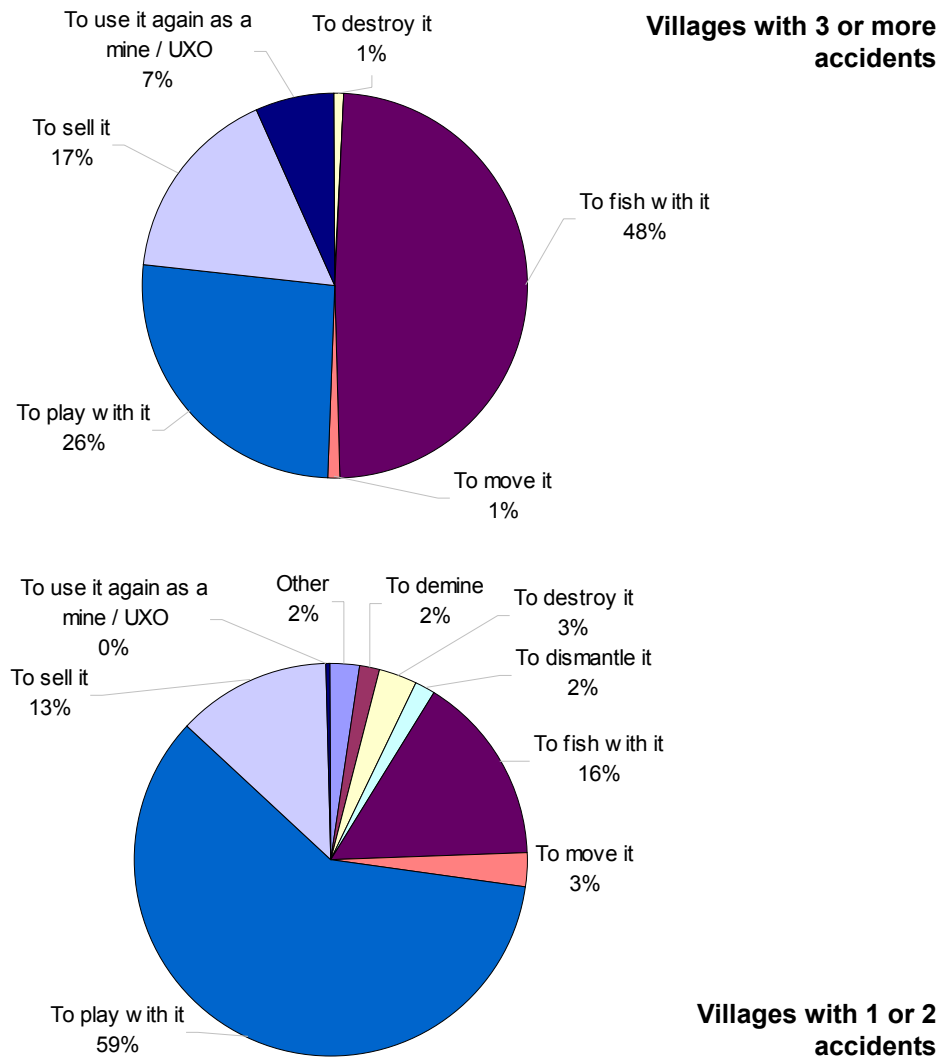
The chart above illustrates the extent to which individual villages experienced multiple accidents from deliberate handling of ERW.<sup>126</sup> It clearly emphasises that out of 631 villages where ERW “tampering” accidents were recorded a large majority (83%) only experienced one accident within the last five years. Most villages that have had such an accident have only experienced one such accident. Only 100 villages in the whole country have had more than one “tampering” accident over the last 5 years and only 33 villages have experienced more than two accidents.

On the basis of this data an analysis can be made between the pattern of motivations reported in the CMVIS data as underpinning “tampering” accidents for villages experiencing multiple incidents. This is illustrated in the charts below and compared with the motivations for casualties in villages that only experienced one or two accidents in the same period.<sup>127</sup>

126. Data drawn from the CMVIS data-set as discussed in the introduction.

127. This comparison only draws on data for which a sub-category of “tampering” was reported. Of 202 casualties resulting from the accidents in villages that had three or more incidents during the period nearly 50% did not have a sub-category recorded.

**Figure 39. CMVIS recorded “tampering” casualty details from villages that have had 3 or more ERW “tampering” accidents compared with villages that have had 1 or 2 accidents, 1999 - 2003.**



Fishing with explosives is far more prevalent as a cause of accidents in villages that experienced three or more incidents than it is in villages that experienced only one or two incidents. Fishing with explosives is an economic activity, but it is also generally the preserve of soldiers or former soldiers. “To use again as a mine or UXO” also presents more highly in these villages and this is also likely to be linked to military personnel. These features suggest that the re-occurrence of accidents is likely to be reinforced by high-risk practices that are economically driven and specific to a particular culture within the population. The motivation that most dramatically decreases between these two comparisons is “playing,” though it still accounts for a significant proportion of the casualties. However, as has been noted elsewhere, we should be aware of other motivations that may underpin playing activities.

It is not possible to assert from this data alone that the occurrence of an accident reduces deliberate handling practices. However, the difference in the motivations as presented here does suggest that

high-risk behaviour persists more often when it is driven by economic value. The link between fishing with explosives and soldiers also suggests a cultural background of familiarity with ordnance and acceptance of high-risk behaviours. As we have already noted, people often reported the experience of local accidents as a disincentive to ordnance handling.

# 10. FORMAL RESPONSES

“Based on the current data and clearance rates [...] it is anticipated that mine action operations will need to continue at the current level [until] 2020. So, it is assumed that sustainable efforts will be maintained in clearance and mine risk education, especially for UXO, for this long period of time.

Even beyond this point, it is probable that a reduced capability [...] will be needed to deal with smaller or lower priority clearance tasks and numerous UXO for possibly as long as a further 50 years.”

*National Mine Action Strategy, Assumptions regarding Sustainable Efforts (CMAA 2004: 6)*

According to the Landmine Monitor Cambodia (2003: 12) the cost of mine action in Cambodia was around USD 30 million *per annum* in 2002. Clearly the sustainability of mine action as it is currently structured, over the period forecast in the National Mine Action Strategy, presents a challenge to the external governmental and international donors who foot the bill for most of this work. The Cambodia Mine Action and Victim Assistance Authority (CMAA) is mandated by the Cambodian Government to coordinate mine action activities in the country. As such it is the key body responsible for developing the long-term strategy through which this sustainability will be ensured. This report suggests certain areas which need to be addressed within the national mine action strategy if this work is to be structured so as to meet the needs of affected communities. Although the responsibility for this lies with Cambodian institutions, most importantly the CMAA, donors and international mine action implementers should be engaging with these issues. Mine action in Cambodia is undertaken in accordance with externally developed models; if these models are inadequate then external bodies should be involved in developing alternatives that may be more appropriate and effective.

This report seeks to examine people’s deliberate handling of ordnance, as a cause of accidents, in relation to the broader structures of Cambodian economy and society rather than only in relation to the traditional structures of mine action.<sup>128</sup> Deliberate handling of ordnance is one of the most prominent

causes of mine and ordnance accidents. However, it is an important recommendation of this report that the prominence of this as a cause of casualties should not divert resources away from the more fundamental requirement for landmine clearance. The economic constriction caused by landmines is, in some communities, one of the underlying factors that promotes greater reliance on foraging practices and deliberate contact with ordnance as a component of this. However, this reaffirmation of the focus on landmine clearance must be seen in the context of fundamental problems in the capacity of the current mine action institutions to address the needs of affected communities at an appropriate cost.

The traditional structures of mine action in Cambodia cannot effectively address these problems over the long term and at an appropriate cost without themselves being reorganised and without broader responsibility being taken up by key organs of the Cambodian state. The Royal Cambodian Armed Forces (RCAF) need to be brought into an effective relationship with the CMAA and the overall processes of mine action planning and coordination. RCAF should provide a key pool of human resources through which to address landmine contamination; a process which would have further benefits through supporting the reconfiguration of the armed forces in Cambodian society. The police need support for the positive role that they are currently playing with respect to ordnance contamination and programmatic engagement so as to develop this role further. The police have a national structure that make them well suited to act both as a national reporting mechanism for ordnance and ultimately as a national EOD capacity. The police structure makes them better suited to this role than the army. Very importantly, greater attention needs to be given and support provided to the role of the police in managing the presence of ordnance in society as an issue of public safety and law enforcement. These requirements with respect to the army and the police are fundamentally linked to the commitment of the Cambodian state to addressing its own problems and the capacity of CMAA to drive forward such commitment.<sup>129</sup>

Cambodia needs a mine action strategy that recognises the necessity for engagement of these broader institutions and lays out possible processes through which it could be enacted. It also needs to evolve

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128. Durham *et. al.* (2004: 11) have also stressed the need to look at the breadth of possible interventions in relation to risk-behaviour and behaviour change. With respect to an evaluation of Mine Risk Education in Lao PDR, Durham concludes: "The third lesson was that, in order to reduce risk and prevent injuries, a broad range of interventions are needed. [There needs to be] understanding[...] about the influence of a broad range of actors, including politicians, donors, service providers and mine action professionals themselves as well as those directly affected by mine and UXO contamination." See also ANNEX: A which presents a diagram developed by Jo Durham which further emphasises the range of fora within which solutions need to be enacted in order to promote the adoption of safe behaviour.

129. It should be noted that the engagement of the police and the army would be part of an overall process of security sector reform in Cambodia. As has been stated in DfID's guidelines on Understanding and Supporting Security Sector Reform (DfID, 2002), "a badly managed security sector hampers development, discourages investment and helps to perpetuate poverty." This DfID document identifies seven key areas for programmatic engagement in security sector reform: "building public awareness and engagement; building strategic planning capacity; strengthening legal and constitutional frameworks; strengthening civil oversight mechanisms; strengthening financial management systems; facilitating war-to-peace transitions; improving human resource management." All of these could be engaged with through further structured engagement of the police and the military in the process of mine action (in its broadest sense.)

mine action structures that can implement this work more cost-effectively than is possible under current arrangements. In support of this, international mine action organisations should continue and develop their role in proposing and evaluating new models for the organisation and costing of mine action work. After more than a decade of mine action in the country, international agencies are still capable of developing operational models that greatly increase cost-effectiveness. Whilst these developments should be built upon they should also remind us that this room for improvement has been present within current operations for some time. Cheaper models of clearance and greater acceptance of risk-reduction methodologies present two of the most promising strands for the development of mine action responses.

Although this section discusses issues relating to current mine action and other structures relevant to the issue under study it was not possible in the scope of this project to analyse in detail the wide range of programme activities being undertaken in Cambodia. In the light of this, this section should be seen as presenting notes and suggestions regarding current practices that inform the development of our recommendations.

## **10.1 MINE RISK EDUCATION**

The National Mine Action Strategy for Cambodia (CMAA, 2004: 12) states that MRE “will be properly planned to address the greater number of accidents due to tampering with UXO.” It is reasonable to assume that deliberate handling practices would be susceptible to prevention through mine risk education. After all, people are choosing whether or not to engage with an item that they can see. Davies (1997: 247) predicted that young people's accidents as a result of deliberate ERW handling would come down in response to MRE programmes. The GICHD (2003a: 11) also suggest that accidents as a result of deliberate contact with ERW “should typically be easier to prevent than mine accidents due to lack of knowledge of the location of mines.” The casualty data in Cambodia suggests, however, that deliberate handling activities are not so easy to address through current mine risk education practices as might initially have been thought.

As we have noted in the introduction to this chapter, this project did not seek to undertake an evaluation of different MRE projects being implemented in Cambodia and the comments and suggestions presented here are based primarily on evaluation of materials rather than practices. It is important to note that different communities present different needs with respect to MRE. It is also important to state that it is not possible to determine the extent to which current casualty levels are being effectively reduced by the ongoing MRE processes being implemented in the country.

### 10.1.1 Message-based MRE

MRE in Cambodia has tended to be a “message-based” process. Recipient populations may be engaged in more or less participatory ways, but the central aim has been to communicate to them a knowledge of the danger and a set of “dos and don’ts” regarding how they should behave in relation to objects in their local environment.<sup>130</sup> This process generally means that agreed messages are established centrally<sup>131</sup> and then disseminated through various channels. The messages do not differentiate between safe and unsafe items of ordnance and they do not suggest any ways in which ordnance can be handled in a more or less safe way. That this is the case is not surprising. External bodies are afraid of appearing responsible if they tell people a safer way of handling ordnance only for them to subsequently suffer an accident.<sup>132</sup> The mine action sector has been determined not to present external messages or undertake practices that could be seen as providing an incentive for people to handle ordnance, or be seen as undermining the message that handling ordnance is fundamentally dangerous.<sup>133</sup>

A key problem for formal mine action agencies lies in the contrast between an institutional commitment to the absolute reduction of risk (in relation to the outputs of their work) and the ongoing experience and negotiation of risks by people living in affected communities. A second important issue is the sector’s appropriation of responsibility for community behaviour, when in reality the responsibility must be firmly established as residing with communities themselves.<sup>134</sup> Without (re-)establishing that communities are themselves responsible for managing ordnance handling behaviour the mine action sector will fail to provide more valuable forms of assistance and will reinforce and maintain dependency relations that can already be seen to be developing with respect to these issues.

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130. This comment is made in terms of MRE as an educational process rather than as a broader liaison process between communities and other components of the mine action ‘toolbox.’

131. Although mechanisms of communication and certain degrees of “shading” regarding the messages may be developed through consultative processes in the field, the applicability of core messages - such as “don’t touch ordnance” - are rarely ever questioned.

132. Responsibility for failing to tell somebody how to undertake an action more safely is not felt by implementing agencies because the victims have usually transgressed the core message - “do not touch” - thus making the accident their fault. Responsibility is not felt or apportioned *even though* almost all mine action bodies would profess to understand how dire economic circumstances (for example) can impose on people *the necessity* of undertaking high risk behaviours. All this is rationalised in terms of “not wanting to encourage people” by giving them false confidence. The real problem in all this lies in the issue of who is responsible, and this is a key issue we tackle in this Section.

133. For this reason MRE presentations have often used wooden model mines (rather than free from explosives mines) and have emphasised that even these should not be handled during presentations.

134. This should not be confused with a “victim-blaming” approach. “Victim blaming” is generally understood as a societal bias towards seeing negative outcomes as purely the fault of the individual rather than seeing broader societal responsibility for these outcomes. The emphasis here on establishing community responsibility is opposed to such an approach and moves instead towards “a balance between acknowledging personal responsibility and societal duty” (Hanson *et. al.*, 2002: 21.)

