Crossing the Divide

Landmines, Villagers and Organizations

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Photos
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COLLABORATING INSTITUTIONS

United Nations Children's Fund (UNICEF)

UNICEF HAS BEEN INVOLVED in humanitarian mine action since 1992, when it began a mine risk-education programme in El Salvador. Since then, UNICEF has supported and implemented mine action activities in over 35 countries, with 28 country programmes planned or ongoing in 2003. Within the field of mine action, UNICEF is committed to the protection of civilians, in particular women and children; the prevention of accidents through risk-education programmes; and the alleviation of the effects of landmines through the provision of support to the survivors of accidents and to affected communities.

In large part, UNICEF's work involves advocacy initiatives: advocacy to support the elimination of the use of landmines, but also advocacy to support the rights of affected communities and individuals. UNICEF recognizes the legal and moral obligation and accountability of States to the rights and needs of their peoples, and affirms that children and women should have the opportunity to express their views and participate in decision-making on issues affecting their lives. For these reasons, UNICEF places affected children, their families and their communities at the centre of mine action, and encourages its partners to do likewise.

This study represents a significant step in the identification of the landmine problem, how it can affect people around the world and the strategies people develop to combat the problem. UNICEF believes that agencies must engage in debates raised by this study to ensure that mine action responses and life-saving assistance around the world can more effectively move toward medium- and long-term solutions, with an emphasis on national capacity-building, community participation and community-based recovery strategies.

For further information on UNICEF's global landmines programme, see the organization's website at http://www.unicef.org or e-mail landmines@unicef.org.

For every child
Health, Education, Equality, Protection
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Handicap International Belgium

HANDICAP INTERNATIONAL BELGIUM (HIB) is involved in humanitarian mine action programmes as a preventative means of tackling one of the main causes of disability in countries affected by civil war. In Cambodia, HIB has been directly involved in humanitarian mine action programmes since 1992, initially supporting teams of Cambodian deminers working under the supervision of the United Nations Transitional Authority in Cambodia (UNTAC). From 1993 to 2000, HIB principally provided support to the Cambodian Mine Action Centre (CMAC) and worked in collaboration with the Cambodian Red Cross to develop the Cambodia Mine/UXO Victim Information System (CMVIS), which provides data on the landmine casualty situation in Cambodia. In addition, HIB has been involved in the development and support of a land-use planning process for demined land, and from 2001 to 2002 provided technical assistance and support to CMAC in the development of an integrated and sustainable community-oriented risk-reduction project, Community-Based Mine/UXO Risk Reduction (CBMRR). Also in partnership with CMAC, HIB is working on the development of a new mine-clearance concept through the establishment of Mine Risk Reduction Teams (MRRTs).

An issue that has been of particular interest to HIB since the early 1990s has been the occurrence of mine-clearance activities by villagers in Cambodia. It was for this reason that HIB carried out a six-month research study to investigate village mine-clearance activities in the summer of 2001. The present report derives from that original study and looks at the issues in greater depth, using theoretical frameworks for analysis. The study of village mine clearance has proven its relevance in that the findings have continued to inform other projects developed by the Mine and Disability Prevention Department of the HIB Cambodia office. HIB in Cambodia continues to ensure that village demining is an issue that is kept on the mine action agenda.

For further information about the work of HIB, see the organization's website at http://www.handicapinternational.be.

HANDICAP INTERNATIONAL
BELGIUM

International Peace Research Institute, Oslo (PRIO)

THE INTERNATIONAL PEACE RESEARCH INSTITUTE, OSLO (PRIO), formed in 1959, was one of the first centres of peace research in the world. PRIO is independent and international in staff and perspective. Research at PRIO concentrates on the driving forces behind violent conflict and on ways in which peace can be built, maintained and spread. In addition to theoretical and empirical research, PRIO also conducts policy-oriented and capacity-building activities, and engages in the search for solutions in cases of actual or potential violent conflict. PRIO's Centre for the Study of Civil War was awarded 'Centre of Excellence' status by the Research Council of Norway in 2002. The institute hosts two international scholarly journals: *Journal of Peace Research* and *Security Dialogue*, in addition to its report series. PRIO is also responsible for a six-week summer course in peace research that is held as part of the International Summer School at the University of Oslo.

The Assistance to Mine-Affected Communities (AMAC) project is part of the Conflict Resolution and Peacebuilding programme at PRIO. The AMAC project explores opportunities to build on local resources and local competence in humanitarian mine action. The project is based on the conviction that improved assistance to mine-affected communities must start with a deeper understanding of local responses to landmines. Rather than viewing people in mine-affected communities as passive victims, AMAC acknowledges their importance as active subjects. It is imperative for the design of interventions that community capacities are properly understood. The challenge is to find ways in which the social dynamics within which mine-action agencies operate can be integrated positively into the mine action process. The project focuses on identifying the impact of landmines on communities, the ways in which communities respond to the landmine problem and the role of agencies in mine action. The project also explores the interplay between mine action and larger issues of peacebuilding, including postwar reconstruction and development.

For further information on PRIO and the AMAC project, see the PRIO website at http://www.prio.no.

FOREWORD

KRISTIAN BERG HARPVIKEN
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WITH THIS REPORT, Ruth Bottomley sets out a serious challenge for the professional mine action community. She provides a vivid account of 'village deminers' – local Cambodians who find themselves exposed to the combined effects of numerous risk factors, such as poverty, political oppression and fragmented social solidarity, and who consciously choose to engage in lifting mines as a means of securing the survival of themselves and their families. More than a decade after international mine action organizations started operations in Cambodia, and more than half a decade after the signing of the celebrated Mine Ban Treaty, village demining remains a common practice in Cambodia, an unpleasant reminder that there is still a long way to go before the needs of mine-affected populations are adequately addressed.

It is not clear how the challenge is to be met, and Bottomley does not pretend that there are any easy answers. However, some of the implications ought to inform future debate. First, the ongoing practice of village demining, sometimes side-by-side with professional demining but with little or no interface between the two, indicates that current communication strategies are inadequate; an extreme example of this is when outsiders provide mine-risk education to experienced village deminers. Second, the current demining response is not adequately addressing the landmine problem. This may relate to the level of funding available and other key resources, but it may also be a question of how existing capacity is organized and how decisions are made. Third, as illustrated by the example of village deminers who clear areas selectively in order to keep an area unattractive to its original proprietor, external demining interventions may also have negative effects, at least for some of the potential 'beneficiaries', and they therefore need to work in close interaction with other initiatives, such as those focusing on land distribution and property rights.

The present report's documentation of the choices made and the practices pursued by village deminers is unique, and in and of itself it makes the original study, initiated by Handicap International Belgium (HIB), one of the most important contributions to the landmine debate in recent years. The village demining phenomenon is well known among people who have spent time in communities affected by mines. Yet, it has

never been included within the dominant narrative of what it is to be a landmine 'victim'. This narrative, closely associated with the celebrated International Campaign to Ban Landmines (ICBL), presents a rather one-dimensional picture of a multifaceted issue, with figures for victims or mines in the ground gaining worldwide status as undisputed facts with journalists, politicians and the engaged public. This narrative, effective as it may have been for campaigning purposes, has also served to reinforce the image – held by many of those involved in the designing and implementing of projects at the field level – of mine-affected people as victims incapable of acting on their own situation. Village demining does not fit into such a narrative.

As Bottomley points out, the humanitarian mine action sector has changed dramatically in the 15 years that have passed since the first project was conceived in the Afghan context. In terms of professional composition, it has moved from an almost exclusive reliance on military competence to a situation in which it increasingly draws on personnel with a development background, particularly in the 'softer' areas of mine action, such as survey or mine-risk education, but also to a certain extent at the leadership level. At the same time, the sector has moved towards high levels of standardization, certification and quality-assurance mechanisms, where it has moved far ahead of most other sectors of international assistance. The standardization drive, however, closely linked with relatively rigid and authoritarian modes of organization and coordination within the sector, serves as an impediment to innovation, which may be one more reason why an anomaly such as village demining has failed to inspire genuinely new approaches to mine action on the ground, including initiatives that aim at a thorough involvement of locals.

There is a certain promise arising from the stories of the Cambodian village deminers contained in the present report. They demonstrate the will and the capacity of individuals to find ways of addressing the problems they face, even under the severest conditions. Demonstrating how people take into use their own labour power and often meagre knowledge in order to cope with the deadly instruments of landmines, Bottomley brings the resources of the 'victims' into the spotlight. Given that Cambodia, like many other severely mine-affected countries, will have a mine problem for a long time to come, and that new wars leave cluster munitions and other explosive remnants with effects similar to those of landmines, this is highly significant. Informal local responses may inform new ways of countering landmines and unexploded ordnance that outweigh current ones in terms of efficiency and effectiveness. There is, at the very least, an obvious need to intensify work on developing low-key, flexible and inexpensive response capacities. Such capacities will complement current forms of the landmine response, hence ensuring a better use of existent funds, but may also be the basis for developing lasting local and national capacities for when international support declines in the future.

PREFACE

THE SOURCE OF THIS REPORT was a field research study carried out by the humanitarian NGO Handicap International Belgium (HIB) in 2000 to investigate the occurrence of mine-clearance activities by villagers in rural Cambodia. The research was conducted by a team of four people: myself as the research coordinator, two Cambodian socio-economic researchers and a demining site manager from the Cambodian Mine Action Centre (CMAC), seconded to HIB for the period of the research. Although I had conducted research studies in Cambodia previously, this was the first time that I had worked within the field of mine action, and it was an exciting but also daunting prospect. Within the mine action community in Cambodia, there were mixed attitudes to the research, and there was clearly a certain amount of scepticism about what the research would yield and whether a team with such little experience in mine action would or could bring anything new to the field. However, the fact that our combined experience in mine action was limited was in the end perhaps of benefit to the research. Being 'outsiders' to both the mine action sector and the lives of the villagers, we were able to look at the issues with a fresh perspective and to uncover some of the complexities and contradictions that are perhaps less apparent to those more directly involved.

The original intention behind the study was to solidly document the motivations and practices of villagers conducting mine clearance and to provide an assessment of the risks taken by them so as to inform mine action operators and other agencies working with communities in mine-contaminated areas. Although there had been some brief studies of village demining conducted in Cambodia in the past, these had tended to focus more on technical aspects of clearance. What the HIB research was able to do was to look beyond the initial activity of demining itself to uncover the underlying motivations behind local-level clearance activities. However, it soon became clear that the 'problem' of village demining was not emerging in an isolated fashion from the local level. Village deminers are actors within the wider social, economic and political milieu, and their actions are derived from and informed by their constant interaction with other actors within this milieu. In this sense, we quickly came to realize that village demining in Cambodia at this time cannot be fully understood without taking into account the mine action intervention there, and vice versa.

The research study was largely empirical, but it raised many questions concerning the nature of mine action interventions in relation to village demining. Why, for example, after more than a decade of mine action in Cambodia, are villagers still intentionally

placing themselves in high-risk situations? Why are village deminers and mine action organizations clearing mines *at the same time* in some villages? Is the mine action community aware of the capacities of village deminers? Are these capacities being recognized and utilized? How do the priorities of the village deminers and the mine action agencies correspond? Who decides on the priorities in each case? In beginning to look for answers to these questions, the HIB study began indirectly to challenge some of the existing assumptions and practices of mine action. This was specifically the case in relation to the approach and attitude of mine action agencies towards village deminers and other groups of people considered high risk-takers, and more generally in relation to the overall interaction of mine action agencies with mine-affected communities.

Writing the present report has provided the opportunity to explore some of these issues further, to clarify ideas and to try to some extent to provide answers to the questions raised by the initial HIB study. This report does not claim to provide any solutions to how the mine action sector should address the problem of village mine clearance, in Cambodia or elsewhere. However, with better understanding of the complexities of the situation at the local level and of some of the motivations, perceptions and needs that underlie the work of village deminers, it is clear that there are implications for mine action. Thus, rather than determining how the mine action sector can address the problem of village demining, it is perhaps more productive for the spotlight to be turned back on the sector itself. What we need to consider is how the mine action sector may improve its own practices so that it may better respond to the needs of mine-affected communities, needs illustrated by the efforts of the village deminers. If mine action can address and improve its own practices to better meet community needs, it is likely that village demining will naturally decrease as a result. To this end, the chapters of this report present very much a critical analysis of past and current practices by the mine action sector in Cambodia, as highlighted through a detailed examination of village demining practices and the interaction at village level between professional and local deminers.

It is not the intention of this report to be overly critical of the mine action sector. However, in comparison to the amount of literature on development interventions, there is a lack of documented analysis of current mine action practice. It is only through the process of documenting experiences and lessons learned from the field that mine action as a whole will be able to reflect on past experience and work towards a betterment of future practice. Although the subject of village demining as outlined here is specific to the Cambodian context, the analysis clearly has applicability and implications for the mine action sector internationally. We very much hope that this report will prove a worthwhile contribution to the newly emerging field of literature on the sector, and that it will stimulate further analysis of the impact of mine action interventions on mine-affected communities.

Ruth Bottomley
Phnom Penh
21 July 2003

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THE BULK OF THIS REPORT was written over a relatively intense period of four months, during which time the writer received support and encouragement from a variety of friends and colleagues. From the Handicap International Belgium Cambodia Office, thanks are due to Isabelle Plumat, former country director, and to Eric Debert and Reuben McCarthy, former coordinators of the Mine and Disability Prevention Department. Without their initial support, this report would not have been written. Special thanks are due to Reuben and to Sue Gollifer, who waded through drafts of all of the chapters and provided invaluable advice, ideas and encouragement. Several other friends and colleagues also provided feedback on parts of the text, or talked through problems and helped to clarify ideas. I like to think that there is a diverse group of people living and working in Cambodia, and elsewhere, who now have an active interest in the subject of village demining. In alphabetical order, thanks to Diane Atkinson, Conny van den Berg, Michael Bolton, Eric Debert, Alex Maclean, John McAndrew and Caroline McCausland.

The final commitment and impetus to get this report into print was provided by Stan Brabant of the Handicap International Brussels Office, Kristian Berg Harpviken of the Assistance to Mine-Affected Communities (AMAC) project at the International Peace Research Institute, Oslo (PRIO) and Reuben McCarthy, currently with UNICEF in New York. The report was edited and published by PRIO and jointly funded by PRIO and UNICEF.

The report derives to a large extent from a study of village deminers in Cambodia that was carried out by Handicap International Belgium between July and December 2000. The research study was very much a team effort, and the Cambodian team members must be acknowledged for their valuable role in conducting a comprehensive and quality research study. The time spent in the field together was both productive and challenging, and many of the ideas presented in the following chapters emerged from our work and discussions during the period of the study. I am indebted to the contributions made by the socio-economic researchers Mr Lath Poch, Mr Sou Bunnath and Mr Yem Sam Oeun, and by Mr Pres Ra, site manager of the Cambodian Mine Action Centre (CMAC), who was seconded to Handicap International Belgium for the duration of the research. Equally important team members were Mr Nou Samoeun and Mr Khun Pich, HIB drivers who accompanied us during the fieldwork. Thanks also to the many organizations and individuals working in the mine action or development field in Cambodia who gave up their time to talk to us and to share their ideas and

knowledge about village mine-clearance activities. Financially, the research could not have taken place without the generous support of the European Commission Humanitarian Aid Office (ECHO).

This report is about village deminers in Cambodia, and so it is to them that I owe my biggest thanks. During the research, they gave up their time to talk to us, to share their thoughts, fears, hopes and ideas. They provided the inspiration to challenge the accepted status quo and to look beyond surface appearances. In relaying some of their words and stories, I hope that I have done them justice.

INTRODUCTION

All over the world huge numbers of ordinary, unremarkable people demonstrate a capacity to tenaciously endure and adapt, an unspectacular process which largely goes on outside the gaze of humanitarian agencies.