Figure 40. MRE Leaflet regarding ERW

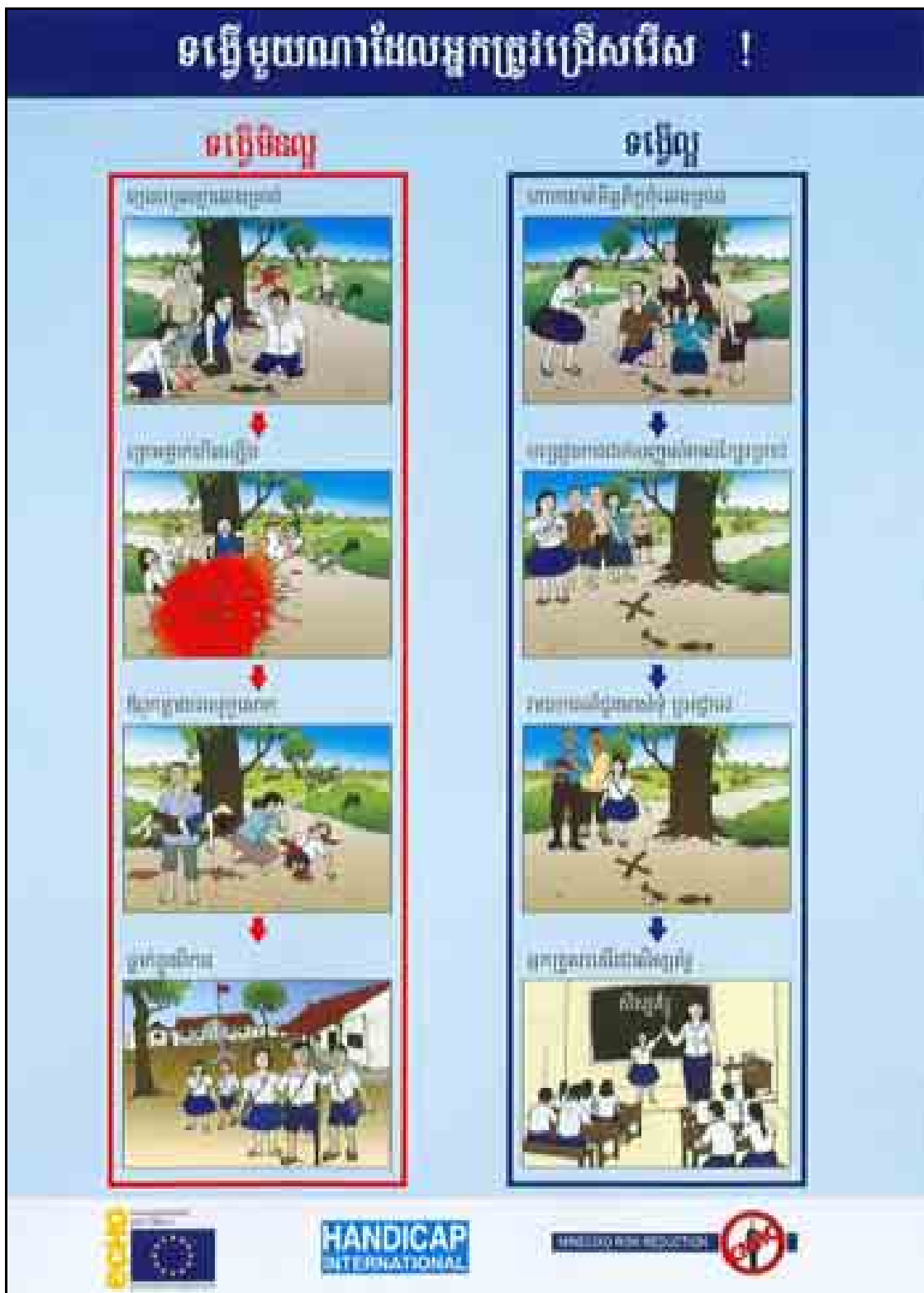
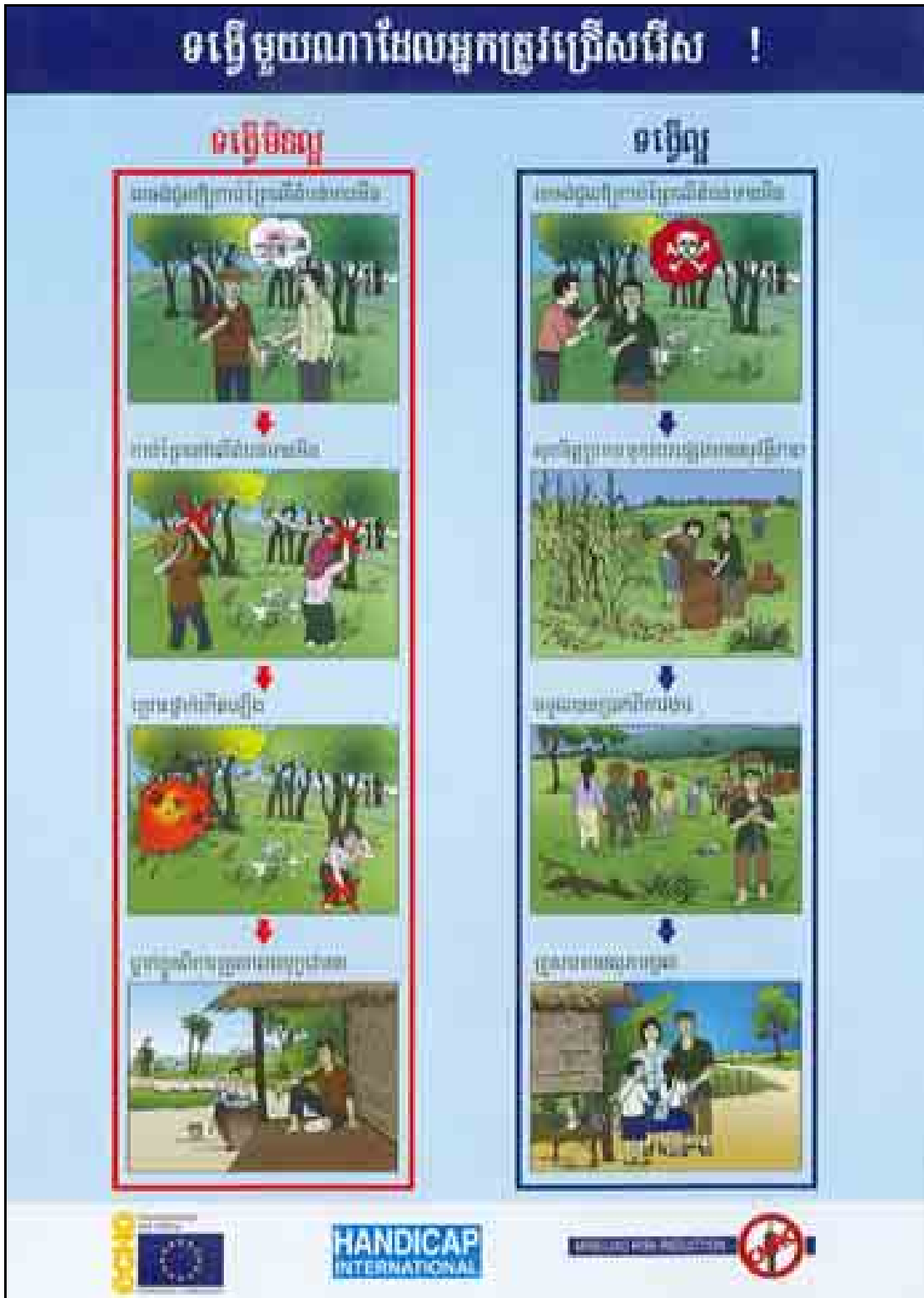


Figure 41. MRE Leaflet regarding landmine contamination



The key MRE messages in Cambodia are that people should not touch ordnance or enter areas suspected of being mined. The strongest materials seek to present a positive alternative to the actions that they are trying to stop. This is generally accepted as good practice within the sector but further attention could be afforded to understanding what constitute alternatives to the *positive* outcomes of risk behaviours.

In Figure 40, the children are encouraged to persuade their peers not to handle the ordnance. Instead they should mark the location with sticks and tell responsible adults. The final frame suggests that such actions will be rewarded with admiration and praise from their teacher. This is contrasted with the death and disability that result from handling or striking the ordnance. In Figure 41, a man is approached to work on land that contains mines. In the negative panel he thinks only of the money and suffers disability as a result. His family work hard as he watches on. In the “positive” panels he thinks of the threat from mines. He chooses a different job, gets paid and is happy with his family.

These story-boards are fairly typical of MRE materials in Cambodia and elsewhere. It should be noted that MRE does not consist of such materials in isolation and that the materials are there to reinforce presentations or discussions. Our examination of the attitudes, practices and circumstances of people engaged in handling ERW items casts a useful light on the utility of some of the standard MRE messages. Many children handling ERW items are motivated at least in part by possible financial gain - something that is rarely represented in MRE materials. Where demonstration of bravery is one of the motivating factors ignoring the warnings of “cowardly” children may be part of the process. As we noted in Section 7.1.5, children warning others and fleeing in advance of accidents occurred a number of times within the “playing” accidents investigated in Kompong Speu. In other situations collecting scrap metal from ordnance may be providing one of the few economic alternatives to working or foraging on mine contaminated agricultural land (and may be considered a more controllable or manageable risk.)

Bottomley (2001: 61) notes that “there appears to be a basic contradiction between the fact that villagers are told not to touch mines, but at the same time the assistance that can be provided to them in terms of mine clearance is ultimately limited and inadequate. The educational messages fail to address the reality of the village situation and do little to help address the socio-economic motivations that drive people to clear mines in the first place.” A similar criticism has been made by Filippino (2000) though not specifically in relation to Cambodia:

“Intentional risk-taking is more nuanced and poses the greatest challenge when designing behaviour modification strategies. Fate, feelings of invincibility, adventure seeking, and, often the most common, economic necessity are all factors leading to intentional risk-taking, which has often been ignored in the messages and strategies of mine awareness campaigns. Linking mine awareness to the pantheon of development activities is the only viable way to provide real options to those living in a mine-

contaminated environment. It is not adequate to give a series of negative messages on what an individual cannot do while never offering any alternatives for meeting the very survival needs that are motivating the dangerous behaviour.” (Filippino, 2000)

Wheatley (forthcoming: 22) states that messages that are unrealistic or that do not take into account local circumstances cannot be expected to be effective:

“Ultimately much of this debate has been of limited value. Circumstances vary substantially and it is necessary to remember that *MRE is a process of negotiation* with the affected community. As such messages must be realistic and credible if they are to be acted on. In circumstances where it is crucial to tailor messages to the needs of one particular community the message promoted will vary depending on circumstance and current strategies and requirements of that community.”

There has been very little negotiation on behalf of the mine action sector regarding practices that breach the sector’s directive not to touch ordnance however. The issues surrounding this are not new and are by no means limited to the mine action sector. Health education programmes seeking to address drug use in the west have for some time had to negotiate between a desire to promote abstinence and a realisation that people will not always embrace this. Where people persevere with high-risk behaviour, health education and promotion programmes have been implemented that seek to reduce the risks associated with this behaviour. Such programmes have at times been subject to criticism from the political “right” for “promoting” unsafe behaviour, but it is broadly acknowledged that such programmes are necessary if the most vulnerable populations are to receive meaningful assistance. The mine action sector is yet to effectively develop programmatic responses in terms of MRE that accept ordnance handling as an ongoing practice and support communities in reducing the risks inherent in these practices.

Even within the current abstinence based approaches, many MRE programmes fail to present genuine alternatives to the positive outcomes of successful risk behaviour. Centrally established “messages” cannot really direct people towards alternative sources of income in their local environment because they cannot incorporate the economic options that are really available to individual recipients. Even more distinctly, MRE messages cannot provide an alternative to the sensory excitement, sense of bravery and negotiation of peer group relationships that successfully detonating an item of ordnance may provide to a group of children.

MRE messages also tend to rely on representations of death and injury as the negative outcomes of risk-taking behaviour. However, unless they have experienced it directly the power of explosives remains an abstract concept to the recipients of such messages. It may be difficult for children to imagine the explosive forces that constitute the relationship between small items of ordnance and the representations

they are shown of death and injury.<sup>135</sup> Messages rarely draw on other forms of community sanction that could be applied even when people are not killed and injured as a result of such behaviour. The lack of an established sense of community (and legal) sanction against unsafe behaviour is part of a persistent failure to establish that communities are themselves responsible for the effective management of these issues.



An amputee child stands slightly behind a mine sign with two cartoon characters. The instructive text at the bottom says: “you have another choice so you must not touch it.” The image seeks to re-emphasise the last point of a mine risk education TV advert.

### 10.1.2 Community responsibility

As we have raised previously, fundamental questions need to be asked regarding the extent to which the responsibility for people’s behaviour in relation to ordnance in their environment should be residing with external agencies. Household and communities who have been living for some time in an environment contaminated with ordnance should themselves be responsible for establishing a framework of what is and what is not considered acceptable and responsible behaviour. By establishing such a framework at a local level, the incongruence of centrally established “messages” can be avoided. Furthermore, responsibility resides with the community for determining the forms of behaviour that are unacceptable and for calling on the police to exert an appropriate authority over those who transgress these boundaries. In this way villagers could (for example) decide that it was inappropriate for people to

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135. It is also notable that almost all MRE materials used in Cambodia use cartoon representations of death and injury rather than photographs of actual accident victims or survivors. Whilst it is understood that real photographs present particular difficulties and requirements for sensitivity (and are sometimes held to desensitise recipients if presented too often) it might need to be considered that such representations may provide a more immediate sense of the power of explosives.

bring live ordnance into the village itself because this increased the likelihood of injury to other people. They could decide that children selling scrap metal in any form was too dangerous and they could liaise with the police and scrap collectors to enforce this. They could discuss the relative dangers of burning ordnance without moving it or digging a hole and burning ordnance inside the hole. If the responsibility for establishing the boundaries of this debate resides with the local community then there is much greater flexibility to establish a framework that recognises the specific local circumstances within which people are operating. In order for this to be effective other social institutions, notably the police, need to be supported to develop the capacity to enforce current and proposed legislation relating to ordnance in society in an appropriate way.

On a number of occasions during the research of this report local people placed the blame for accidents on external mine action partners. The people who made these claims were sometimes quite misleading in their representation of the events, but their efforts were indicative of a desire to establish that responsibility for their own or other people's behaviour resided with external parties. Given the duration over which ordnance contamination is going to persist in Cambodia it is of fundamental importance to establish that the responsibility for transferring knowledge regarding dangerous items and for policing dangerous behaviours lies with affected communities themselves. Establishing and monitoring models for the facilitation of such processes at a local level could lie either with the mine action sector or with the broader social development sector. However, the role of external organisations should be facilitation of the process based on local discussion of risks and risk practices.

This process should be clearly separate from other mine action resources so as not to promote the continued perception that management of these risks was fundamentally an external responsibility.

**CASE STUDY: Behaviour & Authority**

Sarim, formerly a Community Liaison Advisor for MAG in Kompong Thom and now Regional Manager for Battambang, reported a process that he used to address persistent ordnance handling by a 14-year-old boy near Kompong Thom. The boy regularly reported items of ordnance near to the village, but Sarim suspected that he had been bringing them to these locations himself. He investigated amongst other people in the village and found that the boy was known to be unruly and often threw items of ordnance against trees and engaged in other dangerous behaviour. On a subsequent visit Sarim brought jos-sticks with him. The same boy reported another item to him and they went together to verify that the ordnance was indeed there. When pressed the boy admitted that he had brought the cluster-munition into the village from where he had found it in the forest. Sarim persuaded him that they should pray together that the next time the boy handled an item of ordnance it would explode and kill him. There were no further reports of this boy handling ordnance.

In the process described above it still falls to an external party to act to address known problem behaviour occurring within the community. Other people in the village know that the boy has been behaving dangerously but have not enacted any strategy to deal with it. The religious beliefs that provided the extra authority needed to change this boys behaviour however, are available to all people within the community should they see it as valuable to draw upon them in this way.

Sarim's response to this situation was not drawn from an MRE programming manual. It used instead an instinctive sense for how authority could be drawn upon and exerted within rural Cambodian society. At a household level, parents need to take responsibility for investigating and understanding the behaviour of their children and for talking to them about their behaviour. Discussions with children during the research of this report did present parental discipline as an important consideration in children's behaviour - even though there were times when children admitted that they might not act in accordance with their parents wishes. Parents should be told that children seek to undertake ordnance handling behaviour in secret from them (though there are certainly plenty of parents who know this already). Communities should also be informed of what ordnance looks like, that these items are dangerous and how technical assistance can be called for. However, beyond these basic issues of knowledge, responsibility for managing this danger over the long term needs to reside with the affected communities themselves.

## **10.2 EXPLOSIVE ORDNANCE DISPOSAL**

Explosive ordnance disposal (EOD) is the standard technical response of the mine action sector to the presence of unexploded or abandoned ordnance. CMAC and MAG both provide mobile, responsive capacities to address reports of ordnance contamination. Whilst it may be considered necessary to undertake sub-surface search of ground (in a process similar to landmine clearance), much EOD work is undertaken on a responsive basis - with a team travelling out to destroy items of ordnance that have already been found. A key requirement for such work then is for affected communities to know of the presence of this service, to be able to contact it and for the service to respond in a manner that meets the needs of the affected community (both in terms of timeliness of response and in terms of the nature of this response).

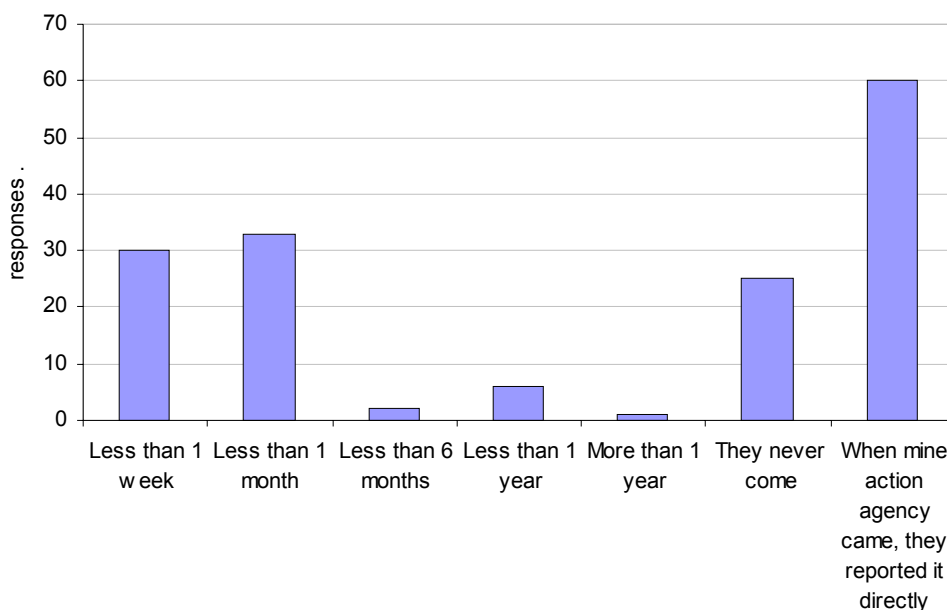
### **10.2.1 EOD Coverage**

As we noted in Section 1.6.1, at the time of writing CMAC was operating 21 EOD teams and MAG a further 7 EOD teams. MAG's teams were working from operations bases in Battambang and Preah Vihear (with teams from the latter base working from temporary bases as far afield as Kompong Cham and Rattanak Kiri Provinces). The HALO Trust also undertake EOD work as part of their ongoing operations, including the substantial EOD work that we noted previously with respect to the Poipet scrap

yards. CMAC's EOD teams have been deployed in Phnom Penh, Kandal, Kampot, Sihanoukville, Takeo, Prey Veng, Svay Rieng, and Kampong Cham. They are also in demining unit locations in the provinces of Battambang, Pailin, Banteay Meanchey, Odtar Meanchey, Siem Reap, Kampong Tom, and Kampong Cham.

It was not possible within this project to assess the effectiveness of EOD coverage. Within all of the focus areas of this study some EOD capacity had been or continued to be available - though people in different communities represented different opinions regarding how accessible it was. Only 12 people out of 384 in the KAP sample said that they either "did not know if they would" or "would not" report items of ordnance. That said, people's practices did not always accord with this. However, most people could suggest channels for reporting (generally to the village chief, the police or directly to mine action organisations). Nearly 41% of KAP survey respondents stated that they had themselves reported items of ordnance that they had found.

**Figure 42. Timeliness of EOD response to reports of ordnance**



People's experience of the timeliness of the EOD response in relation to their reports is generally good within the KAP sample. Although there are a significant number who reported no response to their reports, more than twice as many people reported a response in less than one month. However, very significant is the large number of people (nearly 40% of the total) who said that they reported ordnance directly to mine action organisations when they were working in the village. This fits in with common experience within the mine action sector that reports of ordnance increase with the responsiveness of the EOD capacity.

### **10.2.2 Reporting structure**

Where people have not experienced a response to their reports in the sample represented here it is not possible to determine where responsibility for this failure lies. There is no single consolidated reporting structure in Cambodia and this means there is no structure of responsibility or accountability for the coordination and management of these reports. Different agencies use different reporting structures in different areas of their own operations. The recommendations of this report seek to promote the development of long-term, socially and financially appropriate structures that can mitigate the impact of ordnance contamination. A single consolidated reporting structure for items of ordnance would simplify and clarify roles and responsibilities.

In this respect we see the police as presenting a national structure that would provide an appropriate channel for such reporting. The police already feature highly amongst people's understanding of who ordnance should be reported to. The HALO Trust have placed posters in most of the police stations in the areas where they are working and have received a significant number of calls for assistance through that system.<sup>136</sup> As has been previously discussed, their substantial EOD work in Poipet was initiated through their liaison with the police. The police are structured with representation down to a local level that should make them well placed to receive reports and to follow up in ensuring a response to these reports. Developing such a reporting structure would represent a relatively straight-forward form of programmatic engagement around which other more complex project activities could be structured (we discuss this further in Section 10.4.2). Such a structure would need to be set up under the coordination of the CMAA and mine action agencies would need to be focused on supporting the police as such a system is being established. There is a danger that the very different financial and institutional status of mine action agencies by comparison with the police may make them dismissive of the police's authority to demand the attention of their resources; such inter-agency difficulties would be part of the challenge of engaging the wider institutions of Cambodian society in solving the problems of landmine and ordnance contamination.

The police are a body that could undertake EOD work as the standard Cambodian national capacity. Although it may be argued that such a role should fall to the army (as it would in most western societies) the police are better structured to undertake such a function.<sup>137</sup> In addition there is an extensive requirement to see the army involved in landmine clearance work. Mine action agencies could begin planning and developing such a capacity within the police if this strategic direction was supported by the CMAA. This would represent a genuine movement towards the development of a national capacity to

136. Email from Richard Boulter, Programme Manager, The HALO Trust, 11/06/2004.

137. The division of labour proposed here between the police and the army may be subject to broader considerations. David Hayter, Programme Manager MAG Cambodia, has suggested that an EOD role for the army may be useful as a confidence building process between the military and the civilian population (email from David Hayter, 10 August 2004.) However, consideration should be given to the different structures of these bodies, the need for a coherent reporting system and the need to develop a long-term stable structure.

address this problem at an appropriate cost and within an appropriate national institution. The persistent nature of ordnance contamination makes such a reorganisation appropriate despite mine action having been ongoing for over a decade. In addition such a process would contribute to the development of the police as a positive institution within Cambodian society.

### 10.2.3 Social function of EOD

It is also possible that EOD work could be undertaken with a focus on some of the other issues highlighted from this research. It may at times be appropriate to undertake EOD work with a sense of its performative function. By destroying items *in situ*, even though the EOD team may consider them safe to move, the team can reinforce the sense that ordnance should not be moved. Perhaps more valuably, EOD work could be undertaken with an focus on demonstrating the power of explosives. This would fill a knowledge gap that can be difficult to communicate through other means. The process of watching the destruction of ordnance could also provide some of the sense of excitement that some children look for in their contact with ordnance.

### 10.2.4 EOD and scrap metal

The fact that external EOD teams remove the capacity of the local community to extract value from ordnance was cited in some communities as a reason for not reporting ordnance for destruction. Whilst it may be difficult to completely get around this, certain key issues must be addressed. Mine action agencies must not take the scrap metal left behind after demolitions for themselves and they must not suggest that they can sell such metal back to the local community, or to local scrap dealers. This should be incorporated into the disciplinary procedures of mine action agencies.

## 10.3 LANDMINE CLEARANCE

“You can’t develop a country, you cannot set up infrastructure [...] until you resolve the demining issue. And that’s the key word that everybody’s got to damn well understand, because if you don’t resolve that issue, you’re not going to resolve anything else.”

*Lt Col. George Focsaneanu, Assistant Director, CMAC, March 1993*<sup>138</sup>

“... the capacity of existing demining agencies is dwarfed by the scale of contamination...”

*GICHD, 2003b:70*

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138. quoted in Davies (1994: 80)

Landmine clearance has been ongoing in Cambodia for more than a decade. We have already highlighted in previous sections certain key issues regarding the current structures of landmine clearance in Cambodia (notably at 6.5.6 and at the beginning to this chapter). These key issues are basically as follows:

- **The cost of landmine clearance:** Landmine clearance can be undertaken significantly more cheaply than it is under the current mine action structures. Two important ways in which this could be addressed are through the employment of people to clear their own land at a low salary cost<sup>139</sup> and through more structured involvement of the army in the national landmine clearance effort. The cost of clearance is very important because it limits the capacity of the mine action sector to tackle large scale tasks (which are currently prohibitively expensive), and it represents a threat to the sustainability of operations in the face of any future reduction in external funding. It is also important in terms of appropriate and most effective use of the donor funds made available to address these problems. Humanitarian mine action agencies have a moral responsibility to conduct their operations to agreed standards but at the lowest possible cost so as to realise the greatest benefit, as experienced by affected populations, from the financial investment in this work.
- **Prioritisation of clearance:** There is concern in Cambodia that mine clearance priorities are increasingly driven by development agencies without the process of prioritisation taking into account the best use of clearance resources available.<sup>140</sup> That is to say, that whilst clearing an area of land in order to facilitate a development project may be easy to represent as a positive outcome, it does not necessarily mean that this was the best way to utilise the mine action resources available. This may be linked to questions about whether the development project that was facilitated was really addressing critical needs of the community, whether the project could have been implemented without the need for landmine clearance (and the attendant increase in costs), and whether the mine action resources would have had a greater impact on the problems caused by landmine contamination if utilised in a different way. There are numerous examples of mine action agencies being paid by development organisations to clear land for resettlement. Linked to our first point above regarding cost, there may only be sufficient money to clear land for housing and small gardens - not to clear the agricultural land that would ordinarily provide the economic base of the community.<sup>141</sup> As a result people are left living surrounded by

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139. This is already being pioneered by MAG and costs could be driven down further through the reduction in salaries and the eventual implementation of such an operational structure through a Cambodian NGO without the international overheads necessary for an international NGO.

140. This has been highlighted particularly by Richard Boulter, Programme Manager for The HALO Trust.

mine warning signs. Without sufficient economic resources, however, they must transgress the boundary that these markers represent in order to access land for farming or for foraging practices. This was broadly the case in Angkrong village, Pursat which was a focus community in this report.

It is one of the challenges presented by the Level One Survey of Cambodia that large areas of land are delineated as suspect where the local perception of this land may be much more subtle. This contributes to the second point that we raised above; development NGOs do not feel that they can implement their projects in areas highlighted as suspect without the area being cleared by a mine action agency. Thus, the sector has created a demand for its services which may be out of step with either a focus on where the most mine accidents are happening, or how best the consolidated mine action resources available in the country could be deployed to address the overall problem of landmine contamination.

- **Risk reduction:** There needs to be a development of techniques by which the relative risk of land can be assessed and mine action resources targeted in a way that is appropriate to this assessment. Risk-reduction approaches draw upon information as the primary resource, but they may draw upon other technical measures as appropriate. A risk-based strategy essentially requires the acceptance of non-negligible risk by stakeholders in the process (Serco Assurance, 2004.) Through the acceptance of a non-negligible risk in a range of locations more people can benefit from the overall reduction of risks across a greater range of locations. If implemented properly this will result in a reduction of casualties, land-denial or other negative impacts. In reality both mine-affected communities and mine action agencies do at present accept a degree of risk in their relationship with the mine contaminated environment. Due to economic demands local people will utilise suspect land despite recognition that there is risk involved. Many operators within the mine action sector are also involved in the negotiation of relative risk as an ongoing part of their work.<sup>142</sup> However, mine-action has been criticised for adopting too absolutist a conception

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141. Such circumstances are also described by Bottomley (2003: 124) where she notes: "Although land can be cleared for project activities or infrastructure construction, this does not necessarily provide communities with opportunities for a viable, independent livelihood." In a footnote on the same page Bottomley expands upon the same point: "Although mine-clearance agencies often claim that they clear agricultural land, it appears that this does not usually refer to complete fields for household cultivation, but rather refers to land around a house or on each side of a road. This land can indeed be used for cultivation purposes, and rice is sometimes grown in ditches at the side of the road or vegetables are planted around houses. However, there is often not enough land to ensure the maintenance of household food security."

142. Most technical survey work in landmine clearance starts from a detailed qualitative assessment of information available from local people about their perceptions of dangerous areas within their environment. This is triangulated with data from other sources to better inform the analysis of the information being presented. There is no guarantee regarding the reliability of this information and it usually falls to the judgement of individual operators, although supported by documented procedures, to decide which areas they treat as safe and which are subject to technical analysis as suspected of containing mines.

of risk. In part this is linked, like some of the issues discussed previously in relation to MRE, to an exaggerated sense of ownership of the landmine (or ordnance) contamination problem within the mine action sector. Whilst mine action agencies focus on keeping to an absolute minimum the level of risk facing those populations they are working to serve, they do not generally offset this against the high-levels of risk faced by those populations they are *not* serving as a result. Risk reduction methodologies could be based on better management of information regarding local experiences of suspect areas (including informal demining work conducted in the area). They could also draw upon mechanical techniques to provide physical verification of land assessed as low risk (an analysis of the risk assessment and mechanical demining can be found in GICHD 2004.)

These three areas present challenges for the management and structure of mine action operations both as they are implemented in the field and as they are organised at a national level and in relation to other key institutions (notably the development sector and the army.)

The need for mine action to be integrated with development has been a source of ongoing debate within the mine action sector. There is a danger in this integration that mine action gives up any particular claim to represent the needs of mine affected communities as they are perceived by the mine action sector directly. Where it is more common for funding to be channelled from donors through the development organisation to the mine action agency, there is almost inevitably a level of primacy afforded to the development partner. This can result in the mine action agency becoming simply a contracted technical implementer which no longer advocates for the most effective use of mine action resources within affected communities. If the development agency builds schools but does not do economic development projects than a community's wholesale alienation from its economic base as a direct result of landmine contamination may not be noticed. Instead deminers may be clearing land where there have been no accidents so as to facilitate the construction of the school. This problem is more fundamental still if we think that such an arrangement actually diverts attention away from the fact that, under the current costs and structures of mine action, donors could not afford to pay for the clearance of the agricultural land anyway.

These issues are broadly recognised within the key international mine action agencies working in Cambodia. As such, this critique is not external to that sector but comes from within it.

## **10.4 THE CIVIL, MILITARY & LEGAL FRAMEWORK**

Ordnance and explosives are subject to legal control in Cambodia, but the application of the law is variegated. As we discussed in Section 8.3, different people's perceptions regarding the legality of their actions and different attitudes from local authorities conditioned the way in which people felt able to

discuss their behaviour with live ordnance. In some villages local people reported that the police would investigate the sound of explosions (when being burned or used for fishing) and so people could not undertake these practices. Elsewhere the army had reportedly told local people how to burn and dismantle ordnance themselves. The lack of a consistent, structured response to ordnance handling behaviour from the local police and other authorities weakens the overall ability of communities to manage these behaviours within their population. Negative responses from official bodies (such as warnings, fines or imprisonment) are a fundamental mechanism used to regulate behaviour. Ordnance handling activities do represent a threat to people's security and communities should be working to manage and regulate these activities for their own protection. Programmatic engagement with the police needs to be undertaken so as to formulate a coherent response to the issues surrounding ordnance in the community and to strengthen the operational responsiveness of the mine action sector to the police's needs.

#### **10.4.1 Sub-decree 38 and the Draft Arms Law**

The EU-Assistance on curbing Small Arms and light weapons in Cambodia (EU-ASAC) programme has been working to establish a comprehensive Arms Law to replace the Prime Minister's Sub-decree 38 of 1998. The draft law has been approved by the Council of Ministers, but awaits the formation of the National Assembly before it can be brought into force. The existing Sub-decree 38 does provide a statement that ordnance is regulated by the Government. It states that:

"It is absolutely forbidden to sell, exchange, donate, stock at home, or other locations, those kinds of explosives and weapons as stated in Article 2<sup>143</sup> of this Sub-Decree within the territory of the Kingdom of Cambodia."

The need for reform of this legislation (as identified by EU-ASAC) is recognisable from the gaps in this formulation. This legal framework does present important considerations however, for the development of effective and appropriate responses to ordnance contamination in the country. Key issues arise regarding the scrap metal trade and the role of the police in promoting local security.

#### **10.4.2 The role of the police**

As we have already noted, the police should have an important role in the development of a long-term and locally sustainable response to ordnance contamination in Cambodia. The police are responsible for maintaining local security. Deliberate interaction with live ordnance presents a threat to personal security not just of persons directly involved, but also to others. This is recognised in the attitudes expressed by many people regarding "respect" for people who handle ordnance: 96% of respondents stated that they

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143. Article 2 includes the following items (amongst others): "all types of rockets, all types of chemical weapons, all types of biological weapons, all types of grenades and mines, all types of explosive substance, all types of bullets."

did not respect people who handle ordnance, the single most commonly cited reason being that it can cause injury to people nearby.