(Summerfield, 1998: 33)

A Closer Look at Village Demining

THE FACT THAT VILLAGERS are involved in mine-clearance activities in Cambodia has been noted and documented to a limited extent since the early 1990s, but information pertaining to the motivations, methods and risks involved have been sketchy.[1] In the 1990s, the information that was available led to considerable debate within the mine action sector in Cambodia over how the issue should be addressed.[2] Some practitioners felt that village deminers should be trained to improve the safety and quality of their work, while others felt that training villagers would increase the risks for both them and their fellow villagers (Roberts & Williams, 1995: 145). In the late 1990s, this debate remained unresolved, and both villagers and mine action organizations continued their work largely independently of each other.

Perhaps the first indication of the extent of village mine-clearance practices in Cambodia was obtained from the Cambodian Mine Action Centre (CMAC) database records, as outlined in the 1999 *Landmine Monitor Report.* That report provided astounding, although unverified, figures comparing the mine-clearance activities of villagers with the

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[1] In 1993, Adj. Philippe Houliat, a French mine-clearance and explosive ordnance disposal (EOD) expert working for the United Nations in Cambodia from 1992 to 1993, conducted a short study on the tools and techniques of village deminers in northwest Cambodia. From 1993 until 1995, there was much discussion and documentation of a possible pilot project to evaluate the practicality of training village deminers. The project was ultimately rejected, as will be discussed in Chapter Three. See the bibliography for details of other studies on the subject.

[2] The International Mine Action Standards (IMAS) define 'mine action' as an umbrella term covering five complementary groups of activities: mine-risk education, humanitarian demining, victim assistance, stockpile destruction and advocacy against the use of anti-personnel mines (UNMAS, 2003a: 16). This report uses the term 'mine action' specifically in regard to the components of mine-risk education and humanitarian demining as carried out by international organizations, nongovernmental organizations (NGOs) and the state in Cambodia.

Facts About Landmines and UXO in Cambodia

In Cambodia, people continue to be killed and maimed by landmines and unexploded ordnance (UXO) every day, despite the fact that almost five years have passed since the cessation of conflict. In contaminated areas, mines and UXO remain a daily threat to the lives and livelihoods of local people, and perpetuate poverty, displacement and suffering.

In April 2002, a Landmine Impact Survey was completed in Cambodia. The survey determined that, out of a total of 13,910 villages in Cambodia's 24 provinces, 6,422 – or 46% of the total – have one or several forms of contamination, including landmines, cluster bombs or spot UXO. Of these, 2,776 – 20% of the total – are contaminated to such an extent that the communities concerned are currently experiencing adverse socio-economic effects.[1]

The majority of landmine accidents occur in the northwest of Cambodia, corresponding to the areas in which the most protracted conflicts took place. The provinces of Battambang, Banteay Mean Chey, Otdar Mean Chey and Krong Pailin still suffer the highest number of landmine-related accidents. UXO casualties occur more widely throughout the country. The central and eastern provinces are mainly affected by UXO dating from the heavy aerial bombardment by the United States during the Vietnam War, and in the northwest the remains of battlefield ordnance present an additional hazard to the populations living there.

Since 2000, over 800 people a year have become casualties of landmines and UXO in Cambodia.[2] A total of 841 casualties were reported in 2002. By June 2003, a further 429 casualties had already been reported. In addition, some deaths go unreported, for example when victims die in the field because there is no assistance or transportation to get them to hospital.

Since the end of the conflict, the number of military casualties has reduced significantly, and in 2002 accounted for only 17 (2% of the total number of reported casualties). The majority of the victims and survivors are now civilians, who are injured in the course of their daily activities: farming, gathering firewood, herding animals, collecting water, etc. A large number of landmine accidents occur in forest areas. During 2002, 824 civilians (98% of the total number of reported casualties) were injured or killed by mines and UXO.

Casualty data for 2002 confirm that men and boys are most at risk from mines and UXO in Cambodia. During that year, adult men represented 61% of all reported casualties (511 casualties), while boys under the age of 18 represented 27% (228 casualties). Women and girls each represented 6% of all reported casualties (52 women and 50 girls). Of the adult male casualties, 60% were caused by landmines, and the majority of these accidents occurred while the victims were engaged in livelihood activities. The remaining 40% of adult male casualties resulted from UXO incidents, with tampering as the primary cause.

The data indicate that children are far more likely to be injured and killed by UXO than by landmines, and that tampering with UXO, often through curiosity, is the major associated cause. Of the 228 boy casualties reported in 2002, 199 (87%) were caused by UXO. For girls, too, of the 50 casualties recorded during 2002, 43 (86%) were UXO-related. Although there tend to be fewer UXO incidents than mine incidents, the number of casualties associated with each UXO incident tends to be higher, as bystanders are often injured and killed. Over half (56%) of the total reported casualties during 2002 were UXO-related.

The impact of a mine or UXO accident extends far beyond the wounds and loss of limbs sustained. The costs of transportation and medical treatment often push families into debt, and the economic productivity of a family unit is reduced when a family member is injured or killed. People who are disabled by mines or UXO often suffer discrimination and find that their options for education and work are greatly restricted. From January 1997 until June 2003, 2,606 people have been recorded as having limb amputations as a result of landmine or UXO accidents. This figure continues to rise each year.

[1] See Geospatial International (2002).

[2] All casualty data were obtained from the Cambodia Mine/UXO Victim Information System (CMVIS), run by the Cambodian Red Cross and Handicap International Belgium. CMVIS can be contacted at cmvis@online.com.kh.

activities of other mine action operators in the country. As of 14 August 1998, of a total of nearly 89 square kilometres of land cleared by the different operators, local people were reported to have cleared 78% (ICBL, 1999: 402). The 2000 *Landmine Monitor Re-*

port also provided figures for the area of land cleared of mines from 1993 to 1999 based on information obtained from CMAC, the Mines Advisory Group (MAG) and the Halo Trust in January 2000.[3] Of a total of over 154 square kilometres cleared, villagers were estimated to have cleared about 70, some 45% of the total. Although significantly lower than the figures given in 1999, the area of land believed to have been cleared by villagers was still notably higher than the area cleared by other entities. CMAC was estimated to have cleared the second-largest amount: 53.88 square kilometres, representing 34% of the total land cleared (ICBL, 2000: 389). Such figures suggested that village mine-clearance activities were happening on a relatively large scale throughout Cambodia prior to and despite the arrival of mine action organizations.

Because of concern about the risks undertaken by villagers entering mine-contaminated areas and clearing mines, Handicap International Belgium (HIB) decided to conduct a research study to further investigate the issue. The 'Spontaneous Demining Initiatives' study, funded by the European Commission Humanitarian Aid Office (ECHO), was carried out in the heavily mine-contaminated region of northwest Cambodia between July 2000 and January 2001. Although the research was largely motivated by the original debate on village demining, it was also hoped that it would provide a more comprehensive insight into the difficulties and problems faced by villagers living and working in mine-affected areas, and the nature of their village mine-clearance activities. The research was conducted using a primarily qualitative approach, supplemented by the collection of quantitative data.

By drawing largely on qualitative research techniques, the HIB study differed from the usual forms of mine action research. The mine action sector tends to rely almost exclusively on quantitative survey techniques, which provide broad, quantifiable data on such matters as the area of contaminated land, the area of land cleared, the numbers of people living in proximity to mined areas, the numbers of landmines and unexploded ordnance (UXO) destroyed, and numbers of casualties sustained and reduced. Prior to operations, the main surveys employed by the sector today are the Landmine Impact Survey (LIS) and the Technical Survey. These tools are deemed essential to mine action with regard to measuring the job to be done and providing a general planning framework upon which further mine action interventions, such as clearance and risk education, can be based.[4]

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[3] CMAC, MAG and the HALO Trust are the three main mine action organizations conducting clearance work in Cambodia. Other organizations currently involved in mine action activities include Handicap International Belgium, World Vision, UNICEF, CARE and Norwegian People's Aid.

[4] The LIS is a baseline survey designed to quantify the socio-economic impact of mines on populations in terms of land blockages and casualties. Relative impact is determined through the general identification of contaminated areas and a population's proximity to them, as well as through details of the number of casualties that may have occurred in an area. The LIS contributes to the planning and prioritization of mine action programmes and projects (UNMAS, 2003a: 12). The Technical Survey allows for the gathering of detailed technical and topographical information on known or suspected areas previously identified during the planning phase (UNMAS, 2003c: iv). Also included in dossiers of mine action surveys are the General Mine Action Assessment, to be carried out as part of the planning process, and Post-Clearance Documentation, comprising a series of post-clearance inspections.

Such survey tools are descriptive and are able to provide quantifiable goals to measure progress and evaluate achievements, but they are limited in terms of their ability to provide the depth of information required to *explain* why things are the way they are.

A qualitative approach draws on ethnographic techniques of village studies, employing observation and conversation in the field, with the researcher engaging directly with people from the local communities. The findings are much more difficult to quantify than those of survey-based research, but the strength of a qualitative approach lies in the fact that information-gathering is conducted with greater understanding of the context. The progressive familiarization of the researcher with the social environment and with the respondents themselves allows for a more detailed, in-depth picture to be obtained and for better understanding of the knowledge, perceptions and preferences of the respondents.[5]

Given the sensitivity of the subject of village mine clearance, this was an obvious strength of the research methodology adopted. There are several reasons why village deminers might have been less than forthcoming about their activities. First, the predominant message of mine-risk education in Cambodia is for civilians not to touch mines. As a group who appear to blatantly flout this rule, it was possible that there would be reluctance among village deminers to talk to an outside NGO about their activities. In addition, Cambodia signed the Ottawa Mine Ban Treaty on 3 December 1997 and ratified it on 28 July 1999. As part of its efforts to implement the Treaty, the Cambodian National Assembly passed a domestic mine-ban law that came into force on 28 May 1999. This banned the production, use, possession, transfer, trade, sale, import and export of anti-personnel mines, and provided for criminal penalties, including fines and imprisonment, for offences committed (ICBL, 2000: 381). This also suggested that if villagers were aware of the law, they might be reticent in their accounts of their own mine-clearance activities.[6] These factors combined were persuasive in orienting the research towards a more qualitative approach, one that could yield more in-depth information about village mine-clearance activities, allowing outsiders to better understand the local-level realities and in turn gauge how outside interventions are perceived by those at the local level.

The geographical areas for the research were selected on the basis of the degree of mine contamination, the number of casualties recorded as a result of tampering with mines and UXO, and direct information obtained from NGOs about villages where local-level mine-clearance activities were taking place.[7] The extent of mine action by

[5] See, for example, Lofland & Lofland (1995). For an informative comparison of qualitative and quantitative methods, see Ragin (1994).

[6] CMAC produced a video and television spots explaining the law. These were aired on national television and also used by mine-risk education teams. The law required people to hand over landmines no later than 90 days after the implementation of the law. In some places, villagers are reported to be aware of the law and afraid to keep devices, whereas in other areas the implications of the law appear not to have filtered down to the village level (ICBL, 2000: 381, 384).

[7] Information on casualties was obtained from the Cambodia Mine/UXO Victim Information System (CMVIS), a mine/UXO casualty surveillance project implemented by the Cambodian Red Cross with support from Handicap International Belgium.

demining organizations was also checked so that a balance could be achieved between the target villages that had mine action activities and those that did not. As a result of this process, Battambang province, Banteay Mean Chey province and Krong Pailin were selected as research areas. Situated contiguously in the northwest of Cambodia, these areas are considered to be among the most heavily contaminated provinces in the kingdom and have a high incidence of casualties from landmines and UXO. Bordering Thailand, they are also heavily populated, a situation resulting from numerous factors, including resettlement, military demobilization and the lure of perceived economic opportunities.

The main method used to gather qualitative data was semi-structured interviewing, combined with other appropriate participatory information-collection techniques, such as ranking exercises, timelines and participant observation.[8] Key informants were largely selected through a 'snowballing' technique (Bernard, 1995: 97), whereby each person interviewed would be asked to recommend other people who might be good informants. This was combined with random interviews with villagers who were at home or who came to talk to the researchers out of curiosity. Ninety-four village deminers were interviewed in a total of 45 villages. Other key informants included village authorities, the families of village deminers and other villagers.[9] To complement and crosscheck the qualitative data, a questionnaire was also devised and sent out to 12 provinces with the aid of the network of Cambodian Red Cross data-gatherers working for the Cambodia Mine/UXO Victim Information System (CMVIS).[10]

Following the research study, a workshop was held in Phnom Penh in January 2001, involving representatives from the key organizations working in mine action or related fields. A research study report outlining the main findings of the research and recommendations as to how the issue might be approached was written and distributed.[11] The report met with reticence, and in some cases resistance, among the mine action community in Cambodia. Many practitioners, while acknowledging that village mine clearance did occur, initially proved reluctant to take on board some of the broader implications of the report's findings. However, during the following year it became clear that the HIB research had begun to generate more consideration of village demining within the mine action sector, both within Cambodia and internationally. This was perhaps partly a consequence of the growing attention the mine action sector has been paying to the importance of socio-economic factors in the planning and implementation of projects, but it also indicated that the issue of village demining has direct relevance for any organization working with mine-affected communities.

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[8] Combining several types of data – also known as *triangulation* – was systematically applied to improve the reliability of the findings. For a useful overview of triangulation in social research, see Arksey & Knight (1999: 21–31).

[9] Throughout this report, the names of informants have been changed to provide anonymity.

[10] The Red Cross data-gatherers are responsible for collecting information concerning incidents caused by mines and UXO in Cambodia. This information is then compiled in CMVIS.

[11] Bottomley (2001a).

A Theoretical Framework

While primarily based on the empirical findings from the HIB research study, the present report is also informed by desk research, events, discussions and experiences in the period following the original study. The overall analysis draws on concepts and ideas that have already gained prominence within the broader development field but that have yet to be applied with any significance in the mine action sector.

The report sets out to examine the local-level practice of village demining in relation to the broader context of global mine action. This is perhaps in line with current anthropological thought and practice, which has moved on from the study of local populations as isolated social groups to an active interest in the wider networks of social, economic and political relations through which local populations operate.[12] Within these relationships are layered issues of power, decisionmaking and competition that demonstrate that people are not passive bystanders, but are actors who 'play a consciously active role in the shaping and changing of their present and future social and cultural conditions' (Óvesen, Trankell & Öjendal, 1996: 80). An analysis of actors both from the local level and from levels that interact and intervene with the local helps to draw out a clearer understanding of the relationships and perceptions that pervade such interactions. As Crewe & Harrison (1998: 19) point out, 'rather than homing in on the perspective of one set of stakeholders in development (the developers or the beneficiaries, for example), it is more useful to look at the relationships surrounding intervention practices as they actually take place'. Such an analysis can help bring to the fore a more nuanced and sensitive consideration of the impact of outside interventions on the local situation.

The value of an in-depth understanding of the local situation has been acknowledged by a number of development practitioners who recognize that the failure of certain development initiatives originated in attempts to impose standard top-down programmes on diverse realities where they did not fit or meet the needs of the situation (Chambers, 1997: 30). Such work has also been shown to provide an important background for the critical analysis of humanitarian aid interventions in disaster situations (Anderson & Woodrow, 1989). A lack of understanding of the local situation into which development assistance intervenes can be the basis for causing more harm than good. The skill required is to challenge the dominant, orthodox developmental view by promoting the alternative, less publicized view, thus calling for a reconsideration of assumptions and strategies. If one takes the time to listen to and reflect on local-level voices, it soon becomes clear that within any village there is a diverse complexity of people with different needs and capabilities.