The police structure gives them a strong network of national coverage. There is a police station in every Commune and they often have representation down to the village level. The police are part of the local authority to which people turn when they report items of ordnance that they find. Occasionally people bring them items of ordnance that they have found. Sometimes the police travel out to collect items of ordnance that have been reported to them and bring items to certain police stations for storage. At present the police can only store ordnance as they do not have the capacity or authority to destroy it.<sup>144</sup> When a sufficient number of items has been amassed they contact the Police Headquarters in Phnom Penh and sometimes the Ministry of the Interior in order to get approval to make a request for CMAA to come and destroy the ordnance that they have gathered or received. According to police staff in Kompong Speu, they have received training in Phnom Penh regarding the collection of ordnance, then in turn the police from the villages come into the provincial town for training by them. If they are not sure that an item of ordnance is safe they use sand in the back of the vehicle to make a safe bed for it during transportation.<sup>145</sup> The police should also investigate any accidents resulting from contact with ordnance and submit reports on them to Phnom Penh. The police in Kompong Speu have never arrested or fined anyone as a result of an ordnance related accident. Although positive in their intent however, these activities are currently being undertaken without any apparent official control or oversight from the CMAA and without any formalisation of relationships. The police are not currently represented at any of the national level mine action fora in Cambodia.

In response to accidents around Kompong Speu, the police and village chiefs tried to mount a coordinated response. On the one hand village chiefs were told to inform people that they shouldn't touch any metal items because of the possible danger. The police also made contact with scrap metal dealers of the area and told them that they were only allowed to buy fragments of ordnance, not whole items. This approach shows willingness but in relation to the broader findings of this report it also shows the need for further development of the role of the police in relation to these issues. As we have discussed, people generally have a more sophisticated understanding of ordnance than is reflected in the injunction not to touch any metal items.<sup>146</sup> Likewise, it is already generally understood within the scrap metal trade that whole or live items of ordnance are not permissible for sale.

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144. It should also be noted that the police do not really have the capacity to store ordnance by the standards that would be expected within the mine action sector. They lack either the procedures or physical infrastructure for secure and safe storage of ordnance.

145. It is not clear if these forms of police response are paralleled in other parts of the country.

146. Though this is essentially the same as the approach taken by the mine action sector.

At present the police struggle from negative relationships with civilian society, lack of capacity<sup>147</sup> and lack of effective support from the mine action sector. The EU-ASAC programme has been working to build capacity and promote improved relations between the police and the local community.<sup>148</sup> This was spurred in part by the need to improve local confidence in the police so as to facilitate the voluntary hand-in of weapons by the civilian population (which is a key objective of the EU-ASAC programme.)

The mine action sector does not seem to be providing sufficient support to the police. People report items and bring them into police stations, but it can be difficult for the police to elicit a practical response from the mine action sector.<sup>149</sup> The key requirements for programmatic development are:

- **Enforcement of the Arms Law (or Subdecree 38):** The police should have an important role in the development of a consensus regarding how to apply and enforce the law as it relates to people's engagement with unexploded or abandoned ordnance. A degree of tolerance may be needed in order to avoid a complete alienation of the authorities from people's practices. The focus could be on the police's role in promoting responsible behaviour at a community level. Certain practices (such as fishing with explosives and buying explosives off children) may be deemed irresponsible and consistently subject to strict penalties. Other practices (such as destroying items of ordnance to stop children from finding them) may be viewed less harshly and subject to a different regime. This requires a process of discussion and negotiation between affected communities and the police in order to establish a common agenda. This would require external facilitation.
- **Management of the scrap metal trade:** Linked to the point above, there is a need for the police to establish a mechanism by which to monitor and control the impact of the scrap metal trade, particularly where it may be promoting high-risk behaviour. The police need to monitor scrap metal yards to ensure that people working in these yards are not being exposed to an unacceptable threat from live ordnance. Similarly, the police need to support and facilitate access to these yards by mine action agencies to ensure these bodies are

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147. EU-ASAC, (2003B: 3-4) states that: "The capacity of the police is very limited. With the police often recruited from the military, militias or former Khmer Rouge, their level of education is very low and they confuse their role in society with that of the military. The police lack the resources to provide security. Their major needs are transport and communication. Low salaries [around 70,000 riel / USD 18 per month] force the police to search for alternative sources of income and nutrition. Therefore, when they are needed for security reasons, they may often be absent, fishing or working in the rice fields."

148. See [www.eu-asac.org](http://www.eu-asac.org). The programme of assistance has included training (covering human rights; good governance and the role of police in a democratic society; the arms law and regulations; judicial procedures and criminal investigation), equipment and support to police families so as to reduce reliance on supplementary incomes and graft.

149. The HALO Trust, reporting on their clearance of scrap-yard in Poipet, state that: "in August 2003 HALO Cambodia wrote to provincial police authorities reminding them that The HALO Trust was willing and able to assist them if ever they encountered problems involving mines and unexploded ordnance (UXO.) The police in the border town of Poipet responded by requesting assistance in the clearance of hazardous items from the yards of eight scrap metal dealers in the town. The ordnance had been amassed over the previous two years and despite requests for assistance to other agencies the problem had remained un-addressed."

able to destroy ordnance that is posing a hazard. The police also need to be supportive of communities who are concerned that local scrap collectors are precipitating children's contact with ordnance.

- **Reporting:** As we have discussed in Section 10.2.2, the police would provide a strong structure for a national ordnance reporting system. Such a system should be put in place so as to establish accountability with respect to the transmission of these reports and to establish some clarity regarding how Cambodian society is going to manage the problem of ordnance contamination over the decades ahead.
- **Explosive ordnance disposal (EOD):** Under the authority of the CMAA the police could be developed to undertake EOD work as a national capacity. This would represent an appropriate institutional structure for the implementation of this work over the time frame necessary. This should be done without re-creating the additional costs that are inherent in other mine action institutions and without requiring a large array of additional expatriate EOD advisors. This may be difficult because the level of established expenses (such as salaries, numbers of vehicles etc.) within the mine action sector is such that institutions asked to undertake this work are likely to wonder why they should not be funded to the same extent. The real answer has to be that without accepting such a transition they will not get funded at all. Such a capacity building process could be undertaken by agencies already operating in Cambodia.

The development of the role of the police would represent an important strategic focus for the mine action sector in Cambodia. Whilst mine action agencies could undertake the programmatic work to facilitate this development, it is for the CMAA to determine if the such a response fits with the strategic objectives of mine action in Cambodia. However, programmatic responses could be undertaken and evaluated in advance of strategic decisions and so as to provide a basis for decision making. Thus our recommendations are for developing partnerships and local programme models between mine action implementers and the police in an effort to lay the foundation for future strategic decisions.

#### 10.4.3 The role of the army

A GICHD (2003b) study on the role of the military in mine action outlines the participation of the Royal Cambodian Armed Forces (RCAF) in mine action activities. Like the "informal deminers" of Bottomley's study the amount of work ascribed to RCAF is high but the reality and quality of their output is subject to doubt.<sup>150</sup> Like the "village deminers", they stand on the margins of the mine action sector.

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150. According to the Landmine Monitor Report (2003: 138), which is in turn drawing on data from the CMAA, RCAF cleared over 17 million square metres in 2002. This is almost the same amount of land as was cleared by all other landmine clearance organisations combined.

The GICHD analysis paints a picture of significant potential capacity within RCAF but acknowledges a complex array of difficulties for further engaging them in this work. They lack transparency and accountability in the eyes of donors, are subject to political control, and are subject to allegations of complicity in illegal logging and appropriation of cleared land by military commanders (GICHD, 2003b: 69.)

This same report also notes that RCAF “operates commercially as a subcontractor to construction companies competing for contracts which are awarded by the Ministry of Public Works and Transport and funded by the World Bank or Asia Development Bank.” It would appear that such activities have yet to be subject to any centralised control by the mine action sector. RCAF have been able to undertake such work without any need for external quality assurance. The role of the CMAA as a regulator of mine action in the country should cover all such activities but as the GICHD study tellingly comments such an extension of authority “is likely to prove a more severe test of the CMAA’s ability to fulfil its mandate as an independent regulator of mine action than of RCAF operating standards” (GICHD 2003b: 70.)

However, the report concluded that “at a time when the capacity of existing demining agencies is dwarfed by the scale of contamination, RCAF’s [Royal Cambodian Armed Forces] apparent interest in training its deminers to recognised international standards warrants more serious attention than it has hitherto received,” (GICHD, 2003b: 70.) The effective engagement of RCAF in mine action should be a strategic priority. As much as anything it would indicate commitment on the part of the Cambodian government to utilising state resources to address national problems. The modalities of such an engagement are beyond the scope of this report. Despite this, certain aspect of the ongoing EU-ASAC programme combined with issues arising from this research do suggest possibilities for programmatic engagement with RCAF towards establishing greater control of ordnance within society.

Whilst the current EU-ASAC programme is working with the police and military to establish regional weapons’ quotas and regulated weapons’ storage systems, ammunition does not fall under the remit of their project. Some people interviewed during this research had taken live ordnance from military stores in order to use it for fishing. The fuses from unfired mortars were preferred to those from unexploded ordnance as they could be cut open more safely. Lack of controls over the storage of ammunition and explosives allow for such theft. Poor storage can also produce a physical hazard of accidental detonation.



**Unregulated ammunition storage allows additional ordnance to leak into the public domain. Photo from EU-ASAC.**

Initial visits by EU-ASAC to assess weapons storage identified the following as critical problems:

- No formal mechanisms for registering numbers, types and condition of weapons
- No records of any of the above
- Weapons stored alongside various types of explosives including mines, mortars, grenades and ammunition
- Weapons stored in buildings without adequate security

Whilst the EU-ASAC programme has subsequently been able to start bringing these problems under control with respect to weapons, there has not been a substantial parallel engagement to establish controls over the storage and management of ordnance and explosives. Secure and regulated ammunition storage would reduce the bleeding of ordnance from the military into the public domain. Establishing the necessary physical structures and stock-control mechanisms within the Cambodian army would be large programme, but it would contribute towards the broader requirement for security sector reform.

## **10.5 CONCLUSIONS FROM THIS SECTION**

The analysis in this Section presents a framework around which a number of our recommendations are constructed. The key issue that we emphasise here is the need for strategic direction regarding the institutional structures through which the response to ordnance contamination is being undertaken. Particularly with respect to ordnance contamination, which is broadly recognised as

presenting a long-term persist problem (though not necessarily a critical one), planning should be towards the establishment of national capacity that can run at a locally appropriate cost. The response to ordnance contamination needs to go beyond destruction of items that are found (EOD) and delivery of messages warning against touching ordnance (MRE.) It needs to encompass the development and implementation of the legal framework governing this issue. It also needs to establish within communities the responsibility for managing the threat of ordnance themselves. This in turn requires the mine action sector to hand over authority for establishing what constitutes responsible and irresponsible, or acceptable and unacceptable behaviour.

# 11. RECOMMENDATIONS

The terms of reference for this project called for suggestions towards the development of programmatic activities to address the deliberate handling of ordnance as a cause of deaths and injuries in Cambodia. Specifically, “to provide recommendations outlining immediate, mid- and long-term responses by government, mine action and development organizations and communities themselves to address the underlying factors contributing to deliberate handling and usage of live ordnance.” This formulation quite emphasises the need to focus on the underlying causes of deliberate handling. It also clearly states the requirement to look at the role of government in responding to these issues. In line with this, the findings of this report suggest that deliberate handling of ordnance should often be seen as indicative of the presence of deeper more fundamental problems (most commonly poverty) and the absence of structures to mitigate these problems. Persistent handling of ordnance should be considered as an indicator of other vulnerabilities within the household, community and broader society and it is these vulnerabilities that should be the primary target of remedial action.

## 11.1 IMPLEMENTATION OF RECOMMENDATIONS

### 11.1.1 The goal of external interventions

The over-arching, long-term goals of external interventions should encompass the following:

- Communities internally organise that all members have knowledge that allows them to identify ordnance and recognise these items as dangerous.
- Communities have a sufficient base of economic resources not to seek economic value from ordnance.
- Communities have access, through an established state structure, to a capacity that can destroy items of ordnance in a timely manner.

Our recommendations are focused towards these ends, but clearly such a problem as rural poverty needs to be the focus of wide-ranging and sustained efforts that are beyond the scope of this report. In the absence of the conditions described above, people will continue to engage with ordnance and casualties will continue to be incurred. Given the difficulty in achieving such goals, we must recognise then that ordnance handling will persist in society. Our recommendations must be structured also to minimise such practices and also to minimise the likelihood and subsequent impact of accidents arising from such practices.

Our recommendations are primarily long-term and strategic, although we propose concrete project processes that should be undertaken in order to move towards these strategic goals. A long-term strategic focus is required because the issues under study will persevere over the long-term.<sup>151</sup> Also, the issues are complex and are bound up with social vulnerabilities (such as rural poverty) and societal weaknesses (such as the current functions of the police and the army within Cambodian society.) Our focus is on a broad effort to improve the resilience of Cambodian society through domestic and community institutions and through the social institutions who should be working to promote this resilience (most notably the police.) Such an approach is in accordance with thinking in the field of injury prevention:

“The social ecological paradigm of safety promotion emphasises the dynamic interface between three dimensions: the individual, the physical environment and the social environment. These act at five levels: intrapersonal, interpersonal, organizational, community and societal. [...] The most effective way to reduce an individual’s risk profile is to systematically address the environmental and sociological issues ‘hidden beneath the water line’, thereby modifying the risk profile of the whole system” (Hanson *et. al.*, 2002.)

In order take such an approach, however, we suggest that local level pilot projects need to be enacted first that can serve as a model for broader programmes. We consider international and national NGOs to have a role in designing and implementing these pilot projects. We suggest that the primary role of international NGOs, in addressing ordnance contamination as a long-term problem that does not constitute an emergency, should be to develop and evaluate programmatic structures for adoption by national institutions.

### 11.1.2 Responsible agencies

In taking such an approach some of the recommendations presented here necessarily transgress established boundaries of the formal mine action sector. This needs to be done if the sector is to

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151. The need for a capacity to destroy ordnance is anticipated for a further 65 years according to the Cambodian National Mine Action Strategy (CMAA 2004).

genuinely pursue its mandate to support vulnerable communities affected by mines and ordnance. However, it is important to recognise where objections may arise to the recommendations being made and we seek to be self-conscious about these and to address them where possible. Durham *et. al.* (2004: 11) make a very important point regarding challenges to the adoption of new methodologies in relation to MRE in Lao:

[...] in focusing on the culture of the target communities, scant attention was given to the bureaucratic *context* of the implementing agencies or other development agencies working in contaminated areas. Nor was any research undertaken to try to understand which factors would facilitate or hinder institutional adoption and diffusion of the proposed innovations. Unfortunately this is not uncommon. For example, Packard and Brown (1997)<sup>152</sup> note that medical anthropologists have generally spent more effort looking at patients rather than practitioners. Yet, as was shown earlier, the culture and practices of government and non-government agencies were also contributing to non-adoption of the prescribed safety behaviours.

These comments are very pertinent to the possible roles of international NGOs, local NGOs and Cambodian Government institutions in relation to the recommendations of this report.

Some of our recommendations call for the mine action sector to accept that people handle ordnance (particularly within the scrap trade) and to train people to evaluate suspect items as being safe or dangerous. Mine action agencies may maintain that this is morally unacceptable to them (though we strongly contend that such a decision would be mistaken.) Similarly we recommend promoting discussion, within affected communities, regarding more or less safe ways of engaging with ordnance with respect to both personal and community safety. Such discussions are not aimed at transmitting knowledge from outside, but at ensuring sharing of ideas and perspectives from within the community.

Our key recommendations relate to engaging the police as part of the national response to ordnance in society. This must be seen as a long-term, macro-level, strategic requirement. It is not a process of simply giving responsibility for these problems to the police - they have no capacity to take on such a role. It is a process of building up, through local level pilot projects, a practical understanding of the how the police can be brought into such a function at a national level. In doing this we are working to strengthen the capacity of society to respond to the problems of ordnance contamination, but we are working also to strengthen and improve the capacity of the police overall. Such a programme needs to be looking to the ongoing work of EU-ASAC for lessons learned. There are manifold problems to be overcome in undertaking such a process. The contention here, however, is that unless programmes are

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152. Packard, R. and Brown, P. (1997) Rethinking health, development and malaria: historicalizing a cultural model in International Health. *Medical Anthropology*, 17: 181-194.

being undertaken to develop key social institutions such as the police, then Cambodia will continue to lack capacity to control ordnance as a threat in the environment. The absence of effective and operable social institutions is more of a problem within Cambodia than the presence of ordnance. Developing the role of the police in this respect requires strategic commitment from the Cambodian state and donor agencies need to exert themselves to secure such a commitment. The alternative is that donors continue to pay for these services to be undertaken by separate specialist bodies at a relatively high cost, whilst Cambodia continues to lack a police force that fulfils an effective and positive role in society.

It is not possible to state clearly which organisation should take on different roles within all of these recommendations. In some case it is obvious - where CMVIS has been undertaken as a partnership between the Cambodian Red Cross and Handicap International - Belgium (HI-B) it should be for these organisations to implement recommendations relating to this system. Other areas, however, are more complex and depend upon interest and support from organs of the Cambodian state or a capacity to experiment with new approaches from within mine action organisations. Where possible we indicate the organisations who may be best placed to implement these recommendations.

In previous Sections we have already substantially laid out the rationale and thinking behind some of our recommendations. We present the recommendations not in accordance with the short- medium- long-term structure call for in the Terms of Reference but according to suggestions for programmatic activities.

## **11.2 CASUALTY SURVEILLANCE: CMVIS**

### **11.2.1 Overview**

The CMVIS project provides a strong data-set for the ongoing surveillance and analysis of landmine and ERW casualties in Cambodia. The changes to the data-gathering form that were implemented in 2004 should further strengthen the analytical utility of this resource. It was not possible within this project to get any impression of how comprehensively the CMVIS system is capturing casualties from across the country as a whole. However, as can be seen from the extensive use of CMVIS data in this report, the project is a valuable resource for analysis of the ongoing impact of mines and ordnance in Cambodia. Furthermore, the ongoing development of the data-gathering form used by CMVIS is evidence of the project's commitment to improvement and continued development.

### **11.2.2 Target areas**

As has been noted at different points within this text, there are a number of weaknesses within the CMVIS system:

- **Playing:** there has been a tendency to over-represent playing as the casualty's activity at the time of accident. This stems in part from mis-representation of behaviour by casualties themselves or other members of the local community involved in the process of reporting. The process of categorisation is made more difficult by the tendency of children to pick up ordnance in the hope of extracting scrap metal value, only to engage with it intrusively and in groups (possibly in an effort to render the ordnance saleable to the scrap metal trade.) In addition to this it would seem that a number of CMVIS data-gathering staff tend to see playing as an appropriate designation for almost all forms of ordnance handling. The CMVIS project should re-confirm with its data gathering staff the parameters of behaviour that should be categorised as playing, and should alert its staff to ensure adequate interrogation of people reporting accidents so as to elicit more detailed information on the motivations and activities that resulted in the accident.
- **Bystanding:** although changes to the data-gathering form in 2004 should provide greater clarity with respect to people injured without initiating ordnance themselves, the need to categorise people as 'bystanders' needs to be re-affirmed amongst the data gathering staff. Amongst the 'playing' casualties investigated in Kompong Speu a substantial proportion should have been categorised as bystanders (see Figure 37.) Although the casualty data over the period 1999-2003 suggests that bystanders are increasingly being reported more accurately it would seem that this could be improved further.
- **Fishing:** accidents occurring as a result of people's efforts to fish with explosives are being categorised as either "tampering"/"deliberate handling" (sub-category "to fish with it") or "fishing". The distinction seems to be made on the basis of the point at which the accident occurs within the overall process of preparing a device and then fishing with it. Given that these accidents always occur from deliberate handling of ordnance it should be re-affirmed amongst data-gathering staff that accidents resulting from efforts to fish with explosives should always be categorised as "deliberate handling."

It should be relatively straight-forward the Cambodian Red Cross and HI-B to address these issues within the CMVIS project. This casualty surveillance system does provide a very valuable resource in approaching an analysis of these issues. Our analysis of economic motivations for ordnance handling seeks to emphasise that casualties from such activities should be seen as possible indicators of vulnerabilities within the communities. In this regard, aspects of the CMVIS data should serve as indicators of broader needs for support from outside the mine action sector.

### **11.3 DEVELOPMENT OF POLICE CAPACITY**

A fundamental recommendation of this report is for programmatic engagement with the police to develop their capacity to manage a broad range of ordnance related issues. This will require substantial

engagement across a range of issues. It should be seen as part of the process of security sector reform as well being part of the mine action sector response. Although the weakness of the current police capacity is an impediment to the implementation of these recommendations, this weakness is also one of the reasons for responding to ordnance contamination in this way. Building the capacity of the police and bringing them into a more positive relationship with the broader society is a requirement in Cambodia. The ability to reduce accidents from ordnance contamination is inter-linked with the ability to exert law and order in society as a whole.

#### **11.3.1 Goals:**

- An effective legal regime regarding ordnance in society.
- A capacity to exert social sanction over behaviour that contravenes standards of safety and acceptability.
- Safe ordnance storage at police stations.
- An effective national reporting structure for ordnance.
- An effective national EOD capacity operating at an appropriate cost and structured to be responsive to local requests.

#### **11.3.2 Requirements:**

- Commitment within the police to undertake these roles.
- Strategic support from the CMAA regarding the role of the police.
- Donor support for the development of the police.
- Engagement of mine action or other agencies in partnership with the police.
- Police capable of operating in a way that engenders community trust and support.

#### **11.3.3 Key programme activities:**

- The police need to be brought into the ongoing processes of mine action coordination in Cambodia.
- Workshops on implementation of Subdecree 38 and the Arms Law in relation to ordnance in society - encompassing issues relating to monitoring and management of the scrap trade and support to ordnance contaminated communities. These should be planned and developed between the mine action sector, EU-ASAC and the police. These workshops will need to develop plans for training the police to engage with scrap dealers and village chiefs in relation to these issues.
- Local meetings between the police and scrap dealers regarding monitoring of ordnance in the scrap trade, reporting of ordnance and responsible purchasing amongst scrap collectors. Such meetings should be planned during workshops as recommended above with monitoring and evaluation from the mine action sector.

- Meetings between the police and village chiefs regarding the management of ordnance as a public safety issue, including how to ensure responsible practices and purchasing on the part of scrap collectors and how to enforce legislation against fishing with explosives. Such meetings should be planned during workshops as recommended above with monitoring and evaluation from the mine action sector.
- Standardisation of police response to ordnance reports. Currently they are collecting ordnance themselves in some areas, though the training behind this is uncertain. Also, the police have to store ordnance that is brought into police stations without having any appropriate facilities for ordnance storage. An assessment should be undertaken of the extent of this problem to determine if secure ordnance storage facilities need to be constructed at key police stations. A formal policy decision needs to be made regarding whether or not the police are going to travel out and collect ordnance that is reported to them. Decision making regarding these issues should be undertaken by the CMAA.
- Formalisation of the police role as the national reporting structure. Report forms need to be developed and systems for report transmission and filing need to be established. This system does need to have sufficient flexibility for EOD teams to modify work plans in the field. The level of on-the-spot reporting (as highlighted previously in this report) means that teams must be able to continue working in a community beyond the initial tasks they have been called to address. Such a recommendation must be led by the CMAA.
- The deployment of pilot police EOD units should provide a basis for evaluating the long-term role of the police as the national EOD capacity. These units would need to be subject to external monitoring and assessment. The police are operating at a lower cost than the mine action sector in Cambodia. This is one of the reasons for developing this capacity within the police. However, low salaries also contribute to corruption within the police force. Programmatic engagement with the police needs to be supported by projects to reduce reliance on secondary incomes and graft. Pilot projects could be developed and implemented by international or national agencies to provide a basis for strategic decision making by CMAA.

All aspects of this work would require significant further assessment and planning to develop them into project proposals. It is not suggested that the establishment of this capacity within the police in any way diminishes the role of the CMAA as the national coordinating authority with respect to mine action. These are still mine action functions and as such they come under the authority of the CMAA. However, these processes do need to involve the establishment of police capacity - not the recreation of existing structures and costs under the nominal identity of the police.

## 11.4 SCRAP METAL TRADE

The scrap metal trade, and the broader process of scrap collection in Cambodia, present an important structure for programmatic engagement (see Section 6.)

### 11.4.1 Goals:

- To stop the movement of live ordnance within the scrap metal trade and to enhance the safety of people working within the trade.
- To minimise the role of the scrap metal trade in promoting high-risk behaviour at a community level, particularly with respect to children.<sup>153</sup>

### 11.4.2 Requirements:

- Programmatic engagement with the police to establish an effective legal regime for the control of ordnance in society (as discussed above.)
- Mine action agencies to accept *de facto* handling of ordnance and discrimination between safe and unsafe ordnance by people in scrap metal trade.
- EOD capacity to remove and destroy ordnance that is filtered out of the scrap metal trade.



Children carry a sack of scrap metal that they have collected for sale.

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153. To emphasising the role of children here is to some extent to impose an external moral structure on the issues in question. It would be more appropriate to allow such a moral structure to be imposed or established by the affected communities - which is essentially what we advocate with respect to community level recommendations.

### **11.4.3 Key programme activities:**

- Training to be provided to scrap metal dealers and collectors to discriminate between safe and unsafe items of ordnance. Training also includes guidelines on what to do with unsafe items that people are seeking to sell at a community level, or which arrive at the dealership at other levels of the trade. This training builds upon the processes of discrimination already being undertaken at all levels of the scrap trade without any formal assistance. The effectiveness of the discrimination process needs to be evaluated on an ongoing basis through the periodic search of scrap yards by EOD teams operating under a mandate from the police. This training should be designed and implemented by mine action agencies in partnership with scrap metal dealers and could be implemented first through local pilot projects.
- Establishment of the principle that scrap dealers and collectors can be held responsible for promoting unsafe behaviour at a community level, particularly with respect to children. This should include the possibility of legal sanction. This should be part of the process of engagement between the police and the scrap trade as discussed in our recommendations regarding the role of the police.
- Establishment of guidelines for scrap collectors and dealers regarding their relationships with local communities. This should be done through discussions between the police, village leaders and scrap collectors, with external facilitation.
- Incentives can be established for dealerships to implement more responsible purchasing practices. These could include small business loans, through scrap dealerships to local level collectors, to provide them with motos (mopeds). This would increase their speed and capacity for collection as a counterbalance to the economic costs of purchasing more responsibly. The motos could be reclaimed in the face of lack of adherence to established guidelines, or lack of support for external monitoring of practices.

These recommendations regarding the scrap metal trade could only be effectively undertaken in conjunction with parallel forms of engagement both with the police and with local communities.

## **11.5 EXPLOSIVE ORDNANCE DISPOSAL**

As we have noted above, this report recommends development of the national EOD capacity within the Cambodian police. The following recommendations are shorter terms suggestions to be explored within the current mine action capacity:

- People are more likely to report ordnance directly to a team that is in their village than through an external reporting structure (see Section 10.2.1.) Therefore teams should be

tasked in a way that allows for this snowballing of ordnance reports.<sup>154</sup> Teams could be deployed with a focus on a specific commune or area within a commune for a prolonged length of time (perhaps 3 to 6 months depending on the size and population of the area) in order to maximise local people's exposure to the team and to make best use of this snowballing effect. The greater responsiveness, and the visibility of this responsiveness over the period of deployment in that area, would enhance local people's confidence in the efficacy of this external response. Such a local focus would also allow time to build relationships with local scrap dealers, and possibly to identify children who may be handling ordnance. Although such a process of deployment does mean that these resources would not be available to address tasks in other areas, the benefits of this local focus would probably outweigh the disadvantages of reduced area coverage. This recommendation is similar to a process of deployment that MAG undertook with EOD teams in Preah Vihear Province.<sup>155</sup>

- Involving local children more directly in the EOD process could be explored as a way both of providing the sensory excitement that may otherwise lead children to seeking to detonate ordnance (see Section 7.1.4) and as a way of illustrating the power of explosives (which can be difficult to convey through other means.) Clearly such forms of engagement need to be undertaken in a responsible and controlled manner. It is not suggested that all EOD operations be undertaken as a form of performance activity but, if combined with a local focus as suggested above, EOD performances could be undertaken in key villages within the target area.
- Mine action agencies should develop within their Standard Operating Procedures (SOPs) guidelines regarding scrap metal residue from ordnance demolitions. Disciplinary measures should be available against any team members who seek to take scrap metal for themselves or sell scrap metal back to communities or scrap dealers. Such practices reduce the likelihood of communities drawing upon the EOD capacity that is present.

These recommendations do not call for an expansion of EOD capacity across Cambodia. That is not to say that the current EOD capacity is sufficient - it was not possible within this project to effectively evaluate this. However, it does not appear appropriate to recommend an expansion of EOD capacity unless this is being done in the context of a strategic reorganisation of this capacity within Cambodian society. In addition to this, the relatively high casualty levels caused by ordnance accidents should not be allowed to divert mine action funding away from the more critical tasks of landmine clearance.

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154. It is not suggested here that current EOD structures do not have this flexibility.

155. It was not possible within this project to undertake an effective evaluation of this pattern of deployment by the MAG EOD team. The perspective within MAG was that the focused deployment had brought ordnance casualties down within the focus areas but it is not possible solely on the basis of casualty data to be sure of the causal link.

## **11.6 MRE & SUPPORT TO AFFECTED COMMUNITIES**

We continue to use the term MRE here though some of these recommendations call for a move away from the traditional pedagogic processes of MRE. We also include here some suggestions for economic support to communities that could be explored in an effort to reduce engagement with ordnance.

Throughout this report, but perhaps most strikingly in relation to the issues in this section, there is a tendency to refer to communities as if they represent clearly identifiable and coherent units. This is rarely the case and as such the statements here have to be recognised as simplifications of processes that are significantly more complex in reality. Ordnance handling behaviour can be more or less divisive within communities. This is indicated in the lack of respect that people generally reported for those who handled ordnance. The capacity for communities to negotiate locally acceptable and unacceptable behaviours may be challenged by individuals or households with specific vulnerabilities that put them at odds with the broader community. Such tensions and conflicts need to be anticipated and engaged with by those facilitating such programmatic responses.

### **11.6.1 Goals:**

- To support communities to take responsibility for the management of contact with ordnance as a public safety risk.
- To ensure people are aware of the appearance of ordnance and the fact that ordnance is dangerous.

This formulation of goals focuses on responsibility with respect to managing the threat posed by ordnance. The second goal, one of basic knowledge provision represents the basic responsibility of the mine action sector. Possessing this knowledge, people's behaviour in relation to ordnance, conditioned by economic circumstances and social drives, is more the result of poverty and the lack of effective societal structures than it is any particular attributes of ordnance. Addressing this behaviour is not therefore specifically related to the mine action sector but needs to be seen more widely in relation to family, community and broader social programmes and structures.

### **11.6.2 Requirements:**

- Some of the recommendations presented here reject the central established messages of the mine action sector. This is partly because these messages are seen to be unrealistic (and therefore inappropriate) in certain environments. It is also because such an external, message based approach fails to establish that responsibility for managing these threats

needs to be embedded within effected communities. This shift could be problematic for some implementing agencies.