Shifting the focus of the mine action sector away from simple measures such as square metres of land cleared or numbers of mines removed towards a more informed analysis of the impact and benefits of interventions for mine-affected communities has

[12] For example, Edmund Leach in his 1954 study of the political systems of highland Burma argued that the characteristics of Burmese Kachin society were related to and influenced by changes in the wider political and economic situation in Southeast Asia in the 18th century (Leach, 1997).

represented a major challenge in mine action thinking over the last decade.[13] Nevertheless, increasing emphasis on the humanitarian aspects of mine action has, in line with other development interventions, oriented the sector towards a concern for local people and the impact of mine-related activities on these local 'beneficiaries'.[14] This in itself brings with it a package of pitfalls and lessons to be learned. For mine action practitioners, what is required in the first instance is a reassessment of the 'why' of mine action. Why do we do what we do? This is a question that we can only begin to answer through analysis of the perspectives of the people who are living in mine-contaminated areas, and by relating this back to the approaches, priorities and assumptions that drive current mine action activities.

All international development assistance – mine action included – implies to some extent the imposition of outside values and cultural elements on a different locality. As Escobar (1995a: 140) contends, interventions involve the 'process of coming to terms with conflicting interests, a process in which choices are made, exclusions effected, and worldviews imposed'. Mine action, in common with many development interventions, has a dual mandate of both providing assistance to mine-affected communities and being accountable to the world of international mine action and development. This double accountability has forced the mine action sector to constantly review its approach and to develop strategies that continue to satisfy Western publics and international donors, while at the same time better meeting the needs of the intended beneficiaries. While professional mine action is undoubtedly a necessary activity in the Cambodian context, the current approach of the sector does appear to be falling short in terms of meeting some of the essential needs of communities living in mine-contaminated areas, needs that are highlighted by the work of village deminers. This does not imply that mine action is not needs-oriented, but rather that the needs being met respond more to national and international demands than to those at the local level. Consequently, although there has been a shift in the mine action paradigm from a technical-oriented, mines-cleared approach to a more 'people-centred' approach, there is still a gap between intentions and practice.

Village deminers are in fact operating with agendas, or frameworks of perceptions and approaches, that are very different from those of professional mine action operators. These agendas are in turn a consequence of the wider cultural contexts within which village deminers operate. What is often unacknowledged by outside interveners is that communities receiving assistance are not passive recipients but are in fact undergoing their own processes of development and change. Village deminers demonstrate the inherent abilities of people living in difficult and dangerous situations to

[13] See also Harpviken *et al.* (forthcoming).

[14] The very term 'beneficiaries' has been much discussed within the current development paradigm, which stresses participation and empowerment. 'Beneficiaries' is still a common term within the mine action sector, particularly in terms of those people who will benefit from land opened up through clearance. However, there are moves within the sector towards encouraging the participation of recipient communities in other aspects of mine action, for example in the identification of priority areas for clearance or in risk-reduction activities. This is something that will be discussed in more depth later.

draw on existing knowledge and skills and to develop strategies for self-help – responses that are largely at odds with their portrayal as 'victims' by those who wish to intervene. The presence of village deminers forces us to acknowledge that, rather than being passive victims, communities affected by landmines are in fact active subjects, dealing with their own local situations on their own terms. As quoted at the start of this introduction, 'all over the world huge numbers of ordinary, unremarkable people demonstrate a capacity to tenaciously endure and adapt, an unspectacular process which largely goes on outside the gaze of humanitarian agencies' (Summerfield, 1998: 33).

Village deminers are working within the context of their local, individual livelihoods, of which a development intervention – be it mine clearance or a credit project – is just one small part. Thus, while they may welcome the arrival of a mine action agency in their village, they will also have their own, multifarious views of its strengths and weaknesses in relation to their own needs and interests, and will respond accordingly. Mine action interventions, however, often appear to exist with the sole purpose of countering the 'mine problem', and are accountable mainly to the demands of others, be those donors or the wider international community. This has led to the imposition of relatively inflexible 'mono-values' within a diverse and unpredictable context. However, at the same time, to assume that there is a sharp division between 'us', as mine action practitioners, for example, and 'them', as village deminers, also fails to acknowledge the way in which the perceived boundaries between the two are in fact constantly intersecting and interlocking. It is these contradictions and complexities that need to be examined and understood if mine action is to become more accountable to villagers living in mine-contaminated areas.

The key challenge that results from such an analysis is for current mine action practitioners to recognize and understand community capabilities, to acknowledge the shortfall in terms of the needs being met and to consider whether the will and the means to bridge this divide exist.

Chapter Outlines

In Chapter One, the focus is on village deminers in Cambodia, with much of the information drawn from the findings of the HIB study on spontaneous demining initiatives. Village mine clearance is examined within the context of the changes wrought by the recent past in Cambodia and the ways in which villagers have adapted their survival strategies to cope with these. War and displacement, and more recently an increase in problems of land availability and distribution, are factors that have impacted on rural livelihoods and the strategies used by villagers to meet their food-security needs. Mine clearance is one of a myriad of strategies employed by villagers to make ends meet, and it is largely driven by individual household needs, although the benefits are often enjoyed to a certain extent by the wider community. The methods employed by village deminers to clear land are discussed, and the chapter concludes by

looking at the perceptions of villagers concerning the risks involved in their mine-clearance activities.

In Chapter Two, the discussion moves from local details to the broader national and international level, with a discussion of the mine action sector. The evolution of the Cambodian mine action sector is traced in order to highlight the way in which mine action interventions have been transformed from a basic, emergency, military response to a humanitarian response designed to better meet the needs of communities in mine-affected areas. Within this discussion, the chapter examines the way in which actors within mine action have attempted to make their activities more accountable to donors and the international aid world, and also to the intended beneficiaries. However, mine action derives from a predominantly Western perception of the mine problem, mainly because it is the West that has the resources to deal with the problem. The impact of this cultural bias can be seen best when mine action interventions are placed in juxtaposition to the work of village deminers. It is the dynamics of this relationship that are discussed in the following chapter.

In Chapter Three, the interface between village deminers and the mine action sector is examined in more detail, drawing on information outlined earlier in the report. The interface between villagers and mine action practitioners presents a much more complex picture than a simple scenario of 'outsiders' and 'insiders'. The dominant mine action narratives have tended to view the overall mine problem in terms of Western notions of war and vulnerability, and have further approached the village deminer issue through an authoritative discourse on technical expertise and professionalism. These narratives not only explain the problem in a way that is attractive to international donors and Western publics, but also reinforce the justification for mine action as an intervention. The mine action sector has the power to define the problem and to present the appropriate solutions. At the same time, individuals working within the sector are aware of the inadequacies and inflexibility prevalent in these narratives, and have worked towards shifting the focus of the dominant paradigm towards one that is more responsive to the needs expressed by the communities themselves. The view from the village is complex and contradictory, involving the bringing together of different perceptions, beliefs and attitudes as villagers attempt to negotiate for the benefits that mine action can bring, while at the same time reserving their right to deal with their own problems. The chapter concludes by examining whether the continuation of the dominant narratives of the mine action sector has the potential to bring about harm at the local level by ignoring underlying vulnerabilities that often force villagers to undertake high-risk activities.

Chapter Four suggests that although there is no clearcut answer or solution to the issue of village demining, there are lessons that can be learned from the analysis of village mine-clearance activities juxtaposed with the mine action interventions of professionals. Humanitarian mine action has tended to focus on the notion of *absolute risk,* seen in terms of injuries sustained through contact with mines and UXO: the objective of mine action is to eliminate this risk. However, for many villagers the risk posed by mines is only one of the many risks with which they live, which gives them little

choice but to see the mine risk as relative to other risks. The risk of not being able to feed a family or to secure land can sometimes only be addressed through undertaking a high-risk activity such as mine clearance. The objective of the villagers is to somehow balance the multitude of risks they face on a daily basis in order to survive.

This suggests that a shift in thinking is required within the mine action sector, from a preoccupation with the actual physical risk posed by landmines to a consideration of other risk factors prevalent in the lives of people in mine-affected communities. The degree of susceptibility to these risks is a function of vulnerability. If vulnerability is reduced, then it is likely that the amount of risk-taking within mined areas will also be reduced as a result. The approach of mine action, with its focus on *absolute risk,* may be seen in some cases to actually increase the vulnerabilities of certain sections of the community by effectively prohibiting them from addressing other risk factors in their lives. The chapter goes on to suggest ways in which the mine action sector can improve its response for villagers living in mine-contaminated areas: through the promotion of safer practice, community involvement and a more flexible and experimental approach to clearance, and through careful collaboration with development initiatives.

Chapter 1

VILLAGE DEMINING IN RURAL CAMBODIA

PON, HEAN, VUTHY AND VOEUN live in Stung Bot village in Poipet commune, Banteay Mean Chey province. The four men have been based in the northwest of Cambodia since the early 1980s, when they fled to refugee camps on the Thailand–Cambodia border and later enlisted with the Khmer People's National Liberation Front (KPNLF) to fight against the Vietnamese-installed government of the People's Republic of Kampuchea. After they left the army, the men and their families felt unable to return to their homelands in the south of Cambodia, as they no longer had claims on land there. Instead, they decided to stay in the northwest and came to live near Poipet town on the Thailand–Cambodia border. Not long after they settled in this area, they were forced to move from where they were living by a powerful man who claimed ownership of the land. Along with many other villagers, they then came to live in Stung Bot village, where they settled next to the railway line in an area contaminated with landmines.

The four men are now village deminers. They learned how to lay and clear mines at a Thai military training centre while they were serving in the army. They have now put these skills to use so that they can clear land for their housing and farming needs, and so that they can safely enter the forest to collect firewood and supplementary food products. Sometimes they also clear mines for other villagers when they find them. They do not get paid for this; they just do it to help.

The men prefer to clear mines in the dry season, because the ground is hard and the grass is dry and scorched. This makes it easier to see the mines on the surface. In the rainy season, the ground is soft and wet and there is too much undergrowth to be able to clear mines safely. The tools the men use for mine clearance are everyday farming tools. A hoe is used to prod for the mines, and a shaped stick or knife is used to remove the soil from around a mine once it has been located. When they remove mines, they dismantle them so that they will not explode and then store them in a safe place until a mine-clearance organization passes through the village and takes them away. They believe that the land they clear is about 80% safe, but that there are still mines deep in the ground that they cannot find with their basic tools.

The men say that the advantage of being able to clear mines is that they now have land for their houses and for some crops. But they realize the high risk involved in their clearance activities. Pon says, 'If we are killed or injured by clearing mines, our wives would become widows and our children would have no future. We also worry that the land we have cleared for our families may be taken away by powerful people.'

The story of Pon, Hean, Vuthy and Voeun is a common one in the northwest of Cambodia. In these heavily mine-contaminated areas, a sizeable number of villagers are deliberately entering suspect areas and undertaking mine-clearance activities using the simplest of farming tools. Understated and informal, the villagers' activities provide a stark contrast to the smartly uniformed and equipped platoons of professional deminers from humanitarian organizations that inch across the land with military precision. The villagers lack the sophisticated equipment of the platoons. Without metal detectors, a hoe and a bamboo stick suffice to locate the mines. No first aid team stands by, and the only hope a village deminer has of receiving medical treatment in the event of an accident is if other villagers hear the blast and come to assist.

This chapter will examine in detail the activities of village deminers in the northwestern provinces of Battambang, Banteay Mean Chey and Krong Pailin, drawing directly on the empirical findings of the HIB research study discussed in the introduction to this report. The HIB study was entitled 'Spontaneous Demining Initiatives', although as the research progressed it became clear that 'spontaneous' was perhaps an ill-matched description of this particular village activity. 'Spontaneous' implies an impromptu activity that is conducted without real reason or cause. As we will go on to explore in this chapter, village mine-clearance activities in Cambodia are far from spontaneous. The village deminers working in the northwestern provinces are, like the landmines they are clearing, a product of the long years of civil war that blighted much of this part of Cambodia over a period of 30 years. Having survived the war and the dislocation and trauma it entailed, people are once again beginning to settle in the area and to forge a livelihood from the surrounding environment. The adaptability and survival skills that the majority of the Cambodian population demonstrated during the war years are once again in evidence as people strive to access land and resources in areas that were former battlefields. Drawing on skills learnt in the military, some villagers are undertaking mine clearance as one among a multitude of survival strategies to ensure household food security in these areas, but it is a strategy used only when there are few other options open to them. There is awareness of the risks that are being taken, but these risks are weighed, consciously or unconsciously, against the risk of being unable to secure access to food and water. Village demining is often far from spontaneous, but is a calculated activity conducted for survival. To begin to better understand the activities of these village deminers, it is necessary to look diachronically at the history of war that has occupied most of Cambodia's recent past, and at the landmine contamination and population movement that occurred as a result.

War, Mines and Populations

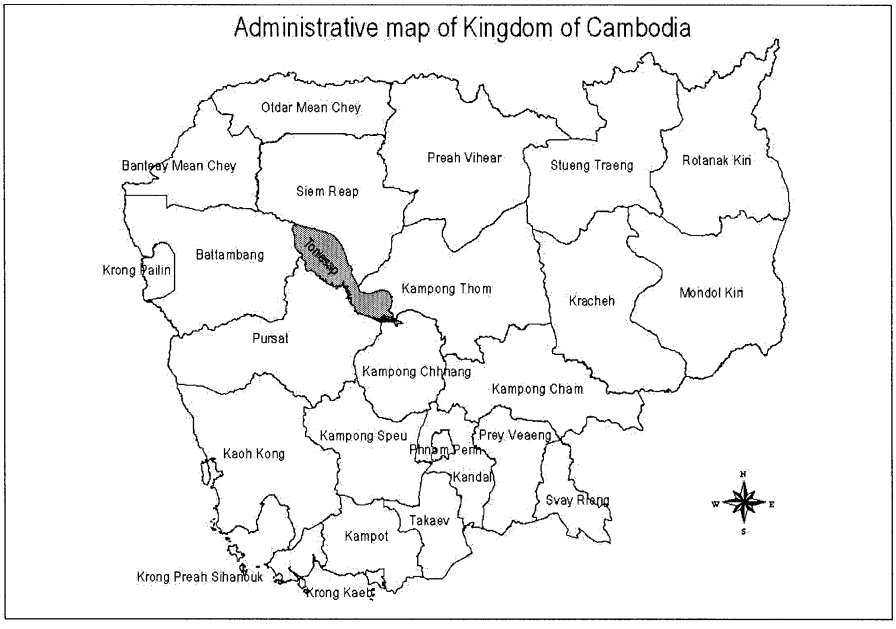
For over 30 years, Cambodia, situated in the heart of Southeast Asia, has had a chequered history of warfare, social turmoil and isolation. The use of landmines has featured prominently throughout the different periods of conflict and social upheaval. Owing to their utility and easy availability, landmines have been used extensively to

maim and demoralize armies, to form lethal barriers to keep back opposition forces, to terrorize civilians and to control population movements.

Landmines were first laid in Cambodia in the mid-1960s, as Cambodia began to be drawn into the Vietnam War. At this time, the Cambodian head of state and former king, Norodom Sihanouk, began to allow the communist Viet Cong forces to carry supplies to the insurgents in the south along a trail through Cambodia's eastern border. Viet Cong bases were set up along this trail, and landmines were laid to protect these bases. In response to Sihanouk's clandestine support to the Viet Cong, the USA launched a massive but covert B-52 bombing campaign. From 1969 until 1973, when the campaign was finally called to a halt by the US Congress, a rain of bombs fell on the bases and supply lines, and aerial-delivered anti-personnel mines were scattered over much of the border area. The northeastern provinces of Cambodia still bear the scars from this aerial bombing in the form of gigantic bomb craters and UXO, although the impact from landmines in these areas has been less evident. The majority of landmines in Cambodia were laid in the north and northwest as the country became engulfed in its own civil war, a war which began at the tail end of the 1960s, intensified after the overthrow of the regime of Democratic Kampuchea in 1979, and continued well into the 1990s.