### **11.6.3 Key programmatic activities:**

- Message based MRE for children in schools, and MRE signboards illustrating the appearance of ordnance and warning of the danger are appropriate and useful forms of MRE.
- Parents need to be made aware that children may engage with ordnance in secret from them in order to supplement pocket money income. This could be done through existing MRE channels.
- For more sophisticated forms of MRE, communities should be encouraged to determine for themselves what is acceptable and unacceptable behaviour in the local environment. Such a process needs to be undertaken in conjunction with the police and also with scrap metal collectors. Facilitating agencies need to accept that conclusions may not wholly accord with the previous MRE messages. It is important that such processes have support from the police because people may need to report dangerous items to the police that have been produced (or gathered in a specific location) as a result of their engagement with ordnance. External agencies should plan and facilitate these processes as part of the overall planning process between the mine action sector, the police and the scrap metal trade. Local level pilot projects should be undertaken and evaluated.
- Behaviours that contravene acceptable standards should be subject to social sanction. Communities need to be able to draw upon an effective and supportive response from the police in order to address problematic behaviour. This social sanction should be emphasised as a negative outcome of such behaviours. Parents should be encouraged to exert sanctions over their children if they breach agreed behaviours. The lack of social sanction against any of these behaviours contributes to the prevalence of such activities. It is also indicative that communities do not display sufficient commitment to managing these threats for themselves. External agencies, as part of the process above, should facilitate the identification of appropriate sanctions for different circumstances.

Beyond these responses, which are broadly within the frameworks of MRE, it would be valuable also to look at possibilities for economic support to communities that are drawing very heavily on salvaging from ordnance. The suggestions here would need to be enacted in conjunction with other programme forms in order to have significant impact. These suggestions are based on issues relating to foraging practices, not broader improvements in agriculture, crafts or other economic activities:

- Theoretically, engagement with live ordnance could be reduced by increasing people's access to safe metal or by improving the relative value of other available foraging resources.

The relative value of other foraging resources can be increased through the establishment of a local market or through increased availability of transport to a market nearby. Establishment of a local market requires only a store of cash that can be used to purchase resources locally where they can be held until an external trader comes to the village. By giving the villagers an immediate source of cash, the relative value of these other resources is increased. This would be more effective if combined with a local capacity to take goods to larger markets. Thus goods could be bought locally and then periodically taken to market for sale. Such structures could be established under a loan system. However, market integration of scrap metal is so good that these modifications to the relative value of other resources will only have a marginal impact. Even marginal differences, however, may still have an affect on the incidence of ordnance handling within specific locations.

We also caution against an over-reaction to the increased prevalence of locally available metal detectors in rural communities.

- The increased use of metal detectors to search for metal is not necessarily problematic and may present opportunities for better control over ordnance handling behaviour.<sup>156</sup> This is likely to increase people's exposure to ordnance which increases exposure to risk. However, by increasing the overall metal available from which to salvage people are given an increased capacity to choose only to salvage safe metal. People undertaking such practices should be advised that they must report dangerous items that they uncover to the police. Detectors could be confiscated from people who fail to report dangerous items, who bring dangerous items into the village or in other ways contravene locally established standards of acceptable and unacceptable behaviour. This is not to advocate the distribution of detectors as a programmatic activity, but it is to say that the mine action sector must not be too quick to demonise detectors as a "cause" of accidents.

## 11.7 LANDMINE CLEARANCE

Landmine contamination of agricultural land continues to increase people's reliance of foraging practices, including salvaging from ordnance. There remains a shortfall between the needs of many

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156. The use of these locally made detectors is likely to raise the concern amongst mine action agencies that they would also be used for landmine clearance. However, there was no sense from people spoken to in this study that they would like to use their detectors in this way - searching for metal and searching for mines are understood to present different levels of risk.

rural communities for safe agricultural land and the capacity of the mine action sector to provide this through its current structures.

#### **11.7.1 Goals:**

- Clearance of agricultural land at an appropriate and sustainable cost.

#### **11.7.2 Requirements:**

- A strategic commitment to the engagement of the Royal Cambodian Armed Forces in a coordinated and controlled process of landmine clearance.
- Acceptance within mine action agencies that costs need to be driven down and new institutional structures supported so as to facilitate this. This represents a prioritisation of the needs of mine affected communities over commitment to a large permanent staff base or to financial turn-over as a revenue generating function.

#### **11.7.3 Key programmatic activities:**

- The Royal Cambodian Armed Forces (RCAF) need to be drawn upon as a landmine clearance resource. This would provide a relatively low-cost capacity and would engage the military in a positive and productive activity at a time when the role of the military in society needs to be addressed. Such an engagement should be seen as indicative of commitment on behalf of the Cambodian state to addressing the problems of landmine contamination. Planning and coordinating the engagement of the army in a structured process of mine action is the responsibility of CMAA, but interim projects could be planned and undertaken by mine action agencies in partnerships with sections of the army.<sup>157</sup>
- A reduced cost model for landmine clearance has been developed by MAG (“locality demining”) and can and should be developed further. The MAG model is based on local, short-to-medium term recruitment of staff from the local community where work is being conducted. People from the target community are trained, employed, equipped and supervised to clear their own land. This reduces capital costs such as vehicles<sup>158</sup>

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157. In addition to this recommendation for RCAF engagement in landmine clearance we also noted previously in the text concerns regarding the storage and management of ordnance within RCAF. A substantial programme could be planned and developed, in parallel to the work of EU-ASAC on control of weapons, to develop systems and facilities for the control of ordnance within the army. This could be focused towards the implementation of an Ottawa Treaty verification exercise demonstrating the absence of anti-personnel landmines within RCAF stores. Such an exercise effectively requires an audit of ordnance storage systems. Such a programme (which would need pilot project activities) would contribute to greater control over ordnance in society and would also contribute to further security sector reform.

and it reduces overheads such as deminer accommodation. In a further developed version, staff would be paid at a rate equivalent to day labour rates in the local area to clear their own agricultural land. This reduces the salary costs of the demining staff by a significant amount. However, the people are both being paid and regaining their agricultural land. A steady level of income at this local rate would still have a significant economic impact in the most economically marginal communities.<sup>159</sup> The teams are equipped, trained and supervised by experienced Khmer staff from within the mine action sector.<sup>160</sup> If such a model were implemented by a Cambodian local NGO it would reduce costs still further by removing the administrative support and other central costs that are necessary within internationally run operations. Local control and management could be planned for and evaluated by implementing the pilot project as an independent unit within an established mine action organisation.

- As discussed in Section 10.3, there should be a development of risk-management approaches to landmine contamination in Cambodia. Initial work on such approaches has produced a positive base from which to develop this thinking further. Such approaches will probably need to draw upon additional mechanical clearance assets.

## 11.8 CONCLUSION

The recommendations presented here are challenging and wide-ranging. They require support and engagement from large and complex institutions if they are to be implemented. Only implementation, through pilot projects that can be assessed and monitored, will determine if they will work to restrain the rising rate of ordnance accidents. These programmatic recommendations also represent opportunities for the mine action sector to challenge some of its own established practices and to engage with processes of societal development that are of fundamental importance.

It is the responsibility of the mine action sector, including the donors who sustain this sector, to develop advice and programmatic models that can provide the basis for an effective Cambodian response to ordnance contamination. It is commonly noted that mine action cannot provide a wholesale solution to the problems faced by post-conflict communities - partnership with “development” is often presented as the way forwards.<sup>161</sup> In recognising such a requirement the

158. A vehicle would still be required to operate as an ambulance and as point of radio contact. However, no additional vehicles would be required to move the deminers between locations or to and from accommodation.

159. Even at this local rate it would be potentially valuable to work with the community on how best to manage this regular income. This could involve facilitating discussion on whether the increase in communal capital could be used to address problems of market integration relating to other resources.

160. It is an important element of this model that the actual process and standard of landmine clearance is the same as that currently implemented within the formal mine action sector.

mine action sector must be very careful not to subserviate itself, its particular perspectives and capacities, to plans for development that may not be addressing the most fundamental needs of rural communities or the broader national needs for societal transformation. On the one hand, the mine action sector deals with the relationship between rural communities and their land - there is no more vital a relationship for such communities. On the other hand, the mine action sector often stands as a proxy for the army or the police - the state institutions who usually undertake such work in industrialised societies and whose transformation in the wake of conflict is often critical to social stabilisation. Innovative programme models and new partnerships present mechanisms by which the mine action sector could drive forward the agenda of both rural development and security sector reform.

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161. For example, Filippino (2000) notes: "linking mine awareness to the pantheon of development activities is the only viable way to provide real options to those living in a mine-contaminated environment."

# BIBLIOGRAPHY

Bolton, M. *et al.* (2003)

*Report of an external evaluation of the Handicap International Belgium project “Support for the planning of demining and the utilisation of demined land in Cambodia”, LUPU Project Evaluation, Cambodia.*

Bottomley, R. (2001)

*Spontaneous Demining Initiatives: mine clearance by villagers in rural Cambodia, Handicap International Belgium.*

\_\_\_\_\_ (2003)

*Crossing the Divide: Landmines, Villagers and Organisations, PRIO, Oslo Norway.*

Bowling, A. (2002)

*Research methods in health: investigating health and health services, Philadelphia: Open University Press.*

Brown, S. (1999)

*Mine Action – The Management of Risk, in the Journal of Mine Action: Issue 3.1, JMU*

Chayanov, A.V. (1986)

*The Theory of Peasant Economy, University of Wisconsin Press.*

Coolican, H. (1999)

*Research Methods and Statistics in Psychology, Hodder and Stoughton, London.*

CMAA (2004)

*National Mine Action Strategy, Secretariat General of CMAA, Cambodia Mine Action*

and Victim Assistance Authority, Phnom Penh.

CMVIS (2003)

*Towards Zero Victims: National Census of the victims & survivors of landmines and unexploded ordnance in Cambodia 2002*, Cambodia Mine & UXO Victim Information System, Cambodia Red Cross & Handicap International, Phnom Penh.

Cukier, W. (2002)

"Small Arms and Light Weapons: A Public Health Approach," in *The Brown Journal of World Affairs*, Spring 2002, Volume IX, Issue 1.

Davies, P. (1997)

"Mines and Unexploded Ordnance in Cambodia and Laos: Understanding the Costs," in Kumar [ed.] *Rebuilding Societies After Civil War: Critical Roles for International Assistance*, London.

\_\_\_\_\_ (1994)

*War of the Mines: Cambodia, Landmines and the Impoverishment of a Nation*, Pluto Press, London.

DfID (2002)

*Understanding and Supporting Security Sector Reform*, Issues Paper, UK Department for International Development, London.

Durham, J. et al. (2004)

*Effective Mine Risk Education - a shared responsibility*, Vientiane.

Durocher, M. & Hoti, A. (2003)

*Evaluation report on ECHO funded humanitarian mine action pilot projects in North-West Cambodia*, Phnom Penh

EU-ASAC (2003a)

*Final Report on Weapons in Exchange for Development Programme in 4 districts in Preah Vihear province*, Phnom Penh

\_\_\_\_\_ (2003b)

*Final Report on the Implementation of the Capacity Building Project for Community Relations and Code of Conduct of the Cambodian National Police Force in Selected*

*Provinces, Phnom Penh*

Filippino, E. (2000)

*"Implementing Landmine Awareness Programs" in the Journal of Mine Action: Issue 4.3, Fall 2000, JMU*

GICHD (2004a)

*A Study of Mechanical Application in Demining, GICHD, Geneva.*

\_\_\_\_\_ (2004b)

*A Guide to Mine Action, GICHD, Geneva*

\_\_\_\_\_ (2003a)

*Explosive Remnants of War (ERW): Warnings and Risk Education, GICHD, Geneva.*

\_\_\_\_\_ (2003b)

*The Role of the Military in Mine Action, GICHD, Geneva.*

\_\_\_\_\_ (2002)

*Explosive Remnants of War (ERW): Undesired Explosive Events in Ammunition Storage Areas, Geneva.*

\_\_\_\_\_ (2001)

*Explosive Remnants of War (ERW) Definitions, GICHD, Geneva*

Gorman, S. (1999)

*Gender and Development in Cambodia: An Overview. Cambodia Development Resource Institute, Working Paper 10, Phnom Penh.*

Grayson, J. (2003)

*"Mine action and development: merging strategies," in Disarmament Forum, Issue 3.*

Halcrow, W. (1994)

*Irrigation Rehabilitation Study: Final Report - Annex E: Women and Development, Mekong Secretariat.*

Handicap International (date unknown)

*The Cowards War: Mines and unexploded munitions in South Afghanistan, a*

*community approach to reduce accidents.*

- \_\_\_\_\_ (1997)  
*Living with UXO: National Survey on the Socio-Economic Impact of UXO in Lao PDR.*  
Report for Ministry of Labour and Social Welfare, Lao National UXO Programme.
- Hanson, D., Vardon, P. & Lloyd, J. (2002)  
*Safe Communities: An Ecological Approach to Safety Promotion* in Reducing Injuries in Mackay, North Queensland.
- Horwood, C. (2000)  
*Humanitarian Mine Action: The First Decade in a New Sector of Humanitarian Aid*, RRN Network Paper 32, Overseas Development Institute, London
- Jessor, R. (1992)  
"Risk behavior in adolescence: A psychosocial framework for understanding and action" in *Developmental Review* 12(4), 374-390.
- Knudsen, C. (2000)  
"The Challenges of Mine Awareness Education for Children in Afghanistan," in the *Journal of Mine Action: Issue 4.3, Fall 2000, JMU*
- Landmine Action (forthcoming)  
*Global Impact Survey on Explosive Remnants of War*, Landmine Action, London.
- \_\_\_\_\_ (2003)  
*Explosive Remnants of War: A global survey*, Landmine Action, London.
- \_\_\_\_\_ (2002)  
*Explosive Remnants of War: Unexploded ordnance and post-conflict communities*, Landmine Action, London.
- Landmine Monitor Cambodia (2003)  
*Landmine Monitor Cambodia*, Cambodia Campaign to Ban Landmines, Phnom Penh, Cambodia.
- Lyng, S. (1990)  
"Edgework: A social psychological analysis of voluntary risk taking." *American Journal*

*of Sociology*, 95, 851-856.

McCarthy, R. (2001)

"Mine/UXO Casualties and Casualty Surveillance in Cambodia," in the *Journal of Mine Action*: Issue 5.1, JMU

McGrath, R. (1994)

*Landmines, Legacy of Conflict: A manual for development workers*, Oxfam, Oxford, UK

Maclean, M. (1998)

*Livestock in Cambodian Rice Farming Systems*, Cambodia-IRRI-Australia Project, Cambodia.

Mines Advisory Group (1998a)

*Country Report: Cambodia*, MAG, Manchester.

\_\_\_\_\_ (1998b)

*Country Report: northern Iraq*, MAG, Manchester.

\_\_\_\_\_ (1999)

*Country Report: Lao PDR*, MAG, Manchester.

Moyes, R. (1995)

*Preliminary Analysis of Mine Accident Report Data from Battambang, Kompong Thom and Banteay Meanchey Provinces, Cambodia 1995*, MAG, Cumbria.

National Institute of Statistics (2000)

*Cambodia: Demographic and Health Survey 2000*, National Institute of Statistics, Phnom Penh.

\_\_\_\_\_ (1999)

*General Population Census of Cambodia 1998, Final Census Results*, Ministry of Planning, Phnom Penh.

Neumark-Sztainer, Story, French & Resnick (1997)

"Psychosocial correlates of health compromising behaviors among adolescents" in *Health Education Research: Theory & Practice*, Vol.12 no.1 1997, Oxford University Press.

Prokosch, E. (1995)

*The Technology of Killing: A Military and Political History of Antipersonnel Weapons*, Zed Books, London.

Quadeem Khan Tariq (2001)

"Landmine Impact Survey in the Republic of Yemen," in the *Journal of Mine Action*: Issue 5.3.

Rolison, M. & Scherman, A. (2002)

"Factors influencing adolescents' decisions to engage in risk-taking behavior," in *Adolescence*, Fall 2002.

Serco Assurance (2003)

*A Risk Strategy for Mine Action: A report for DFID*, Warrington, UK

Saunders, S. (2003)

"Kosovo After the UNMACC and Beyond," in the *Journal of Mine Action*: Issue 7.2.

Stover, E. & McGrath, R. (1991)

*Land Mines in Cambodia: The Cowards War*, Asia Watch, Physicians for Human Rights, USA.

UNICEF (1999)

*International Guidelines for Landmine and Unexploded Ordnance Awareness Education*.

Wells-Dang, A. (2004)

"Draft Reports on Vietnam and Lao PDR," for Landmine Action (forthcoming) *Global Impact Survey on Explosive Remnants of War*, London.

Wheatley, A. (forthcoming)

*Mine Awareness and Mine Risk Education in Mine Action: an overview of activity to date*, Hainworth Consulting.