The provinces of Battambang and Banteay Mean Chey, and Krong Pailin, situated as they are in the northwest of Cambodia and sharing a border with Thailand, have seen more than their fair share of fighting over the last 30 years. Often known as the rice-belt of Cambodia, this region is characterized by fertile plains with undulating, forested mountain ranges at its periphery. The local economy has traditionally been based on the cultivation of oranges, cotton and rice, although Pailin, to the extreme west of Battambang province, has long been renowned for its gemstones, bamboo and timber. These peripheral forested regions in the north of Cambodia have traditionally been the areas from which insurgent rebel forces have operated. It was from the northwest border areas that the anti-French *Khmer Issarak*, with support from Bangkok, launched their armed struggle against the French protectorate in the late 1940s, and it was to the forested, remote northeast that a small group of left-wing radicals fled Phnom Penh in 1963. Dissatisfied with the corruption of the Republican ruling elite, these radicals established the rebel group that Sihanouk was later to name the *Khmer Rouge*. As it gradually established its power-base, this group began to extend its reach throughout the north and northwest of Cambodia. The late 1960s saw many Khmer Rouge leaders and fighters emerge from these areas, drawn to the movement as a result of their feeling of alienation from the Phnom Penh-based government and the increasing use of intimidation by government troops. Samlot district in Battambang, the site of a peasant uprising that was brutally quashed by Sihanouk in 1967, was one of the areas that early on became a stronghold of the Khmer Rouge, as was Pailin.[1]

[1] The 1967 Samlot revolt was ignited by the government decision to gather the rice surplus in several areas, to pay government prices for it and to transport it to government warehouses in an attempt to prevent the rice harvest from being smuggled to communist insurgents in Vietnam. Several thousand peasants were killed in the repression of this revolt (Chandler, 1998: 201).



By the late 1960s, the political situation was deteriorating, and in 1970 Sihanouk was deposed from his position as head of state in a coup led by his prime minister, Lon Nol. Backed by the USA, Lon Nol established the Khmer Republic, a government that proved to be both corrupt and ineffectual. This provided an opportunity for the communist Khmer Rouge, with whom Sihanouk formed a tactical alliance, to advance further into Cambodian territory and southwards towards Phnom Penh. By the early 1970s, the communist insurgents had occupied nearly a fifth of Cambodia's territory in the northeast and northwest (Chandler, 1998: 202). These 'liberated zones' under their control were protected by guards, mines and booby traps (Becker, 1998: 50). As the nation descended into civil war, many people fled to the relative security of Phnom Penh to escape the bombing and the communist advance.

The 1973 Paris Agreements finally ended the direct involvement of the United States in the Vietnam War, leaving the Lon Nol regime floundering alone. Badly trained and poorly equipped, the Lon Nol troops increasingly relied on the deployment of landmines to protect key installations and strategic points from the Khmer Rouge (Davies, 1994: 12). The Lon Nol army was fighting a losing battle. In early 1975, the Khmer Rouge mined the river network around Phnom Penh, successfully preventing shipments of rice and ammunition from reaching the capital (Chandler, 1998: 208). Three months later, on 17 April 1975, the Khmer Rouge entered Phnom Penh and established the regime of Democratic Kampuchea.

Despite the fact that the Democratic Kampuchea regime brought a temporary halt to the civil war, the Khmer Rouge still used landmines extensively, both for military purposes and as an instrument of control over the civilian populations. Determined to

transform the country into a class-free, self-reliant agrarian society, the Khmer Rouge government evacuated the entire urban population to state collectives in rural areas. Mines were used to seal the Thailand–Cambodia borders to the west in order to prevent insiders from escaping and outsiders from entering the country. The regime lasted for three and a half years and became increasingly paranoid and brutal. Approximately 1.5 million people, about a quarter of the population, died from starvation, overwork or execution (Kiernan, 1996: 460).

The Khmer Rouge became increasingly obsessive in their crusade against the Vietnamese, or *yuon*, particularly in terms of regaining territories they felt Vietnam had taken from Cambodia. Mines were laid along the eastern borders to protect key crossing points and military installations, and to prevent the Vietnamese from encroaching further on Cambodian territory. Border clashes with the Vietnamese began soon after the Khmer Rouge seized power in 1975 and grew in intensity over the following years. Finally, on 25 December 1978, the Vietnamese, frustrated by repeated Khmer Rouge attacks on their border, invaded Cambodia. Phnom Penh fell to the Vietnamese on 7 January 1979, and the Vietnamese-supported socialist government of the People's Republic of Kampuchea (PRK) was established.

The new government faced the monumental task of rebuilding a country lacking currency, markets, institutions and human resources, and inhabited by a weak and traumatized population. Despite the fact that the full horror of the Khmer Rouge regime had finally been exposed, international support for the socialist government was sparse, and the Cold War politics of the Western powers led to the imposition of an embargo on aid and trade to Vietnamese-supported Cambodia. The Khmer Rouge, pushed back by Vietnamese forces to the Thailand–Cambodia border in the northwest of the country, began to receive military assistance from China, Thailand and the West, who perceived the Vietnamese occupation of Cambodia as evidence of the expansionism of communism and the Soviet bloc. Throughout this period of international isolation, the United Nations recognized the exiled Khmer Rouge regime as the legitimate government of Cambodia, and a Khmer Rouge delegation continued to represent Cambodia at the United Nations.

From 1979, the northwestern provinces became the main battlefield in Cambodia as resistance forces and the Khmer Rouge waged a war against the Vietnamese-installed government. By 1982, the Coalition Government of Democratic Kampuchea (CGDK) had been formed on the border. The CGDK involved a superficial alliance of two non-communist resistance factions, the Khmer People's National Liberation Front (KPNLF or *Para*), led by Son Sann, and a new royalist faction, the *Armée Nationale Sihanoukiste* (ANS), together with the Khmer Rouge. Recruits for the resistance factions were often taken from the refugee camps on the border, where many people had fled following the Vietnamese invasion. The Khmer Rouge continued to operate out of the more southerly districts of Samlot, Rattanak Mondol and Bavel in Battambang province, Krong Pailin, and Malai and Poipet in Banteay Mean Chey province. O'Chrou district in Banteay Mean Chey was the area where the *Trei Phearky* – or the three resistance factions of the ANS, the KPNLF and the Khmer Rouge – all launched their attacks

against government troops. Further north, Thma Pouk district was the site of a military base for the KPNLF forces, and a statue depicting the *Para* leading the Khmer people back into Cambodia still stands today in the village of Banteay Meanrith, close to the Thailand–Cambodia border.

The heavy reliance on landmines by the different factions was largely due to the fact that these devices were cheap and readily available from the nearby countries of China, Vietnam and the Soviet Union. Light, small and durable, landmines were easy to carry, store, lay and reuse. Mines were used to maim and demoralize troops, to inhibit the movement of enemy forces and to protect army bases and key installations. The government forces introduced the strategy of using mines to isolate the opposition forces from their supporters by mining rice paddies and the margins of forests, the traditional refuge of the resistance fighters. The mobile groups of Khmer Rouge fighters laid mines, devised lethal booby traps and dug pits spiked with punji sticks.

Battle lines advanced and receded according to the season. During the rains, the rebel forces often pushed deep into Cambodia, sabotaging communications and infrastructure, spreading propaganda and recruiting new fighters. In the dry season, the government army was often able to push the rebels back to the border areas again (McGrath & Stover, 1991: 16). The minefields in Cambodia reflect these patterns of offensives, with mines often being laid in the same area by different factions, resulting in densely mined fields with little form or order. A district chief in Samlot laughed when asked to explain the extent of the mine problem in the district: 'I have forgotten who laid all the mines, as the mines were laid so many times. Some troops who laid mines were killed; some survived, but they forgot where they laid the mines. But we know there are a lot of mines in the ground.'

In late 1984, Vietnamese and PRK troops launched a major offensive against the resistance factions, forcing them, together with many civilians, to retreat over the border into Thailand. The Vietnamese then attempted to seal the border through the construction of the *Tumnup Kor Pram* (K5 dyke or barrier), a 600-km mine belt that ran almost continuously from the southwestern coast of Cambodia up to the Thai border in Laos.[2] Constructed by forced Cambodian labour, the K5 comprised anti-tank ditches, high bamboo fencing and an estimated two to three million mines (Davies, 1994: 14). Some of the labourers sent to contribute to this 'national service' were killed or injured by mines; many more died of malaria. During the last years of the Vietnamese occupation of Cambodia, the military situation in the interior stabilized to a certain extent, but the K5 minefields did not stop continued border invasions by the resistance, and more mines were relaid over the belt in the years after its completion.

The withdrawal of Vietnamese troops from Cambodia began in the latter part of the 1980s, and by September 1989 the last troops had departed. This withdrawal was partly spurred by a reduction in aid from the Soviet bloc, which meant that it became too expensive for Vietnam to maintain troops in Cambodia (Chandler, 1998: 235). The growing capacity of the newly named State of Cambodia government also signalled

[2] *Kor*, the first letter of the Khmer alphabet, refers to the first letter of the word *Kapier* (defence).

that there was less need for continued Vietnamese presence. As the Vietnamese retreated, the Khmer Rouge surged over the border. In October 1989, the Khmer Rouge recaptured their former stronghold of Pailin. The armed forces of the State of Cambodia government, now lacking the military backup of the Vietnamese, began to lay large quantities of mines to bolster their defences. Following the tactics of the Vietnamese, they once again laid minefields to isolate the resistance fighters from the local populations.

For the people of the northwest, the period of civil war following the fall of Democratic Kampuchea was a time of insecurity, transience and destruction. Roads, bridges, villages, schools and health facilities were destroyed and mined. People fled over the border many times to escape the fighting or lived for years in the refugee camps set up on the Thai side of the border by the United Nations High Commissioner for Refugees (UNHCR), the United Nations Border Relief Operation (UNBRO) and the Thai government. The lack of food in the country meant that households often sent family members to the border camps to obtain food from the organizations working there. In Svay Chek district in Banteay Mean Chey province, an elderly man described how many older family members had remained behind during the war years to 'guard' the houses and land of their families. He referred to this as the *krang sach,* the people's struggle. The people's struggle was one that was to continue well into the 1990s, despite the signing in Paris of the Agreements on a Comprehensive Political Settlement of the Cambodian Conflict in October 1991.

The Paris Agreements required the State of Cambodia to include the Khmer Rouge and other resistance factions in the political process, on condition that all parties signed the agreements and consented to end the war and demobilize their forces. In addition, it was agreed that the United Nations Transitional Authority in Cambodia (UNTAC) would be present in Cambodia for 18 months to supervise and monitor the 'free and fair' elections scheduled for May 1993 (Curtis, 1998: 8). In June 1992, however, the Khmer Rouge withdrew from the peace pact and, in early 1993, launched attacks against UN peacekeeping forces and ethnic Vietnamese living in Cambodia. Despite threats by the Khmer Rouge to disrupt the elections, the polling took place as planned and a precarious coalition government was established, consisting of the rival parties of royalist FUNCINPEC and the Cambodian People's Party (CPP).

The Khmer Rouge retreated to their forested strongholds in Samlot, Pailin, Malai and Anlong Veng in the north and northwest of the country, declared these areas to be autonomous of the newly established Royal Government and continued to attack government forces. In response, the Royal Cambodian Armed Forces waged regular dry-season offensives against the rebels in 1994, 1995, 1996 and 1997. People living in the northwest once again faced attacks by the Khmer Rouge and shelling by government artillery, forcing them to flee regularly over the border into Thailand. However, already by the mid-1990s there were signs that the situation was beginning to change. Isolated, disillusioned and weary from many years of war, the Khmer Rouge began its gradual decline. As Becker (1998: 515) explains, 'Soldiers and their families were defecting to the government side to escape the sad, cruel regimentation of the Khmer Rouge. While life on the other side was plagued by corruption and political repression,

it offered choices, wealth, and far greater freedom.' The two prime ministers – Hun Sen of the CPP and Prince Norodom Ranariddh of FUNCINPEC – together succeeded in orchestrating the defection of thousands of Khmer Rouge soldiers to the government. Pailin became the last stronghold of the Khmer Rouge, and following the defection of one of its top leaders, Ieng Sary, in 1996, the area was officially recognized by royal decree as a municipality within the Kingdom of Cambodia on 31 July 1997. Pol Pot, the recognized mastermind of the movement, died on 15 April 1998. For many, his death signalled the final demise of the Khmer Rouge.

Despite the promise of imminent peace following the disintegration of the Khmer Rouge, more fighting was to follow when the political rivalry of the two prime ministers, fuelled by competition for the loyalties of defecting Khmer Rouge leaders, led to an explosive battle in the streets of Phnom Penh on 5–6 July 1997. The FUNCINPEC commander, Nhek Bun Chay, and his forces were overrun and fled to Thailand to form a new resistance force along the border. Banteay Mean Chey, Battambang and Pailin once again became the scenes of battles between the opposing forces, and fighting continued well into the following year. The insecurity forced hundreds of families to abandon their newly established villages and to take refuge in neighbouring communes, in the forest or inside Thailand, sometimes for days at a time. Situated close to the Thai border in O'Chrou district, Banteay Mean Chey province, Prei Chan village was only officially registered by the commune authorities in 2000 because previously the area had been so insecure. The village chief explained that there had been almost constant fighting in the area since 1979, and the soldiers and their families would go back and forth to Thailand, often having to rebuild their houses each time they returned to their village. In some villages in Samlot district in Battambang, it was claimed that fresh mines had been laid during the fighting. A villager in Kantout village reported that, during the factional fighting, the villagers had fled across the Thai border and only returned to their village in 1998. He explained, 'the whole village was destroyed during the one-year factional fighting. When we returned, all the houses were ruined and the land was planted with mines.'

Since the 1998 elections, when Hun Sen was established as the sole prime minister, there has been a return to relative peace and stability in Cambodia. Phnom Penh gives the appearance of being a newly prospering city, and farmers in the rural areas have once again returned to their fields. However, the legacies of the years of war linger and continue to impact upon the local populations, particularly in the northwest. Landmines continue to contaminate relatively large tracts of land in these areas, effectively blocking access to land and resources. The difficulties in accessing land and resources are further intensified by the increasing numbers of people who have been settling in the northwestern provinces since the cessation of conflict.[3]

[3] According to the 1998 General Population Census, out of a total of 24 provinces, Battambang ranked fifth in terms of size of population, and Banteay Mean Chey ninth. Battambang had a population of 793,129, and Banteay Mean Chey 577,772 (National Institute of Statistics, 1999: 9). Owing to continued conflict during the time of the census, there were areas that were left out of the enumeration areas in both of these provinces.

The civil war and the forced displacement of the Khmer Rouge years left Cambodia with thousands of internally displaced persons (IDPs) within Cambodia and refugees living in camps on the Thai side of the border. A major task following the Paris Peace Agreement in 1992 was to repatriate 360,000 refugees living in these camps to their homes of origin, a duty undertaken by the UNHCR, together with the United Nations Development Programme (UNDP) and the Cambodian Supreme National Council. With this initial repatriation programme, it was estimated that 60% of all returnees chose to settle in the northwestern provinces, some 25% of them choosing to return to Battambang and Banteay Mean Chey alone (Ministry of Planning, 1999: 19). Many people who were repatriated went back to their old villages and ancestral farming land in these areas. The land and the remains of houses were assets that were still considered valuable despite the fact they had frequently been mined during the period of absence. Following the years of war, it was also relatively common for families to return to their former homes in the hope of being reunited with other family members.