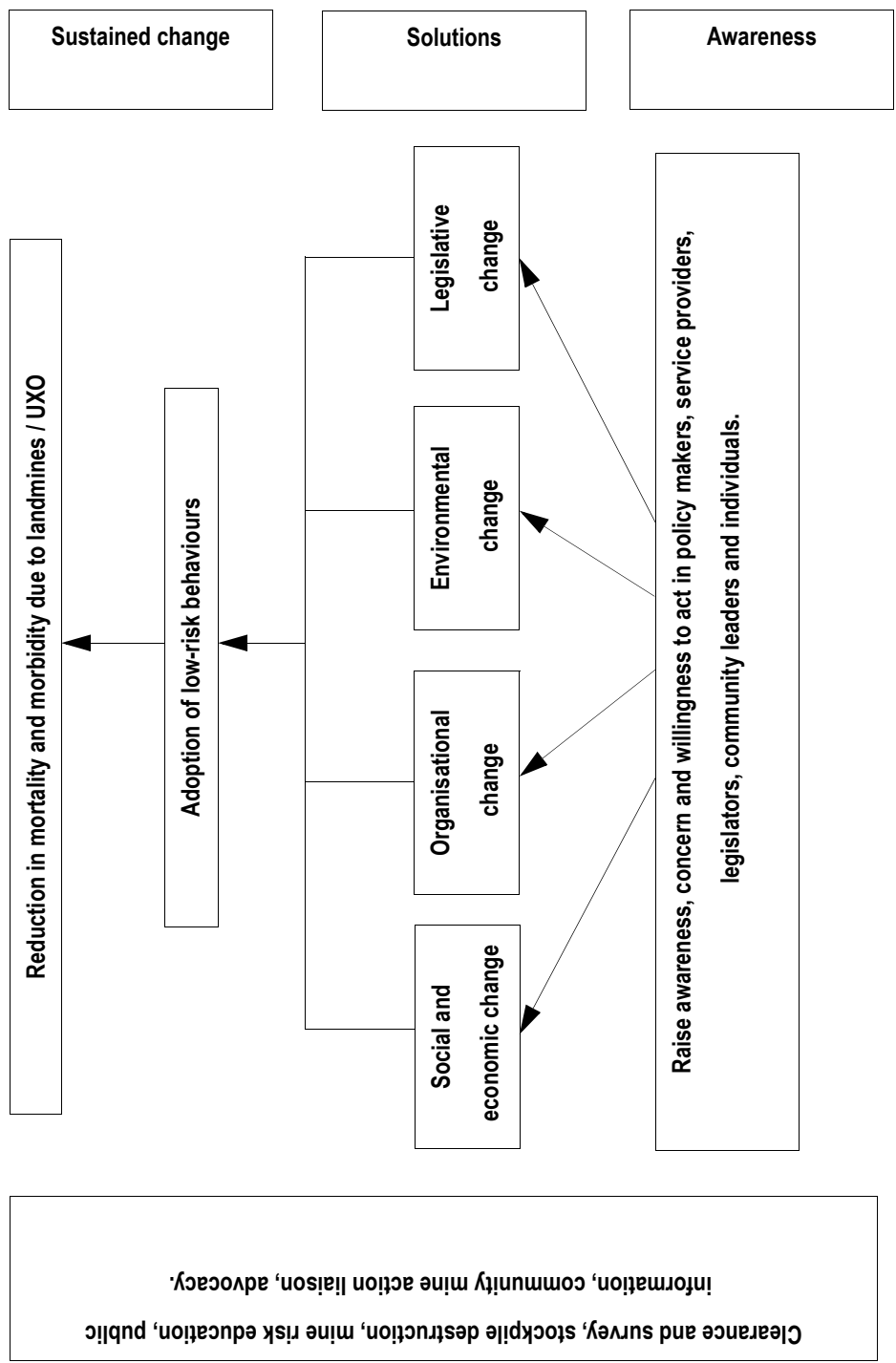
\_\_\_\_\_ (2000)

"Integrated Mine Action: A Collective Approach to Mine Awareness," an interview by Margaret Busé in the *Journal of Mine Action*: Issue 4.3, Fall 2000, JMU.

# ANNEX: A

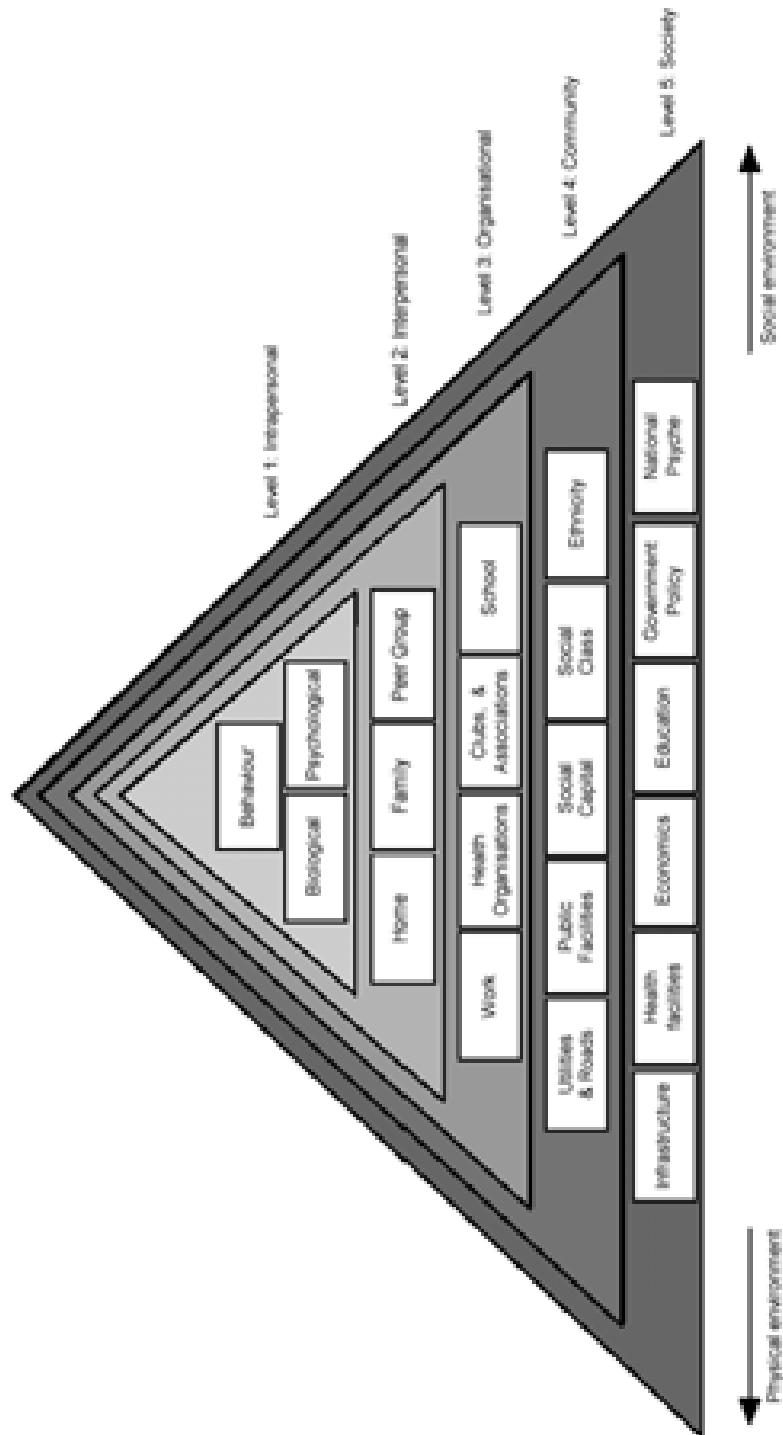
## DIAGRAM OF BEHAVIOUR CHANGE & MINE ACTION

Diagram developed by Jo Durham ([durhamjo@yahoo.com](mailto:durhamjo@yahoo.com)). The diagram emphasises the breadth of fora in which solutions need to be enacted in order to facilitate adoption of safe behaviours. To be read in landscape format



**“THE INJURY ICEBERG:” AN ECOLOGICAL MODEL OF INJURY CAUSATION**

from Hanson *et. al.* (2002), “Safe Communities: an ecological approach to safety promotion.”



# ANNEX: B

## PREDISPOSING, ENABLING AND REINFORCING FACTORS

See the summary of categories and further notes at the end of this Annex.

FACTORS PROMOTING PERSISTENCE OF ORDNANCE HANDLING BEHAVIOURS WITH RISK REDUCTION MOTIVATIONS		
Predisposing factors	Enabling factors	Reinforcing factors
<ul style="list-style-type: none"> <li>* Knowledge that ordnance is dangerous.</li> <li>* People do not want to suffer accidents or for other people to suffer accidents (fear).</li> <li>* Specific fears regarding children's engagement with ordnance.</li> <li>* Need to utilise land safely / want to reduce the risk of farming.</li> <li>* People have a sense of responsibility.</li> <li>* People believe that they can control their interaction with ordnance (self-efficacy).</li> <li>* Military experience gives people a prior understanding of the mechanics of ordnance.</li> <li>* General exposure to ordnance gives people an understanding of the mechanics of ordnance.</li> </ul>	<ul style="list-style-type: none"> <li>* Lack of clarity regarding reporting systems for EOD response.</li> <li>* Lack of EOD responsiveness.</li> <li>* Minimal additional resources required to destroy ordnance by burning.</li> </ul>	<ul style="list-style-type: none"> <li>* People destroy ordnance without suffering negative outcomes.</li> <li>* Process is effective and results in useable land.</li> <li>* Possible to sell scrap metal afterwards.</li> <li>* Lack of information on when a formal EOD response will be made.</li> <li>* Lack of consistent sanctions / approval by authorities.</li> <li>* Handling ordnance is relatively prevalent.</li> <li>* Enhanced sense of self-efficacy at having solved a problem.</li> </ul>

FACTORS PROMOTING PERSISTENCE OF ORDNANCE HANDLING BEHAVIOURS WITH ECONOMIC MOTIVATIONS		
Predisposing factors	Enabling factors	Reinforcing factors
<ul style="list-style-type: none"> <li>* Need for cash income.</li> <li>* Lack of apparent economic alternatives.</li> <li>* Desire for economic independence.</li> <li>* Ability to discriminate between live and safe items.</li> <li>* Knowledge of techniques for destroying or dismantling specific types of ordnance or refashioning an item for fishing.</li> <li>* Working in the scrap metal trade.</li> </ul>	<ul style="list-style-type: none"> <li>* Lack of safe military scrap remaining in the local environment.</li> <li>* Strong market integration of scrap trade.</li> <li>* Other foraging practices take people to areas where ordnance can be found.</li> <li>* Local scrap dealers will purchase items from children without asking questions.</li> <li>* Local people will purchase items from children without asking questions.</li> <li>* Parents do not investigate children's income sources.</li> <li>* Local availability of people who can explain their techniques.</li> <li>* Weaker market integration for other goods (including labour).</li> <li>* Lack of land puts greater emphasis on foraging practices.</li> <li>* Prevalence of military scrap within the scrap trade.</li> <li>* Scrap trade differentiation of safe and dangerous items.</li> <li>* Large fused items of ordnance can be sold into the scrap trade for them to render safe.</li> <li>* Lack of fishing net or other alternative economic tools.</li> <li>* Access to unfired ordnance from military stores (preferred fuses for cutting open to use in fishing)</li> <li>* Landmine contamination constricts economic base of some communities.</li> <li>* Environmental legislation constricts economic options in some communities (e.g. logging)</li> </ul>	<ul style="list-style-type: none"> <li>* Significant financial reward: scrap metal prices have been relatively high.</li> <li>* People destroy and dismantle ordnance without suffering negative outcomes.</li> <li>* Lack of consistent sanctions or negative response from authorities (local police, village chief etc...</li> <li>* Fishing with explosives has peer group approval.</li> <li>* Migration changing household economic circumstances.</li> <li>* Mine action agencies remove the economic value.</li> </ul>

<b>FACTORS PROMOTING PERSISTENCE OF ORDNANCE HANDLING BEHAVIOURS: PLAYING</b>		
<b>Predisposing factors</b>	<b>Enabling factors</b>	<b>Reinforcing factors</b>
<ul style="list-style-type: none"> <li>* Ignorance of what the item is (accidental risk-taking).</li> <li>* Knowledge that the item is dangerous (deliberate risk-taking).</li> <li>* Desire for excitement.</li> <li>* Desire to be brave.</li> <li>* Curiosity.</li> <li>* Lack of comprehension of power of explosives.</li> <li>*</li> </ul>	<ul style="list-style-type: none"> <li>* Ability to operate in secret from parents.</li> <li>* Parents do not pay attention to children's behaviour.</li> <li>* Herding activities bring children into contact with ordnance.</li> <li>* Adults bring items of ordnance into communities / household areas.</li> <li>* Familiarity with ordnance (whether safe or unsafe).</li> <li>* Lack of alternative sources of similar excitement.</li> <li>* Access to the scrap metal trade (for selling after playing).</li> </ul>	<ul style="list-style-type: none"> <li>* Peer response.</li> <li>* Children play with ordnance without suffering negative outcomes.</li> <li>* Lack of consistent sanctions or negative response from authorities (parents, village chief, local police, monks etc....)</li> <li>* Possibility of selling scrap metal after playing.</li> </ul>

## **SUMMARY OF CATEGORIES:**

### **Predisposing Factors**

Predisposing factors include knowledge, attitudes, beliefs, values, and perceived needs and abilities. These factors fall may be psychological or related to the skills and resources that people have. Some of these are complex in our analysis (for example for knowledge and lack of knowledge that an item is dangerous can be predisposing factors for different forms of ordnance handling.)

### **Enabling Factors**

Enabling factors facilitate the performance of an action. These may include availability and accessibility of resources and the presence or absence of various social or environmental factors that make it more or less difficult to actually undertake ordnance handling.

### **Reinforcing Factors**

Reinforcing factors are those consequences of action that determine whether the actor receives positive or negative feedback for that action. These factors may be physical consequences, social support, peer influences. Social and economic benefits can also be reinforcing factors. Lack of negative social consequences is also treated as a reinforcing factor in this analysis.

## **FURTHER NOTES:**

This structure of analysis does not represent all elements of the findings of this report. It does however allow us to see the inter-relation of certain factors that should be used to guide the focus and development of programmatic responses. The potential financial benefit of engagement with ordnance is a reinforcing factor for all three motivations, as is the lack of consistent negative response from local authorities. Strengthening the negative outcomes of engagement with ordnance (in terms of the response by authorities) would strengthen the ability of communities to manage these risk-taking behaviours for themselves. However, these authorities need to be able to act with insight and discretion.

# ANNEX: C

## SUMMARY OF KAP SURVEY QUESTIONNAIRE FOR UXO AND NON UXO HANDLERS

### Responses omitted to reduce length

Date  
Place of interview  
Name of interviewer

#### 1. LIVING STATUS CHECKING (Before interviewing)

- 1.1 Roof:
- 1.2. Wall:
- 1.3. Floor:

#### 2. PERSONAL INFORMATION

- 2.1. Sex of interviewee:
- 2.2. Age of interviewee:
- 2.3. Place of birth:
- 2.4. If a newcomer, when did you arrive to this village?
- 2.5. Occupation:
- 2.6. Source of earning money
- 2.7. For children only:
  - In general, how much money do you receive from your parent per day?
  - Beyond receiving money from your parent, what source of money do you earn?
  - What do you spend this money on?
- 2.8. Had you ever been as a soldier?
  - If yes, Could you describe your activities when you were a soldier?
- 2.9. Educational background
- 2.10. Marital status
- 2.11. How many people living in your family?.....MaleÖÖÖÖÖFemale
- 2.12. How many children do you have?

#### 3. ASSET BELONGINGS

- 3.1. Livestock (Multiple answers)
- 3.2. Agricultural and other occupation tools (Multiple answers)
- 3.3. Household assets (Multiple answers)

#### 4. LAND TYPE INFORMATION

- 4.1. What kinds of land do you own?
- 4.2. Do you work on somebody else's land?
  - If yes, how are you paid per day?

#### 5. GENERAL CONCERN

- 5.1. Put the following risks in the order that they concern you
- 5.2. Put the following risks to your children in the order that they concern you.