Other people decided to settle in the northwest simply because they had nowhere else to go, and the fear of further fighting also encouraged many families to settle near the border areas, where escape into the neighbouring country could serve as a refuge if the security situation worsened. People were returning to Cambodia from the camps up until 1997, and some had been away from their homelands for so long that any existing land they might have owned had long been given away to other people.[4] Paradoxically, a good many families were drawn to heavily mine-affected areas, such as Rattanak Mondol district in Battambang, because of associated memories of former agricultural productivity during the 1960s, and the fertile soils of the northwest continue to draw people to that area (Davies, 1994: 49). The proliferation of aid and NGOs working in these areas during the 1990s perhaps also encouraged people to settle there, and even today migrants from other provinces are drawn to potential resettlement areas in the hope of being provided with assets such as land and housing.

Along with refugees and IDPs, the northwest is also home to large military populations, again a result of the prolonged fighting in the area. The different military factions in Cambodia were comprised of people from all over the country, who joined or were conscripted or press-ganged into the army. Many of the soldiers who fought in the north and northwest are now demobilized and settling in these areas, sometimes on land provided to them by their military commanders.[5] While many demobilized soldiers want to return to farming, a lack of financial resources and land are seen by many to be a major obstacle to achieving this goal (Polloni, 2000: 26). The military

[4] The repatriation programme had been based on the premise that the majority of Cambodians returning from the Thai border camps would return to their country and take up rice farming. Initially, returnees were offered two hectares for each returning family. However, it soon became clear that there was not enough land available for distribution, and a cash option was also introduced (Davenport, Healy & Malone, 1995: 12).

[5] The downsizing of the Royal Cambodian Armed Forces, which also includes the soldiers who defected from the resistance factions, has been an integral component of government reforms of the armed forces. Within a three-year period from 2000 to 2002, the Royal Government planned to reduce the military force by 31,500 soldiers (Polloni, 2000: 6).

demobilization has also been the cause of some tension in the northwest, as high-ranking military staff have often laid claim to large tracts of forest and land as a consequence of their long-term control in areas where local populations were displaced by fighting.

In former Khmer Rouge strongholds such as Samlot, Malai and Krong Pailin, the population largely consists of former cadre and their families, some of whom returned to these areas from the Khmer Rouge refugee camps. Many of the Khmer Rouge cadre remain in these areas because of loyalty to their military commanders, who have often provided the families with land. Fear of continuing Vietnamese influence in lowland Cambodia dissuades some from returning to their former homelands. In Malai district, Banteay Mean Chey province, a former Khmer Rouge soldier explained that many of the villagers were originally from Svay Rieng or Prei Veng provinces in the southeast of Cambodia, but they had to come to the northwest as the *yuon* were taking all the land from Cambodia. He maintained that even today the *yuon* were continuing to take land. Others inhabitants of these Khmer Rouge areas have been absent from their places of origin for so long that they feel it would be difficult to return. Nuth Ly, a *chamkar* farmer living in the remote village of Ta Taok in Samlot district, is ethnic Jarai, originally from Ratanakiri province in the northeast of Cambodia.[6] He joined the Khmer Rouge in the early 1970s and soon after was sent to Phnom Penh to become a driver. Later, he was trained as a Khmer Rouge medic, and in 1974 he came to the northwest of Cambodia. He has now been in this area for almost 30 years and has never returned to his homeland, although he does wonder if any of his family still lives there. Land in Samlot district was distributed by the former Khmer Rouge commanders to their fellow comrades, and, as the soil is fertile, most are happy to stay.

Following the reintegration of the Khmer Rouge with the government, a large number of economic migrants from other provinces in Cambodia also moved to these areas in search of trading opportunities along the Thailand–Cambodia border. Poipet, the main border town in Banteay Mean Chey, is a magnet for many families wishing to go to Thailand for work. Some enter Thailand through the official border crossing, paying a daily fee to the border guards. Others cross the border illegally along unofficial tracks that wind their way through long grasses and forested areas to either side of the official border crossing. Many people living in these areas have at least one family member who will go to work in Thailand as a labourer, often on a daily basis. Economic imperatives often drive this move, but even families that are better off may send family members to the border areas for labouring in Thailand (SCVCS, 2000a: 4). The opening up of the former Khmer Rouge zones also offered the myth of abundant land for villagers from other parts of Cambodia, and many families moved to these areas in

[6] Ratanakiri province is inhabited by a number of groups that are ethnically different from the Khmer. Within Ratanakiri, the largest ethnic groups are the Tampuan, the Kreung and the Jarai. Dissatisfied with Sihanouk policies of intervention, assimilation and displacement, many highlanders joined the Khmer Rouge movement in the late 1960s and early 1970s, and the Khmer Rouge appear to have held a somewhat idealized view of the forest-based highlanders, seeing their culture as pure and untarnished by capitalism (Kiernan, 1996: 302).

the hope of starting a new life. Along the road to Samlot district centre, new houses are being built and land cleared by villagers obviously anxious to claim a small piece of the fertile red soils of the area, despite the fact much of this land is peppered with landmines.

Today, the populations of northwest Cambodia form a melting pot of peoples affected by war and dislocation. The region's inhabitants comprise both the most vulnerable sections of the population, who live on marginal areas of mine-contaminated land, and the most powerful, who have been able to buy up vast tracts of land and to make money in the border towns through the establishment of casinos and businesses. The combination of dramatic population increases and the legacy of landmines has placed an increasing strain on the land and resources in the region and has greatly impacted the ability of many of these people to make a living.

Survival Demining

> *Today my family earns a living by doing farming. As far as risk is concerned, I think it is very dangerous for a man to work as a deminer. But if my husband does not clear mines, my family will have no rice fields, and we will have no way to make money to support the family.*
>
> (Wife of a village deminer, Ta Taok village, Battambang province)

Rural households in Cambodia are to a considerable extent subsistence-oriented, and the majority of their needs are met through own production and gathering. Much of what is produced is consumed in the household, while some is sold to generate cash. The decisions and planning any rural household has to make in order to survive are often complicated by the presence of landmines in the surrounding environment. Landmines can severely restrict access to agricultural land and other resources that are vital for augmenting income or providing security in lean periods. As a village chief in Samlot explained, 'They laid mines in the red soil of the fields, in the forest and on housing plots. Before the mines were laid, people used to plant rice and soya beans. Now the people cannot walk freely, and the mines make it difficult to do rice farming.'

The impact of landmines on any particular household is often related to levels of vulnerability.[7] Wealthier families tend to have savings, stored food and other assets that can serve as buffers in times of need. For poorer families, the range of alternatives is much more limited. The ability of many people in the northwest to uphold basic food security is further hampered by the effects of the long-term insecurity of the recent past. Many have no existing resources to draw on, and the networks of support

[7] SCVCS (2000d: 1) defines vulnerability as 'the lack of buffers against difficult situations such as hunger and sickness, physical abuse, battering and incapacity, unproductive expenditures and exploitation'. The report explains that vulnerability is not synonymous with poverty, but that many of the underlying causes of vulnerability are closely linked to poverty.

that are often present in established Cambodian villages are frequently absent in recently established villages with little social cohesion. A villager in O'Chrou district in Banteay Mean Chey described the situation faced by many families in the area as *Rok prieuk, qwas l'ngeak,* meaning that people may find food in the morning, but by the evening they have nothing.

All people who have been living in mine-affected areas for a while will have some strategies for adapting to and coping with the mined environment. These may include looking for alternative income-generation opportunities that do not involve reliance on mine-affected resources, for example working as an itinerant labourer in Thailand. Families who have farmland believed to be mined may farm small parts of the land, while others look for alternative livelihood options, such as collecting thatch or firewood for sale. Within the wider community, strategies for safeguarding means of survival may also exist, such as passing on information about mined areas, placing localized mine warning signs or even contributing funds or transport to assist mine victims. However, for vulnerable families in the northwest, the presence of landmines, combined with a lack of savings, stores and assets as well as limited employment opportunities, creates a situation whereby many are forced to choose options that they would not normally select. In some villages in Banteay Mean Chey province, people described this situation as *chal chamnan,* meaning to be facing a wall. Many strategies employed by these vulnerable families involve intentional risk-taking, such as when villagers enter known mined areas to collect resources such as firewood, mushrooms and grasses. One of the options for some families living in mine-contaminated areas is to engage in demining.

Village mine-clearance activities have to be seen as one of the myriad of household activities drawn on by Cambodian villagers to sustain basic consumption levels. Within any village, the number of people involved in mine-clearance activities depends on a number of factors, such as the availability of mine-free resources, the availability of alternative livelihood options, and the prior experience and capabilities of the villagers themselves. Villagers living in mined areas often take actions to deal with mines although they would not necessarily class their activities as 'demining'. Often, villagers will simply pick up mines and move them out of the way if they see them, place improvised warning signs around mines, or burn them. As a villager in Samlot district explained, 'Normally I do not clear mines, but if I find one while I am working in my *chamkar* I will pick it up and move it to a safe place. If I find a mine I have never come across before, I will ask one of the village deminers for help in removing it, or I will burn it where I find it by covering it in firewood.' Village deminers are those people who *doh min*, which means to clear mines. This term is used to refer to those villagers who carry out a more technical and comprehensive type of clearance, involving prodding for mines using an implement and dismantling the mines once they have been extracted from the soil.

Village mine-clearance activities are usually rational activities driven by livelihood needs. As a village deminer in Thma Pouk district, Banteay Mean Chey province, explained, 'Mines are the enemy of human beings, but I still go to work in the minefield as I need to support my family, especially through cutting wood. If I don't go, we have

nothing to eat. It is a high-risk activity, but I have no choice.' Despite the resignation implied in these attitudes, there is a sense that village deminers feel relatively proactive within their situation. Although they have few options available, they are able to draw on their existing skills to improve their family situations. For a household, the ability and courage of a family member to clear landmines to permit access to either agricultural land or common resources is a distinct advantage over other households. Villagers practise mine clearance because the presence of landmines represents a direct impediment to accessing resources essential for household food security.

The lack of available mine-free land is a serious problem for villagers in the northwest of Cambodia. As we have already seen, war and dislocation fundamentally changed the position of many people in these areas in relation to their access to land. The changes in political regimes during the last 30 years have seen resulting shifts in land-tenure patterns. During the Khmer Rouge regime, private property was abolished in favour of forced agricultural cooperatives controlled by the central state. This was superseded by the *Krom Samakii,* the solidarity group system set up by the Vietnamese-supported People's Republic of Kampuchea, whereby families farmed land collectively and shared the produce of their labour among themselves. Following the socialist regimes, private ownership of land was officially reintroduced in Cambodia in 1989, based on village residence and land farmed since 1979. In 1992, a land law was passed that defined acquisition of land ownership as based on five years of continuous, peaceful and uncontested habitation or cultivation. A new land law, developed and passed by the Cambodian National Assembly on 20 July 2001, maintains the same conditions for the acquisition of land, although an application for ownership can be made after three years of habitation or cultivation (MLMUPC, 2001: 10). The 1992 land law was never fully implemented, and it may be several years before the new land law is implemented effectively. As a result, few people have registered title and few have a secure claim over their land. In mine-contaminated areas, people have often been encouraged to clear land in order to lay some form of claim to it on the basis of their being able to cultivate it. The wife of a village chief in Banteay Mean Chey province explained that she wanted her husband to stop demining, but was afraid that if he did not clear their land other people would take it from them, as they had no land title.

Many people who have returned to their existing land and homes after the years of warfare have found them to have been mined during their absence and have been forced to clear mines to enable their families to resettle. In some villages and districts, villagers have been demining since the early 1990s and have since ceased demining activities because they have already cleared enough land for housing and agriculture. In other areas, villagers continue to clear mines in order to extend their agricultural holdings. In Rattanak Mondol district in Battambang province, some of the villages date back to the Sihanouk regime and before, but, owing to the long years of fighting, the majority of villagers have spent a greater proportion of their lives outside their villages. Pheap Thol was born in Chi Saang village in 1965, but left the village for Boeng Ampil refugee camp in 1979 as the Khmer Rouge began to wage their resistance campaign against the Vietnamese-supported government. He finally came back to the village

in 1997 to find that there were many mines and UXO on the village land. The following year, he cleared the mines from his housing plot, and, before his neighbours built a house, Thol helped them to burn the land to see if any mines would explode. Prum Noi also lives in Chi Saang village with her family of four. She has been living in the area since 1979, although during the worst parts of the fighting the family were frequently forced to flee to a neighbouring commune. Noi explained that her family has a small piece of *chamkar* land that her husband cleared of mines. He cleared 14 mines from the farm and from their housing land. Besides doing a little farming, the family also goes to the forest six kilometres away to collect vines, rattan and firewood. Noi weaves the vines and rattan into mats that she sells for 6,000 riel (US$ 1.50) each. She believes that her husband will stop demining as the family now have enough land for their house and *chamkar*. Despite the danger involved in her husband's demining activities, she explained that his ability to clear landmines helped to improve their family condition.

Uncertainty when it comes to land rights has led to increasing instances of land grabbing, evictions and landlessness throughout Cambodia. For vulnerable families that have come to the border areas in search of land and labouring work across the Thai border, the situation is precarious. Land appropriation by speculators, large-scale operators, the military and other powerful groups is increasingly playing a part in the perpetuation of landlessness, often forcing people to live on or near mined land. Poipet, once a small frontier town close to the Thai border in Banteay Mean Chey province, is now a burgeoning conglomeration of casinos, hotels and trade, bordered by shanty towns housing the poorest and most vulnerable sections of the population. Here, there are numerous examples of people being evicted from land in the centre of Poipet and moved onto land suspected of being contaminated. The village deminers in Stung Bot village that we met at the beginning of this chapter have been moved onto land that was contaminated; although they have cleared mines from much of this land, they now fear that the land belongs to someone else. O'Neang village, situated ten kilometres from Poipet town, is a new resettlement site where almost 1,000 families were relocated in 2000. The majority of the families are economic migrants who came to live in Poipet town to take advantage of the labouring opportunities in Thailand. The land on which they settled was claimed by a company that wanted the land for development, and so the Poipet authorities moved the families to O'Neang, an isolated, desolate piece of land believed to be contaminated by mines. As economic migrants, few of the villagers have any idea of how to clear mines or even how to cope with living in a mined environment. As one man explained, 'I am new to this area and so I don't know where the minefields are, though people tell me that there are a lot of mines here.' The main occupation of the people in O'Neang consists of work as labourers in Thailand or Poipet, but the journey to work is now much longer than before. Some of the families have started to collect wood, thatch and bamboo, even though they say they are scared to go into the forest because there may be mines.

The legal status of mine-contaminated land in Cambodia is somewhat murky, and for those who have decided to settle on mined land, issues over land tenure and own-

ership are complicated. Although officially state land, mined land often assumes the character of unclaimed land, a fact that draws many poorer families to settle in these areas, as does the belief that if land is mined other people will be less inclined to seize it. Lack of security over land tenure and the increasing incidence of land expropriation has led some villagers to deliberately leave mines on their land to prevent it from being taken by others, or to clear mines only from areas needed to maintain their livelihood activities. A village deminer in O'Chrou district in Banteay Mean Chey province stated that he and his neighbours had already cleared some of their farming land, but were unwilling to clear any more as they had heard a rumour that the land belonged to an official or a military commander. He said he had also met people in Poipet town who had cleared mines from their land only to have it taken away from them by powerful men. In Thma Pouk district, Lon Cheang and his wife demined land for farming in 1998, but stopped clearing after a militia man appropriated some of this land. Similar stories emerge in Battambang province. Kabal Laan is an area of bamboo thickets where 13 families have been living for eight months. The families make their living by cutting the bamboo to sell, and they have made clearings within the thickets and built houses from the bamboo. Cut bamboo is stacked at the roadside awaiting transportation to market. It is sold in Bavel, where people use it for fishing traps. However, the whole area is littered with PMN-2 mines, and casings can be seen strewn over the land. The villagers have cleared the mines from their housing plots and from the paths to access the bamboo. They only clear the mines that directly impede their livelihood activities. As one of the village deminers explained, 'Although I know there are mines all over the land, I do not demine in other places because this land is not ours. If I clear all this land I will be told to leave, as the owner of the land is only afraid to live here when there are mines.' Another agreed, saying, 'I have never removed the detonators or destroyed the mines, because when the mines are destroyed the landowners will not allow us to live here, and we will have no land to live on and no work to do. We just lift the mines out of the way so that we can get to the bamboo.'