#### 6. UXO INFORMATION

- 6.1. Have you ever seen an item of UXO?
- 6.2. If yes, when did you last find an item of UXO?
- 6.3. Where have you seen UXO? (Multiple answers)
- 6.4. Have you ever found UXO by your self?
- 6.5. If yes, where have you found UXO? (Multiple answers)
- 6.6. What did you do with UXO that you found? (Multiple answers)

**6.7. If moved/ handled UXO:**

- 6.7.1. How did you move/ handle UXO? (Multiple responses)
- 6.7.2. Where did you take it to? (Multiple answers)
- 6.7.3. How did you learn how to move/ handle UXO?
- 6.7.4. How often have you moved/ handled UXO?
- 6.7.5. On average, how many items of UXO do you move / handle together?
- 6.7.6. Who usually enjoys moving / handling UXO with you? (Multiple answers)

**6.8. If destroyed UXO:**

- 6.8.1. How did you destroy UXO? (Multiple answers)
- 6.8.2. Where did you destroy UXO? (Multiple answers)
- 6.8.3. How did you learn how to destroy UXO?
- 6.8.4. How often have you destroyed UXO?
- 6.8.5. In average, how many items of UXO have you destroyed?
- 6.8.6. In general, who enjoyed doing UXO destruction with you? (Multiple answers)

**6.9. If dismantled UXO:**

- 6.9.1. How did you dismantle UXO? (Multiple answers)
- 6.9.2. Where did you dismantle UXO? (Multiple answers)
- 6.9.3. How did you learn how to dismantle UXO?
- 6.9.4. How often have you dismantled UXO?
- 6.9.5. How many items of UXO have you dismantled?
- 6.9.6. Who enjoyed dismantling UXO with you? (Multiple answers)

**6.10. If stored UXO:**

- 6.10.1. Where did you store UXO? (Multiple answers)
- 6.10.2. Who helped you to store UXO? (Multiple answers)
- 6.10.3. How many items of UXO have you stored?

6.11. What are your main reasons for handling UXO? (Multiple answers)

**6.12. If to play:**

- 6.12.1. How do you play with UXO? (Multiple answers)
- 6.12.2. Why is it exciting to play with UXO? (Multiple answers)

**6.13. If to recover scrap metal:**

- 6.13.1. Where do you sell scrap metal?
- 6.13.2. What types of metal can be sold as scrap?
- 6.13.3. What type of metal is more valuable?
- 6.13.4. How much money can you make by selling scrap metal?
- 6.13.5. Do scrap metal dealer buy UXO even if it still contains some explosives?
- 6.13.6. Do scrap metal dealer buy UXO even if it still has a fuse?
- 6.13.7. How often do you collect scrap metal?
- 6.13.8. What do you do with the money that you make from selling scrap metal?

**6.14. If to refashion an item for fishing:**

- 6.14.1. How did you learn to fish with explosives?
- 6.14.2. Do you refashion an item by your self?
- 6.14.3. Who do you enjoy fishing with? (Multiple answers)
- 6.14.4. How do you gather all the fish that are killed? (Multiple answers)
- 6.14.5. Do you sell fish that you catch?
- What do you do with the money that you make? (Multiple answers)

**6.15. If to clear land:**

- 6.15.1. What is the land used for? (Multiple answers)
- 6.15.2. Do you think that is it safer to move UXO off your land than to leave it where it is?

**6.16. If to avoid children finding an item:**

- 6.16.1. Have your children ever played with UXO?
- 6.16.2. Have you seen other children playing with UXO?
- 6.16.3. Why do children play with UXO?
- 6.16.4. How can you stop children from playing with UXO?

## **7. KNOWLEDGE**

- 7.1. Can you tell me, what makes a UXO item explode? (Multiple answers)
- 7.2. How far away can a UXO explosion kill or injure you? (Multiple answers)
- 7.3. What are the different parts of UXO? (Multiple answers)
- 7.4. Would you handle all types of UXO? (Ask only for UXO handler)
- 7.5. How can you tell if a UXO is safe? (Multiple answers)
- 7.6. What are the risks involved in handling UXO? (Multiple answers)
- 7.7. How can people protect themselves from injury?
- 7.8. What do you think are the risks to your family because you handle UXO?
- 7.9. Do you know other villagers have accidents because of handling/ moving UXO?
- 7.10. Do you think that is it more dangerous to handle UXO after drinking alcohol?
- 7.11. Does practice make handling UXO safer?
- 7.12. Who is more likely to have an accident, someone who has handled lots of UXO or someone handling UXO for the first time?
- 7.13. Have you ever got any accident?
  - If yes, what was the cause to have an accident?

## **8. ATTITUDES**

- 8.1. Do you think that only men can handling UXO?
  - If yes, why do you think so?
- 8.2. Do you have to be skilful or knowledgeable to handle UXO?
- 8.3. If a team could safely destroy UXO found in your community, would you inform them of items that are found?
  - If no, why no?
- 8.4. Do you think that is it safe for children to play with UXO?
  - If safe, why do you think so?
  - If unsafe, why do you think so?
- 8.5. Do you think that the men who handle UXO are brave?
  - If yes, why do you think so?
- 8.6. Are you interested to watch people handling UXO?
  - If it is interested, why do you think so?
  - If it is uninterested, why do you think so?
- 8.7. Do you tell people that you are going to be handling UXO?
- 8.8. When people watch others handling UXO, how far away should they stand?
- 8.9. Why do women not handle UXO as much as men?
- 8.10. Are people who handle UXO respected in the community because they do this?
  - If respect, why do you think so?
  - If not respect, why do you think so?

## **9. FINDING UXO**

- 9.1. How do you find UXO? (Multiple answers)
- 9.2. Which season is the easiest time to find UXO?

## **10. REPORTING**

- 10.1. Are there teams near here who can destroy UXO?
- 10.2. Who do you report items to if you want someone to come and destroy them?
- 10.3. Have you ever reported items that have been found?
- 10.4. Have you ever moved the item to a safe place until the team can come?
- 10.5. How long does it take for a team to come and destroy these items?
- 10.6. Do you think that is it better to have a team come and destroy them or to leave them?
  - If it is better to have a team come to destroy, why do you think so?

**11. UXO RISK EDUCATION**

- 11.1. Have any people or teams come here to explain the dangers of landmines and UXO?
- 11.2. If yes, how was their explanation?
- 11.3. Have you been given this UXO risk education at school?

# ANNEX: D

## LEGISLATION GOVERNING ARMS AND EXPLOSIVES IN CAMBODIA

The new draft arms law awaiting ratification in Cambodia can be found at [www.eu-asac.org](http://www.eu-asac.org)

The current law on weapons, Sub-decree 38, is reproduced below:

**Kingdom of Cambodia**  
**Nation Religion King**  
**Royal Government of Cambodia No. 38 Sub-decree**  
**Sub-decree**  
**on**  
**Administering and inspecting the import, production,**  
**selling, distribution and handling all types of weapons**

### Royal Government of Cambodia having:

- **Seen** Kingdom of Cambodia Constitution
- **Seen** Royal Decree No.1193/72 dated on November 30, 1998 concerning the appointment of Royal Government component of Kingdom of Cambodia
- **Seen** the Royal Order dated on July 20, 1994 which was promulgated the law on organization and functioning of Council Ministers
- **Seen** the Royal Order No. 0196-08 dated on January 24, 1996 which promulgated the law on Establishing the Ministry of Defence
- **Seen** Sub-Decree No. 16 dated on December 20, 1993 on Organization and functioning of the Ministry of Interior
- **Seen** Sub-Decree No. 37 dated on February 16, 1999 on Reforming the Structure of Ministry of Defence
- **Seen** Decree No. 11 Dated on February 07, 1992 which promulgated the law on punishment of illegal handling of weapons and wearing of uniforms
- **Seen** the Transitional Criminal Procedure
- **Receiving** agreement by Ministers' Council in plenary on April 30, 1999

### Now decides:

#### **Chapter 1** **General Regulation**

##### **Article 1:**

This sub-decree aims to protect and to depress in order to administer and inspect on supervision, stock, import, production, exchanges, distribution and handling all types of weapons without authorization from the competent institution.

##### **Article 2:**

Weapons are considered to include:

- all types of firearms and pistols
- firearms which emit substances which cause watery eyes gas, faint or poisonous
- all types of automatic or semi automatic firearms

- soundless firearms or soundless equipment
- all types of rockets
- all types of chemical weapons
- all types of biological weapons
- all types of electricity shock's stick
- all types of grenades and mines
- all types of explosive substance
- all types of bullets

**Article 3:**

All types of explosives and weapons mentioned above are not subjected to the individual property. Any person at present, wherever they keep explosives or weapons shall take it to the competent authority through the determination of declaration of the inter-ministerial of Interior's Ministry and Defence's Ministry.

**Article 4:**

It is absolutely forbidden to sell, exchange, donate, stock at home, or other locations, those kinds of explosives and weapons as stated in Article 2 of this Sub-Decree within the territory of the Kingdom of Cambodia.

**Article 5:**

The import and production of all types of explosives and weapons is the jurisdiction of the Royal Government of Cambodia:

Through the request of the Minister of Defence, if those weapons are to serve in the interests of national defence.

Through the request of Minister of Interior, if those weapons are to serve in the interests of national security.

All types of internal weapons transportation is the responsibility of the Ministry of Defence, if the weapons are to serve in the interests of national defence or it is the responsibility of the Ministry of Interior if the weapons are to serve in the interests of national security.

## **Chapter 2 Administering and Inspecting all types of Explosives and Weapons**

**Article 6:**

The Ministry of Defence has the duty to administer and inspect the utilization of all types of explosives and weapons inside the Royal Cambodian Armed Forces and Gendarmerie including all type of explosives and weapons which are kept inside its storehouses.

**Article 7:**

The Ministry of Interior has the duty to administer and inspect the utilization of all types of explosives and weapons inside the National Police, civil servants, militia and security guards of the Cambodian National Bank, including all types of explosives and weapons which are kept inside its storehouses.

**Article 8:**

The import, utilizing, transportation and stocking of all types of explosives or explosive substances to serve the product or public service, shall be approved by the Ministry of Interior.

## **Chapter 3 The jurisdiction of issuing the authorization papers to handle all types of explosives and weapons**

**Article 9:**

Ministry of Defence is entitled to issue the authorization paper on handling all type of explosive and weapon to the Royal Cambodia Armed Force and Gendarmerie.

**Article 10:**

The Ministry of Interior is entitled to issue the authorization papers on handling all types of explosives and weapons to the National Police, Civil Servants, Militia and Security Guards of the Cambodian National Bank.

**Article 11:**

Procedures and conditions of requests for the authorization papers on handling explosives and weapons for the Royal Cambodian Armed Forces, Gendarmerie, National Police, Civil Servants, Militia and Security Guards of Cambodia National Bank, shall be determined by the declaration of the inter-Ministerial of Interior's Ministry and Defence's Ministry.

**Chapter 4**  
**Rights to handle a**  
**pistol as private property**

**Article 12:**

Civil servants authorized to handle a pistol per person as their own property is determined by levels of seniority as following:

*Legislative Institutions:* Senators, Parliamentarians, Constitutional Council Members and Magistracy Supreme Council Members.

*Justice:* Chief of Supreme Court and Prosecutor General of Supreme Court.

*Ministry and Institutions:* From the director general to the top.

*Provinces and Municipalities:* Phnom Penh Capital: from the deputy governor to the top. District and Khan level: District and Khan governor

**Article 13:**

The Royal Cambodian Armed Forces, Gendarmerie and National Police are authorized to handle a pistol per person as their own property- from the rank of General upwards.

**Article 14:**

Regarding the Royal Cambodian Armed Forces, Gendarmerie, National Police, besides the determination in Article 13 of this Sub-Decree, can handle weapons during their operations with the following provisions:

- During a given operation, they shall have the attached mission and authorization papers of the collective weapon utilization.
- Regarding the mission orders of the Royal Cambodian Armed Forces, they shall not be signed by either the Cabinet of the Ministry of Defence nor Royal Cambodian Armed Forces Headquarters Cabinet nor Land Commander, Water Commander, Air Commander, Gendarmerie Commander, Division Commander nor sub-military Division Commander.
- The competent authority who signs the mission orders of the Royal Cambodian Armed Forces who is not stated in the above article shall be determined by the Commander General of the Royal Cambodian Armed Forces.
- The mission orders of the National Police and security guards of the Cambodian. National Bank shall be signed by the General Director of National Police or by the provincial municipal Police Commissioner.
- All weapons with authorization papers are to be stored at the relevant unit after ending the operation.
- The limitation of the necessary operation shall be determined by the interministerial of Interior's Ministry and Defence's Ministry on utilizing all types of weapons.

**Article 15:**

The alien is not entitled to handle all type of weapon.

**Article 16:**

It is not authorized to handle the firearm as private property

**Article 17:**

All types of weapons and explosives are forbidden to be brought into the capital Phnom Penh, except when there is an authorization from the Ministry of Interior or the Ministry of Defence. The form and

condition to request the authorization to bring the weapon into Phnom Penh is the responsible of the Ministry of Interior and the Ministry of Defence.

## **Chapter 5 Penalty**

### **Article 18:**

Any individual who has acted in violation of the law on illegal handling of weapons and wearing of uniforms or the law on transitional criminal procedures shall be imprisoned for the following violations:

- Acting in violation of Articles 3, 4, 8, 12, 13, 14, 15 and 16 of this sub-decree
- Importing, selling, exchanging or keeping weapons or explosive substances without authorization papers
- Providing, lending or renting weapons to other individuals
- Pointing a weapon at another individual or threatening to shoot another individual or shooting in the air during rain or storms or shooting for the purposes of testing away from the testing area determined by the Ministry of Interior or Ministry of Defence

### **Article 19:**

Weapons and authorization papers shall be shall be deprived from any individual who has lost the relevant authorization papers or bullets or is over the quantity of weapons or explosives specifically stated within the relevant authorization papers.

### **Article 20:**

Evidence linked to any crime related to this sub-decree shall be confiscated to keep as the State's property and shall be sent to the National Police Department General to administer, except heavy weapons which shall be sent to the Royal Cambodian Armed Forces.

### **Article 21:**

Weapons and authorization papers shall be permanently deprived to any individual who uses them to commit any offence.

### **Article 22:**

Any competent authority that issues the authorization papers for handling weapons against the limitations which are stated in Articles 12, 13 and 14 of this Sub-Decree shall be punished by the effective law.

## **Chapter 6 Inter Regulation**

### **Article 23:**

After this sub-decree comes into effect, the Ministry of Interior and Ministry of Defence shall discuss on transferring the militia from Ministry of Defence to Ministry of Interior.

### **Article 24:**

Individuals entitled to handle a pistol as their private property as stated in Articles 12 and 13 of this Sub-Decree shall submit a request to Ministry of Interior. All relevant individuals within the National Police, Civil Service, Ministry of Defence, the Royal Cambodian Armed Forces and the Gendarmerie shall submit the aforementioned request within two months of this Sub-Decree coming into effect. In cases where the above determinations are disrespected, the concerned individual shall be responsible before the law and the weapon shall be confiscated to keep as the property of State.

### **Article 25:**

Upon this Sub-Decree coming into effect, every shooting club and sport entertainment club shall be closed. All type of weapons at the above clubs shall be taken to the National Police Department General to be kept as the property of the State.

## **Chapter 7 Conclusion**

**Article 26:**

Sub-Decree No. 62 dated on July 31, 1995 and every regulation which is contradictory to this Sub-Decree shall be abrogated.

**Article 27:**

Minister in charge of Council of Ministers, Co-Ministers of Interior, co-Ministers of Defence, Ministers, Secretaries of State of all related Institutions and Ministries, Provincial and Municipal Governors shall implement this Sub-Decree with immediate effectiveness from the date of signing.

***Made at Phnom Penh Capital April 30, 1999***

***Informed to:***

Samdech Prime Minister Hun Sen

Co-Ministers of Interior: Sar Kheng You Hockry

Co-Ministers of Defence: Tea Banh Prince Sisowat Serey Roath

**CC:**

-Cabinet of the King

-Secretary General of Senate

-Secretary General of Parliament

-Cabinet of Prime Minister

-As the Article 27

-Chrono File





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