Livelihood strategies for the majority of rural Cambodians are diverse and adapted to local opportunities. People engage in a variety of activities to secure food in particular. Cultivation of crops is often supplemented by fishing, scavenging in wetland and wasteland areas, and the collection of forest products such as wood, bamboo, grasses for thatch, vines and vegetables, especially in the lean periods during the dry season, when rice supplies are at their lowest. In areas where the amount of cultivable arable land is limited by mines, access to these secondary resources may be even more crucial. People are often forced to venture further afield to access these resources or to enter known mined areas. Many forested areas were mined owing to their being the traditional refuge of Khmer Rouge troops, and villagers will often encounter mines when trying to collect wood or other resources. The people living in villages in O'Chrou district in Banteay Mean Chey province rely heavily on collecting forest products, including firewood, bamboo shoots, green leaves and forest mushrooms. A deputy village chief explained that villagers in the area often had to borrow from moneylenders in Poipet town to help them through the year. If they are able to go to the

forest to collect firewood to sell, they may be able to pay back these moneylenders. However, to collect the firewood the villagers have to go through minefields. The deputy chief said that, although he warned the villagers about the landmines, he felt that he could not stop them from going to the forest, because if they did not go they would have no food to eat. These sentiments were echoed by Nuon Thoeun, who lives in the same area with his wife and four children. A former soldier, he lived for a long time in a military base in Malai, but is now demobilized and came to settle in O'Chrou district a year ago. He clears mines from the paths that lead to the forest and also within the forest. He says that if he does not remove the mines, he cannot reach the good trees that he can sell as firewood. In Krong Pailin, an area known for its precious stones, villagers have also been known to clear mines to access areas where they can dig for surface gems, an activity that can boost household income levels.

Although households may try to avoid undertaking high-risk activities such as mine clearance by looking for alternative means of income, this is not always reliable. As we have seen, many villagers living in mine-affected areas close to the Thailand–Cambodia border have been drawn to the area for the very reason that alternative income-generation activities are possible, and often at least one family member will work as an itinerant labourer in Thailand. In O'Chrou district, villagers from four villages cross the border on a daily basis to find labouring work in rice-planting and harvesting, sugar cane-cutting or weeding. Each day they can earn between 30 and 50 baht (approximately US$ 0.70–1.20). However, early in 2000 the Cambodian and Thai authorities decided to close the border crossings in the area owing to simmering border tensions and an increase in robberies committed by armed gangs operating on both sides of the border. Unable to work in Thailand, the villagers were left with little choice but to eke out a livelihood from the surrounding natural resources, the majority of which are affected by mines. In Prei Chan village, many women support their livelihood through the collection of thatch from a wasteland area beyond the forest that borders onto the village. Usually, the women would cross into Thailand to use a safe path to the thatch. With the border closed, the women had to walk through the forest, where there are mines. One woman had already been injured by a mine on her way to collect thatch. In nearby O'Beijoun village, villagers had to return to cultivation following the border closure, and many were clearing the agricultural land of mines. A village deminer explained, 'I would like to stop clearing mines and look for work in Thailand, but now the border is closed and so I have to work in the minefields again. If I don't do it, my stomach will be empty.'

One of the most widely reported secondary uses of mines and UXO by villagers and soldiers alike has been the recycling and use of their parts for purposes other than those for which they were originally intended. Rural Cambodians are well known for their propensity to make good use of any materials at hand, and this is no different when it comes to the use of the components from mines and UXO. Often, such activities do not relate directly to basic household consumption, but are rather a supplementary benefit to bolster household resources. The use of TNT, landmines or even grenades for fishing is an activity that some village deminers have undertaken to increase

their catches. Meng, a village deminer living in Stung Bot village near Poipet, clears mines from his agricultural land and extracts the TNT for fishing. He packs this TNT into an empty fish can and makes a fuse from a roll of paper filled with the red tips of matches. He lights this and throws the device into the water. Meng usually goes fishing in the dry season, and claims that with one of these improvised mines he can catch up to 60 kilograms of fish. Keap, who lives in Santepheap village in Malai district, has also used TNT and detonators for fishing. Again, he goes fishing in the dry season and puts the TNT into a fish can with a fuse. He estimates that he can catch one to three kilograms of fish per day using this method, and he sells his catch to other villagers. In Thma Pouk district in Banteay Mean Chey, a village chief said that in the past people had used explosives for a multitude of purposes, including filling in the blemishes in timber that was to be sold in Thailand, although this practice had also stopped because of a government law banning people from cutting trees. Other villagers reported that TNT, when crumbled into water, had been used as a remedy for skin infections; and another village deminer described how, during his days as a soldier, he had used mines to hunt wildlife.

People like Meng and Keap who fish with explosives are relatively few and far between today. The activity appears to have been prevalent in the early 1990s, but more recently has dwindled, largely owing to the domestic law implemented in 1999 prohibiting the use of anti-personnel mines, a law that appears to have filtered through to the village level relatively effectively.[8] Many village authorities and villagers reported that people no longer fished with TNT or mines because they had been told by the mine action organizations or the local authorities that this activity was contrary to the law and that they could be arrested and put in jail. A commune chief of Svay Chek district in Banteay Mean Chey province reported that villagers had used explosives for fishing in the past, but since the government law had been introduced they had stopped this activity. In Phnom Proek district in Battambang, villagers reported that even the former Khmer Rouge did not dare to use TNT for fishing because of the law. Rath Phon, who lives in a village in Krong Pailin, explained that he used to keep TNT and detonators for fishing, but now he throws the parts into the forest because of the law banning the use of explosives. He does not want to be accused and imprisoned.

The reuse of explosives has dwindled largely because of an awareness of the government law, but also because of the relatively high rate of accidents that happen as a result of such activities. It has not been uncommon for villagers to be killed while using explosives for fishing, a fact that seems to have encouraged some villagers to give up the activity. In Kamrieng district in Battambang, villagers spoke of a village deminer who was killed when using mines for fishing. The villagers reported that his death had made the local people more afraid of mines, and the authorities had also talked to the people and asked them not to take risks. In Pailin, a village chief explained that, during the late 1980s and early 1990s, the majority of villagers had used

[8] The HIB study found that only 22% of village deminers surveyed still made use of explosives; of these, 85% used the TNT for fishing. The use of scrap metal was considerably lower, with 8% recycling the metal either to sell (44%) or to make tools (52%) (Bottomley, 2001a: 45).

improvised mines for fishing, but when the Pailin authorities permitted the villagers to dig for precious stones, they had stopped these activities.

To a lesser extent, the sale of the casings of UXO or mines with metal bodies, such as the Type 69 and the POMZ-2M, has also provided an opportunity for supplementary income generation, although the heyday of this activity also appears to be over. Villagers sold the metal casings of mines and UXO to scrap metal dealers, who plied their trade from village to village on bicycles. The income derived from selling mine casing as scrap metal appears to have been relatively low. The casing from a POMZ-2M or a Type 69 would typically fetch 100 or 200 riel (US$ 0.02–0.05) per mine, and villagers often described the selling of mine casings as an activity carried out by children, who were then able to buy sweets with the money. Larger anti-tank mine casing could be sold for as much as 5000 riel (approximately US$ 1.25), and in some areas it was reported that complete anti-tank mines were sometimes sold to stone quarries for 10,000 riel (US$ 2.50) per mine. In a few areas – such as Poipet, where there is a huge trade in scrap metal – some villagers still sell metal mine casings when they can find them. Meng's children in Stung Bot village used to sell the casings of POMZ-2M mines to a scrap metal dealer from Poipet. Meng said that he would dismantle the mines first and then give the casings to the children. Another village deminer in Boeung Trakoun village in Banteay Mean Chey also kept the casings from Type 69 mines to repair the piston rings on motorbikes. However, the scale of scrap metal dealing in explosive ordnance in Cambodia has never reached the level experienced in Lao PDR, although the popularity of the activity in the recent past is perhaps an indication of the numbers of these types of mines to be found at that time.[9] Today, it is more common to see discarded anti-tank mine casings being used as feeding bowls for animals.

The practice of mine clearance and the use of mine and UXO parts by villagers for other activities perhaps indicates the extent to which people in Cambodia have become familiar with these weapons of war. Davies (1994: 19) has suggested that the prolonged conflict in Cambodian history has led to a certain 'militarization' of Cambodian social and cultural life, whereby civilian and military life have somehow become fused. As Nuth Ly in Samlot district commented, living with mines is *thomadar*, or 'normal'. Perhaps what has to be drawn from this notion of 'militarization' is rather the need of a society impacted by war to somehow engage with the situation. Village deminers are perhaps indicative of this in that their efforts to secure livelihood security through the clearance of mines draw on their experience of the conflict in order to challenge its lingering effects. In other words, the capabilities gained through the experience of war are being utilized to counter the vulnerabilities resulting from the

[9] Both POMZ-2M and Type 69 mines have metal casings and are found on or near the surface of the ground. Usually, a tripwire activates them, although the Type 69 may also be activated by pressure. Because they are surface mines, they are often easier to locate than mines buried under the ground, and this perhaps accounts for the fact that there are fewer of these types of mine around today. The majority of pressure mines found buried in the ground commonly have plastic components and a relatively small metal content, a fact that also makes their detection using metal detectors (the common approach in professional demining) much harder.

same. As a village deminer in Samlot district explained, 'I forced my mind to do the work when I was a soldier. No one could escape from the duty in military service. And today I also force myself to demine for rice fields and for *chamkar*.'

Skills and Capacities

The recognition that many villagers in Cambodia have long been involved in situations of warfare as civilians or soldiers is important in the study of the local-level reaction to the mine situation. As the village chief of Stung Bot village remarked, 'We have had over 20 years of war, and so everybody was a soldier at some time or other.' The majority of village deminers are demobilized soldiers who learned the rudiments of mine clearance and deployment, or breaching and defence tactics, during their military service.[10] The prominence of mine warfare during the Cambodian conflict meant that village deminers often learned on the job, on an as-needed basis, by watching fellow soldiers or by being taught informally.

Khmer Rouge soldiers were often trained by their commanders and became deft at laying and clearing mines as their fighting units moved from one area to another to launch attacks. Loeub, a 35-year-old village deminer, lives in Ba Huey Khang T'bong village in Pailin. He has known how to clear mines since 1985, when he was in his early 20s. He cleared mines on the paths to battlefields and on tracks as his unit moved from one place to another. His commanders trained him how to clear and lay mines, and he recalls that he had plenty of practice during the war. In Thnal Bot village, also in Pailin, an older man called Rath was with the Khmer Rouge army since the time of the Lon Nol regime. He says that his commanders taught him how to lay and clear mines, and that he has been doing it since 1972. He would clear mines around the enemy's military bases and neutralize them by unscrewing the detonators and pins. Rithy Phan described how he learned to clear mines by himself and by watching other soldiers when he was in his early teens. He said clearing mines became a habit for him. Another Khmer Rouge soldier, Chen Chon, explained matter-of-factly that each soldier had to learn how to clear and lay mines or they would not have survived. Son Vandy, who lives in Boeung Trakoun village in Thma Pouk district, was based on the Cambodia–Thailand border gate as part of the *Para* resistance. He was one of a 12-member demining unit that during the 1980s cleared mines laid by Vietnamese soldiers and sold the mines in Thailand. He said that sometimes they could clear one truck of mines to sell, and receive 10 baht (about US$ 0.24) per mine. Former government soldier Chan Samath explained that he learned how to demine by watching his colleagues clearing mines and then trying to clear himself: 'I have never been trained properly how to clear mines. At that time, I demined on my way to the battlefield, now I demine for farming.'

[10] The HIB Spontaneous Demining Initiatives study found that 71% of village deminers learned how to clear mines in the military. An earlier study in 1993 by a French mine-clearance and EOD expert also found that four out of the five village deminers interviewed had been taught to lay and clear mines during military service (Houliat, 1993b).

Some village deminers received specific military training in mine-clearance and deployment techniques. Chinese military specialists are known to have trained Khmer Rouge forces, and others learned from mine-clearance specialists in North Vietnam. Sam Oeun, a commune chief in Pailin, joined the Khmer Rouge in 1970 and was taught to lay and clear mines by his commander, who had learned in North Vietnam. He also attended a training course in mine warfare run by Chinese experts in 1984 at a school on the Thailand–Cambodia border. Son Phoeun, a village deminer in Samlot district, also attended a similar course in the same year. Heng Mao, who now lives in Rattanak Mondol district, was originally a government soldier, but he defected to the Khmer Rouge in 1983. He also attended a training course led by military experts from China. He recalls that it was a three-month training course, during which they were taught how to lay and clear mines and how to conduct commando attacks. He learned how to clear Type 69, 72A and anti-tank mines.

Officers of the resistance forces of the KPNLF and the ANS received training from a British Army team drawn from the Special Air Service (SAS) and the Thai army (McGrath & Stover, 1991: 25).[11] Lin, a village deminer from Svay Chek district in Banteay Mean Chey, was a *Para* and learned mine warfare at a military school in Thailand, as did the village deminers Pon, Hean, Vuthy and Voeun from Stung Bot village. Government soldiers sometimes attended training in mines and munitions at a military school in Kompong Cham province or were trained by Vietnamese teachers. Chan Thon, a government soldier now resident in Rattanak Mondol district, was taught mine warfare by Vietnamese teachers in the early 1980s.

Some village deminers, usually those who are not former military, also learned basic mine-clearance techniques in the border camps, where skills such as prodding and feeling for tripwires were taught to camp residents to prepare them for their return to Cambodia. The Land Mine Awareness Programme (LMAP), which operated for two years in the camps run by the International Rescue Committee (IRC) on the Thailand–Cambodia border, taught prodding as part of its campaign, as did the early risk-education programmes in Cambodia. The Mines Awareness Training Teams (MATT), funded by World Vision, and the Mines Advisory Group (MAG) taught these skills in the early 1990s, with the objective that villagers would be able to rescue victims or to find their way out of minefields (Aitkin, 1993: 12, 27). In Thma Pouk district, Luch Chan and his wife Moung Sary worked together to clear mines from their land. Sary explained that she learned to clear mines by watching the military clearing mines near Site Two refugee camp, where she used to go to get rice from international organizations in the early 1990s. She said the staff of the organizations in the camps also advised them how to dig the ground at an angle when looking for mines, and not to dig directly from the top.

[11] The British/Thai Junior Commander Courses were conducted from 1986 to 1989 at a Thai military facility believed to be near the Burmese border. It is thought that at least six courses were conducted, each lasting six months (McGrath & Stover, 1991: 25).

In addition to backgrounds in military techniques, village deminers often possess a certain degree of localized knowledge about mines and mine deployment derived from their experience as soldiers. Often, they are familiar with certain types of mines and with the deployment tactics of the different factions during the war. Different factions laid different types of mines, but because the military were involved in both laying and clearing mines, soldiers were also able to familiarize themselves with the mines used by the enemy forces. In addition, because village deminers frequently settle in areas where they were deployed as soldiers, they often have good knowledge of the types of terrain and areas contaminated. Phan Roeung, a village deminer in Snoul Tret village, O'Chrou district, said that as a member of the resistance forces he had often laid mines in the area in which he now lives, and he knows some of the patterns of deployment used. The village chief of K'dop Tmor village in Banteay Mean Chey was able to explain in great detail the deployment strategies in and around the village: 'There are mines all around the village. Between 1982 and 1985, the Vietnamese laid many metal stakes. They are like anchors pointing upwards. The Khmer Rouge laid mines to protect the area, and when the government forces came in they laid mines too. The mines in the *chamkars* near the village are not too dangerous, as many of them have already been destroyed by forest fire. But, in the area around the pond, the mines are laid deep underground. There are a lot of mines in that area.' A woman in Bavel district explained that her understanding of where mines were laid came from her knowledge that the area used to be a military base for both the Khmer Rouge and the Vietnamese at different times. She had also seen mines herself when looking for bamboo shoots, and had remembered where people and cattle had been injured by mines. Son Phoeun, a village deminer in Samlot district, explained that he had been a Khmer Rouge fighter, trained by Chinese military experts to clear mines. He says, 'The reason I know the location of mines is because during the war I was stationed here as a soldier. I know the areas where mines were laid and where people were injured. I laid mines along the border and around our military base to protect it from the enemy in 1985–86. In 1997, more mines were laid during the July coup. Mines affect the old village area, the rice fields, the old road, the paths and the undergrowth areas.' Sok Nyou, who now lives in Kabal Laan in Bavel district, is originally from Kampot province, but he was a government soldier from 1979 until 1993 in Kampot and attended an eight-month course on mine warfare at a military school in Phnom Penh. During the war, he cleared mines that were laid by the Khmer Rouge and also by government troops. Although he is less familiar with the mine deployment in his current locality, he relies on his knowledge of the different types of mines and the different types of patterns in which these mines were laid by the different factions.

Owing to the extensive use of landmines during the years of conflict, many soldiers sustained injuries and amputations.[12] Having returned to civilian life, some of these

[12] The SCVCS report (2000c: 1) points out that although the official figure for the number of people with disabilities is 2.2% of the total Cambodian population, this figure is often disputed and believed to be much higher as a result of the shortcomings of the data-collection methods and the difficulty of defining disability.

disabled former soldiers are now clearing landmines, their decision to undertake this high-risk activity seemingly related to both their previous military knowledge and their own experiences of being injured by landmines. In many of the former conflict zones, the percentage of amputees among the population tends to be high. In one village in Samlot district, the village chief reported that there were 37 people living in the village with amputations resulting from the war years.[13] The mine-clearance activities of amputees are perhaps influenced to a certain extent by the prevailing attitudes of discrimination towards handicapped people within Khmer society. Disabled people are commonly considered to be 'incomplete' and therefore are believed to occupy a lower position in the Buddhist hierarchy (Óvesen, Trankell & Öjendal, 1996: 43). The view that the impact of a mine accident would be less for former landmine survivors than for able-bodied villagers was one that was commonly reiterated by disabled village deminers themselves during the HIB study (Bottomley, 2001a: 29). Such men often reported that they continued in these high-risk activities because they felt they had less to lose – in terms of both limbs and quality of life – than other villagers. As Mot Sambath, a war amputee in Samlot district, declared, 'In fact, I dare to do this work because I have already had both my legs amputated due to a landmine accident. If I still had my legs, I wouldn't do such work. In fact, I am rather careless with mine clearance.' Some disabled deminers also said that, having suffered mine-related injuries themselves, they were motivated to clear mines so that other people would not be injured. Son Phoeun, an amputee deminer also in Samlot, explained, 'I was injured by mines and so I try to clear the mines in the village, as I don't want other villagers to be injured like me. I will work as a deminer until the end of my life. While I am alive, I will help to provide security and safety to the villagers.'

The propensity of some amputee village deminers to undertake mine clearance also demonstrates the great resourcefulness and determination of these people to negotiate and create options for themselves. Through clearing mines, village deminers with disabilities are able to take part in the productive activities of village life, without having to compete directly with other able-bodied villagers, and thereby they strive to gain greater acceptance into the social life of the village. Mine clearance is one way that they feel that they can earn some respect and admiration from other villagers, despite being disabled. Phoeun is certainly known and valued for his demining work in his village. One woman explained, 'If people find a mine and dare not clear themselves, they call Phoeun to help. He has never received money or any reward from other people, but he helps to clear mines near irrigation channels for other people or neighbours.'

Mine clearance is predominantly an activity that falls within the sphere of men. Village deminers are normally male adults, on average aged from their mid-20s up to their late 40s. They are frequently family men with wives and children to support. The

[13] There is often a low survival rate associated with child landmine/UXO victims, and men tend to be more affected by landmine injuries than women because of the history of war and their more predominant role in carrying out foraging activities further from the village (SCVCS, 2000c: 1).

male orientation of the activity relates both to the division of labour within Cambodian households and also to the fact that most village deminers learned their demining skills in the military. Village women tend to hold primary responsibility for household work and for the healthcare of the family and dependents, whereas men are often responsible for the activities that take them away from the home, either in search of labouring work or to forage for foodstuffs, to cut wood or to hunt animals. The greater mobility of men and their role within the agricultural cycle in terms of preparing the land tends to make mine clearance more of a necessity for male household members. 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 within the male domain.

Despite this, as Ledgerwood (1992: 93–96) argues, the sexual division of labour in rural Cambodian households is not very strict, and the principles are often contravened by practical necessities. Partly as a result of the war, there are a large number of female-headed households, which make up a significant proportion of the very poor in rural Cambodia. Although these female-headed households are often seen to lack labour power, many of these women do carry out, from necessity, the work traditionally associated with men. Women also experienced the long years of warfare, and some even took an active part in the fighting, either as soldiers or in transporting food and ammunition to the frontlines. There are many examples to be found throughout the northwest of Cambodia of women who show great resourcefulness and who are not hesitant to draw on any existing capabilities they may have. Mom Chenda, a 51-year-old woman, lives with her teenage son in a shabby one-room house in Beikchan Chak village, Banteay Mean Chey province. Her husband was a military commander for the government forces, but he was killed by a landmine in 1985 when he was trying to remove the bodies of his dead comrades from a battlefield. When she returned to her home from the refugee camp on the Thai border in 1998, she began to clear mines on her farmland and on the grazing land where her cattle roamed. She claims that she learned by herself, by being smart. She would clear the mines that she found and place them in her *krama*, and would then sit under the shade of a tree and dismantle them. She claims that she cleared over 100 mines, although she has now stopped as her health and eyesight are no longer what they were. She says that she pushed herself to clear the mines as she did not want other people to look down on her or cheat her. Similarly, Yan Somaly, who now lives in Bavel district in Battambang, learned how to clear mines in 1967 during the Sihanouk regime, when she was part of the Women's Resistance troops stationed in Stung Treng province. She was also taught to clear mines by a Vietnamese commander for whom she was working as a cook in the late 1980s. She cleared mines for housing and farming land, although she later lost some of this land when it was taken by Khmer Rouge defectors in the late 1990s. She said, 'I want my reputation to be known because I am a woman and I am able to clear mines in the same way as men. Women are not only good at cooking.'

Clearance Techniques

The way in which village deminers clear mines reflects the needs, the levels of skill and also the tools available to the villagers for carrying out the activities. Mine clearance for most villagers is not a full-time occupation, but rather a strategy that is employed as and when needed.[14] Typically, mines are only cleared when villagers require access to resources, and once they have enough resources to maintain food security, village deminers will usually stop clearing. As Em Chea in Sampou Loen district explained, 'Clearing mines is not my daily occupation, but I clear mines when I need to get to the rice fields and *chamkar* to plant crops. When I have enough *chamkar* to plant crops, I will stop demining.'

A pattern emerges of villagers undertaking mine clearance mainly in the dry season, a decision that is ultimately based on pragmatism. The dry season is the time when farmers clear their land for cultivation, and thus it is a logical time for them to clear mines from their land. It is also the time of year when villagers tend to undertake excursions to forage or scavenge from open-access resources such as forests and wetlands to compensate for dwindling rice supplies. Many deminers also stated a preference for clearing in the dry season because the undergrowth is dry, making it easier to see mines on or near the surface, and they also felt that the hard ground meant it was less likely for them to trigger a mine by stepping on it. In contrast, though, Son Phoeun in Samlot district claimed that he preferred to clear in the wet season: 'In the dry season, it is difficult to demine because the soil is so hard. It is not easy to prod or to make a hole around the mines, especially when the mines are laid together. In the rainy season, the soil is soft and so I can dig deeper. But I know that other deminers do not like to demine in the rainy season.'

Villagers use basic farming or household implements to clear mines. Usually a hoe or a bamboo stick is used to prod for mines, and the soil is excavated from around a mine using a knife. With the basic equipment that they have, village deminers generally clear mines that are on or near to the surface, but not mines that are deep in the ground. As a village deminer in Thma Pouk district explained, 'The reason I know where the mines are in the forest is because I see them by eye, but I cannot assume that the land I clear is safe, as there are mines deep in the ground too. Some mines are on the surface and may be destroyed by fire. Those that are deeper in the ground still work, so I have to pay attention.' Mines are cleared only from those parts of the land where the villagers believe mines are laid, or where the mines directly affect their access, resulting in a 'patchwork' type of clearance. This is related to the ability of the village deminers to see mines or their knowledge of where mines are laid in the village, a knowledge that is often gained from their military experience and from observing accidents. Access to resources is the priority over complete safety of land, and thus

[14] 77% of village deminers participating in the HIB study cleared mines on an occasional basis, and only 6% cleared on a regular basis (Bottomley, 2001a: 28, 30). 17% reported that they tended to clear on a seasonal basis, as discussed earlier in this chapter.

relatively large areas of land will go unchecked if it is thought that they do not pose a barrier to access.

Villagers in the northwest of Cambodia tend to be more adept at clearing landmines than UXO. This is partially a reflection of the extent of landmine contamination in the area, but is also due to the fact that mines are perceived to represent more of an impediment to livelihood activities than UXO. Mines are small, often concealed by undergrowth or buried in the ground, and several are usually laid in one area, all of which effectively forms a barrier to accessing land or resources. With UXO, villagers claim that they are generally able to work around them, and some farmers in the northwest reported cultivating land around a UXO for several years.[15]

A very small minority of village deminers have access to metal detectors. Chhin Keap in Malai district bought a second-hand metal detector in Vietnam, which cost him 5,000 baht (approximately US$ 121), including the transport and accommodation costs incurred when he went to collect it. He bought the detector with money he earned from his rice harvest and from working as a labourer. The rest of the money he borrowed. He said that he had to change the battery of the detector every two days. Eventually, the detector was destroyed when a mine he was clearing exploded. He was slightly injured as a result of the accident. Keap then bought another detector from Svay Rieng province, but this detector did not work well as it was affected by water, so he sold it for scrap metal. Now he has no money to buy a new one. In the same village, the village authorities and a military commander apparently rented a metal detector from acquaintances in the army and cleared a lot of land for themselves. Several villagers now work as labourers on this farmland. As one villager explained, 'In the next commune, they have a metal detector to find mines, and some villagers have been able to rent this for their own use, but only the rich people. The poor cannot afford to rent metal detectors. The village and deputy village chief rented the machine. It cost 1,000 baht (approximately US$ 24) to rent to clear one *rai* of land. They cleared their own land but did not clear any land for the other villagers.'

The techniques for clearance vary slightly depending both on the prior experience of the villagers involved and the type of mine. Many farmers who suspect that there are mines on their land will actually burn the fields before searching for the mines in the belief that heat from the fire may detonate some of the mines or burn the tripwires. Burning also serves the purpose of clearing any undergrowth and grasses, which hamper the identification of mines on the surface of the land.[16]

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[15] It appears that many village deminers do leave UXO alone and report it to mine action EOD teams. EOD teams tend to be mobile units that can respond quickly to requests to remove UXO. The use of such teams seems to be a good system, although there are reports that some villagers have had UXO in their fields for years. The problem here tends to be one of not knowing that there is an organization or system in place for reporting such finds. The Handicap International Belgium national survey on UXO in Laos also found that, although villagers have continuously moved UXO by hand from their agricultural land since the end of the war, they are generally very cautious when working near or moving it (Handicap International, 1997: 33).

[16] There is some dispute among mine action practitioners as to whether the practice of burning the land prior to clearance is beneficial. Although it is true that mines can and will explode when

For the clearance of pressure mines buried under the surface of the soil, suspected areas are gently prodded with hoes or bamboo sticks to reveal the position of the mines. On average, village deminers prod to a depth of one or two *thanang dai* (3–5 cm) to initially locate a mine. Once a mine has been located, the surface soil is removed and the village deminer digs around the mine, often to a depth of one or two *terk* (10–20 cm), to check for mines that may be laid underneath the first mine. Village deminers will also prod for other mines that they believe may be laid in formation. Mines are usually lifted out of the soil by hand, holding the mine at the sides and away from the pressure points. Nuth Ly, who often clears mines when he is in the forest, reported that if he found a mine he would gently scratch away the soil from around the mine using a knife or spoon, or whatever implement he had with him. Sok Phon, a deminer in Ta Taok village, explained his clearance method in more detail: 'First I use a digging tool and spade to prod for the mines. If I find a mine, I make a deeper hole around the mine with a knife and then clear the soil off the surface of the mine gently. I have to look carefully to see what type of mine it is and if it is a single mine or two or more mines. If it is a single mine, I lift it up gently from underneath using my hands.' If mines are found laid together, village deminers mentioned that they would check for wires between the mines and ensure that these wires are cut before they removed the mines. A few village deminers reported that they could locate a mine by tapping gently on the surface of the soil, maintaining that a different sound could be heard when a mine is present. This was the technique used by Son Phoeun in Samlot district, and also by the woman deminer Yan Somaly. She explained, 'If I suspect that there is land where mines are laid, I tap the ground with a knife. If the sound is hard and the ground is also hard and compacted, it will not have a mine, but if the sound is softer and hollow and the ground is less compacted, it will have a mine.' In Bavel and Sampou Loen district in Battambang province, some village deminers reported that they used a long-handled hoe to pick up mines, rather than removing them by hand. While this is a method that keeps the mine at a reasonable distance from the deminer, it perhaps also gives less control over the procedure and increases the likelihood of a mine being dropped.

Village deminers frequently disarm the mines when they remove them from the ground to make the mines safer to handle.[17] Pressure mines are normally dismantled by village deminers once they have been removed from the ground. This is done by unscrewing the bottom of the mine using a knife and then separating the body of the mine into two parts and removing the drum and the firing pin. Heng Mao said that he often cleared PMN-2 mines and dismantled them by unscrewing the side using a V-shaped metal prong so that the percussion cap could be removed. With fragmentation mines like the POMZ-2M and Type 69, which are usually activated by tripwires, village

burnt, some practitioners also argue that fire may not detonate all mines, but rather will increase their instability. Some practitioners also argue that it is less easy to identify blackened, charred mines on burned land (Arms Project, 1993: 248).

[17] Disarming refers to the act of making a mine safe by removing the fuse or detonator. Neutralization refers to the act of replacing safety devices such as pins and rods in an explosive item to prevent the fuse or detonator from functioning (UNMAS, 2003a: pp. 8, 18).

deminers said that, once they had located such mines, they would carefully examine them, checking in particular the position of the safety pin. If the pin was rusty and almost pulled out, the village deminer would usually leave the mine in place or collect firewood and burn the mine *in situ* rather than try to demine by hand. As a village deminer in Kamrieng district explained, 'I have to look at the pin of the mine and, if it is nearly out, I leave the mine in the ground and mark it with a warning sign. In the evening, when the other farmers have returned to their homes, I burn it.' If the pin is still secure, the village deminer pushes it firmly in place, while unscrewing the detonator. The body of the mine is then separated from the detonator and the ground post, or (in the case of the Type 69) the mine body is removed from the ground and the detonator removed. The spring and percussion cap are taken out. Once the mine has been disarmed in this way, the deminer may burn the parts or extract the parts needed for further use.

By dismantling mines, village deminers are able to collect several devices and then burn them all together, a method that can make the demining process faster than if each mine is destroyed separately *in situ*. When they collect the mines together, village deminers often place them in obvious locations, such as on the tops of tree stumps or hillocks. Some village deminers reported placing mines together and then surrounding them with thorn bushes or wooden stakes to prevent other villagers touching them.

Burning is the most commonly used method of disposing of mines.[18] Firewood is placed beneath and around the mines, and dried grasses are placed over the top. Usually, the fire is lit by using a fuse made of dried grass, which allows time to light the fire and leave the area before the fire takes hold. In instances when villagers are unable to remove or disarm mines, as is sometimes the case when they do not know the type of mine or if the mine appears to be unstable or rusty, they will burn them whole, often *in situ*. As one village deminer explained, 'If I find an unstable, mine I will not clear it. I will leave it where I find it and collect wood, grass and small trees to place around the mine so I can burn it. If I am unable to destroy the mine immediately, I will mark the area with a danger sign and then inform the other villagers not to approach the area.' When mines are cleared along forest paths, it is common practice for the deminers to dismantle and disarm them, and then to throw the parts into the undergrowth.

The majority of village deminers tend to clear anti-personnel mines (APM), rather than UXO or anti-tank mines. This is for the simple reason that APM are often laid on or near the surface of the ground, so they are easier to see by eye and to remove with the tools available.[19] The most common types of mines that villagers remove are the

[18] 88% of village deminers surveyed by HIB reported that they burned the mines that they cleared. During the early 1990s, it was documented that village deminers sometimes destroyed mines en masse, often by placing them in the middle of a large stack of wood, which would then be burnt (Houliat, 1993c). Although mines are still burnt today, it appears that they are not burnt in such great quantities, perhaps an indication of the decrease in the number of mines now found by villagers and the sheer numbers of mines contaminating certain areas in the early 1990s. As will be discussed later in this chapter, some villagers no longer burn mines themselves but pass them on to mine-clearance organizations for disposal.

[19] The HIB study recorded that 59% of village deminers clear only mines (both APM and anti-tank), 20% clear both mines and UXO, and 21% clear only UXO.

PMN, PMN-2, POMZ-2M, PMD-6, Type 72A and Type 69 mines. Village deminers distinguish between the different types of mine in terms of ease of clearance. The POMZ-2M is often said to be 'out of date', or at least perceived to be less of a problem to clear because it is usually laid on the surface, is easy to see and frequently is pre-detonated when land is burned for cultivation. Heng Mao explained that he felt this type of mine was usually easy to demine as it has a large pin at the top, which is easy to hold and push in. The tripwires and wooden stakes may also be destroyed by fire or decompose in the humid climate, a situation that village deminers also believe reduces the danger of the wooden box PMD-6 mine. PMN-2 and Type 72A mines appear to be the two mines most commonly cleared by villagers. Although well camouflaged, small and usually buried under the surface of the ground, village deminers reported that these mines were relatively easy to clear once found, as long as the deminer avoided touching the pressure plate at the top of the mine.

Vietnamese troops are known to have laid many improvised mines made of TNT packed into empty fish cans, but again village deminers often claimed that such mines were inactive as they had no seals to protect them from humidity or groundwater. These types of mines were found by some villagers in the resettlement site of O'Neang, near Poipet. A village deminer there explained that he had found several such mines near the stream, but that they were all inactive, although he was aware that the TNT could still explode if burned. Improvised mines made from 60mm or 80mm shells and favoured by the Khmer Rouge were also thought to be less of a problem to clear as the vines suspending them from trees had long since been broken or burnt.[20] A village deminer in Bavel said that he would burn the improvised Khmer Rouge mines that he found, making sure that he did not touch them, instead covering them with grass and twigs and then lighting a fire using a grass fuse.

Almost without exception, village deminers felt that one of the most difficult mines to clear was the Type 69. With its large metal content, it is prone to rusting through exposure to the elements, and the parts become unstable and difficult to move or dismantle. Unlike the POMZ-2M, the safety pin is often less secure, and there is considerable risk involved in neutralizing or disarming the device. Many village deminers report not only that this is the hardest mine of all to clear, but also that if it explodes it can cause severe injuries. Anti-tank or anti-vehicle mines are problematic for village deminers to clear simply because they are often laid deep in the ground and are difficult to detect by prodding. Once detected, village deminers are able to clear these devices with relative ease. Generally, anti-tank mines are seen by villagers as being less

[20] Some mine action practitioners working in Cambodia have also suggested that some mines are no longer active. The semi-private French mine-clearance organization COFRAS (*Compagnie Française d'Assistance Spécialisée*) began clearance around the Angkor temple areas in 1994. Unlike other mine-clearance organizations in Cambodia, COFRAS tended to remove and disarm mines rather than destroying *in situ*, to prevent damage to the historic temples. Jean-Pierre Billault, an ex-COFRAS staff member now with the CMAC Project Management Unit (PMU), believes that 20–70% of all mines no longer function owing to water erosion and oxidization, and that in 99% of cases tripwires are broken. However, although inactive, these mines remain dangerous in that they still contain explosives (Billault, 2000: 2).

of a threat to livelihood activities than other types of mines, as they tend to be found on roads rather than on farming land or in the forests. Nonetheless, they are an obvious threat for villagers travelling in ox-carts or tractors, and there are sometimes reports of villagers having been injured or killed by anti-tank mines while travelling in such vehicles.

The number of mines a village deminer may clear depends on the type of land they are clearing, the frequency and length of time they clear for and the level of contamination. While some village deminers had cleared relatively few mines from their farming land, others claimed to have cleared a great deal. One village deminer in O'Beijoun commune explained how he had been involved in clearing many types of mine: 'In 1993, we removed many different types of mine. *Min Snoul Pot* [POMZ-2M], *Min Hub* [PMD-6] and many *Min Pka Chan* [PMN-2].[21] We also found punji sticks. We had two bags full after clearing two hectares of land.' Heng Mao in Rattanak Mondul said, 'I don't know how many mines I have cleared – maybe thousands of mines in this village. I cleared one hectare of public land and found one hundred *Min Snoul Pot*. I put them in a pile which reached as high as my thigh.'

The only way for villagers to test the safety of the land they have cleared is to use it. Generally, villagers cultivate their fields with a spade after clearance as this allows for more careful work and avoids them putting their cattle, or the cattle they have rented, at risk from injury or death. If no mines are found in subsequent years, villagers will then begin to use cattle, or even a tractor to cultivate the land if these means are available. The process is slow, but by following these careful practices, village deminers are able to reclaim parts, if not all, of their land and to begin cultivation.

Beyond the Household

The fact that households are not independent, autonomous entities has already been illustrated in the way in which they are impacted by outside social, economic and political factors. Village mine-clearance activities are practised ultimately for the benefit of individual households, although the willingness and ability of some villagers to clear mines often has broader implications for a village as a whole.[22] The clearance of mines by village deminers along public paths to agricultural land or to common resources such as forest and water derives from personal need, but ultimately benefits the wider village population. It also appears to be common for village deminers to help remove mines when other villagers find them but are unable to remove them by themselves. This is generally done in the spirit of helping one other, and village deminers rarely receive any sort of payment or return favour for this. Such actions do, however, tend to touch on issues of respect, and village deminers often reported that they gained a certain status among the village population because they did this work.

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[21] See the glossary on p. 137 for an explanation of the local names for landmines.

[22] 67% of village deminers surveyed by HIB said that they cleared mines for individual purposes only; 6% cleared for other people; and 27% cleared for themselves and others (Bottomley, 2001a: 41).

In many areas, it is common for village authorities and villagers to acknowledge that village deminers do assist in reducing the mine risk in the village because they help to remove mines villagers find and because they clear along common access paths. In Bavel district, a village chief explained, 'The village deminers usually only clear their own land and they cannot be rented by other villagers to clear agriculture or housing land. However, they will remove isolated mines that villagers may find, particularly on the roads and paths in the village.' In Stung Bot village in Banteay Mean Chey, one woman said that there was one village deminer who would help to clear isolated mines for other people without payment, adding that she would call him to help her when she came across a mine. In some villages, the presence of landmines and village deminers does seem to have nurtured cohesiveness and community spirit among villagers. As one villager in Santepheap village in Banteay Mean Chey explained, 'Mines do not cause conflict in the village, but instead they create solidarity, because when we see mines we have to help each other to collect and destroy them. In particular, we can tell other villagers about where mines are, or ask experienced people to remove them.' In the same village, another family spoke of the village deminer who helped the other villagers: 'The villagers call Chhin Keap to clear mines that they see, and he doesn't charge. He is a popular person.'

In some villages, however, it is clear that there is some resentment of the ability of village deminers to clear mines. The extent to which social cohesion in Cambodian village society has been undermined by the trauma of recent history is a topic that has been greatly debated by development practitioners and researchers alike (see Ledgerwood, 1998; Óvesen, Trankell & Öjendal, 1996). In areas where village populations consist of a greater mix of people – for example, older residents and newcomers – there is often evidence of dislocation and a lack of solidarity among villagers. A villager in a resettlement site in O'Chrou district in Banteay Mean Chey explained that, although he would tell newcomers to the village where the mines were laid, they would sometimes resent this because they thought he wanted to keep all the resources for himself. Conflicts over land are more common, and sometimes there is evident resentment towards those villagers who have been able to clear mines from land to begin cultivation. Another villager in O'Chrou district complained, 'Village deminers don't help to clear my land because they are scared of being injured and killed. They only clear their own land. They are aggressive and don't listen to people who warn them, but if they are injured by an accident they ask other villagers to help.' A villager in another resettlement site in Thma Pouk district expressed similar sentiments: 'The village deminers do not provide benefits to the villagers. In fact, they disadvantage the villagers because if they have an accident it is difficult for the authorities or other villagers to send them to hospital. I have never asked them to clear my land, as when they get injured I don't want it to be my responsibility.'

Despite the overwhelming need for mine-free land, villagers involved in mine-clearance activities rarely clear mines from the complete area of land belonging to other villagers. Family and kin tend to be the priority, and village deminers will often clear land for relatives living close by in addition to their own land. Prak Vandy, a vil-

lage deminer in Samlot district, cleared his own housing land and agricultural plot, and then cleared the mines from the land where his mother-in-law now lives across the road. Friendship bonds may also lead to villagers clearing for other families, although often these tend to be families with a household member involved in mine clearance, and the two families combine their skills to clear land. Cases in which village deminers sell their mine-clearance services to others are also relatively few and far between. As one village deminer in Banteay Mean Chey province explained, 'People are clearing land for farming because they have no land to farm [if they do not remove the mines]. Three people [in this village] clear mines as an occupation – people can ask them to demine. But I am not the same. I only clear my own land, and I do not work for other people. There are seven people in the village who clear mines from their own land because they want to start cultivation.' The need to minimize risk-taking continues to be a strong motivational pull to avoid 'get rich quick' schemes. Prices for village mine clearance vary quite widely, and village deminers may be paid by area of land cleared, days worked, or by the number of mines/UXO removed. However, such work tends to be sporadic, and villagers themselves appear to have few expectations that village deminers will clear their land for them. The majority of village deminers who receive payment for clearance work are hired by landowners living outside of the village, a fact that perhaps also reflects on the lack of means other villagers have to pay for the services of a village deminer. In Prei Chan, the village near the Thai border in O'Chrou district, a village deminer was involved in demining land for an outside landowner. He spent only three days clearing and received 1,000 baht (US$ 24) per hectare of land he cleared, but was then blinded when a mine exploded. His wife said, 'We are very poor and our poverty forced him to work as a labourer clearing land. And we have many children. Now my husband is blind and is only able to collect firewood for a living. When he worked as a deminer, we had more money and things were easier.'

Organized village demining is also a rarity, although some village chiefs do advocate for village deminers to be provided with equipment so that they can be organized to clear the land. The fact that this has often failed to materialize in practice cannot be taken as an indication of a lack of community cohesion or solidarity, but is rather a result of pragmatism, and perhaps also pressure from mine action organizations and the government, as will be discussed further in Chapter Three. The desire for village deminers to clear village land is always qualified by the need for equipment, usually metal detectors, which, in the eyes of the authorities, would help to guarantee safer clearance. However, such equipment is often beyond the means of village expenditure. The practicalities of everyday living also mitigate against such collective work. Families simply cannot afford to free a male member of the family for village mine-clearance activities unless the results are of direct benefit to their own households. The relationship between the needs and wants of the individual and those of the village as a whole would have to be carefully balanced to allow such a scheme to work.

An unusual case was found in Psa Prum Dein village, close to the Thai border in the Sala Krau district of Pailin. Here, some of the village residents organized themselves to clear land for the other villagers. In 2000, the villagers were told that they would be

evicted from the land in the future, as the authorities had plans for the development of the area. To resolve the situation, the village authorities organized a 76-member team of village deminers to clear land for a new settlement three kilometres south of the market area in dense bamboo forest. The demining started on 24 October 2000, and the deminers cleared road access to the village area. It was hoped that they would then start to clear housing plots (20x100 metres) for more than 300 families. At the beginning of the work, the team had only one machine to cut small trees on the road, but they were later able to purchase three second-hand metal detectors of Vietnamese and Chinese manufacture. Each family who hoped to live in the new village provided 500 baht (US$ 12) towards the demining costs, and each village deminer was provided with 100–120 baht (US$ 2–3) a day, according to experience. The men went to clear mines every day, and the women, children and elderly remained in the market area to trade. It was expected that, through their mine-clearance activities, each family would receive a housing plot in the new village.[23]

The uncertainty involved in mine clearance is perhaps one reason behind the relatively low number of villagers clearing the land of other villagers, whether voluntarily or against payment. Village deminers rarely claim that the land they clear is 100% safe, and many fear that there are still mines in the ground that they have not been able to find. This is a view that tends to be endorsed by most villagers. Many village deminers expressed concern that, if they cleared land for somebody else, they would be accused if an accident later occurred on the 'cleared' land or, if they themselves were injured during the demining, it would be difficult to claim compensation or financial assistance. A village deminer in O'Chrou district said that he was worried people would lay mines on the land he had cleared for others to give him a bad name, and that mines buried deep below the surface would still emerge at a later date. In the same district, Phan Roeung said that he was not brave enough to clear land for other people, although he did it sometimes, when he met people in the forest who asked him to pick up mines for them. These grey areas in terms of responsibility and accountability are strong factors in dissuading villagers from clearing mines for others. Although poorer villagers are often said to prefer labouring work to other types of income generation because it provides an income without requiring any initial outlay in terms of money or materials, it seems that mine clearance does not fall into this category. Those village deminers who are farmers also have their own workload, often increased owing to limited resources, which in reality leaves them little time for clearing mines for other people. They will clear mines in the course of their daily activities, but the majority will not stop these activities to work full-time as deminers because of the need to meet their own immediate personal needs.

[23] Since the visit by the HIB research team to the area, the village deminers have stopped clearing mines. The reasons for this will be explained in more detail in Chapter Three.

Perceptions of Risk

> *With regard to bravery, there were clearly two sorts of 'brave people'. The first group comprises the foolish brave, including one young man who had never seen a mine but who said that if he found one, he would defuse it and then destroy it by shooting it with a rifle. On the other hand, there are also mature, thinking people, who are genuinely courageous, and who, for the sake of their communities, have taken calculated risks.*
>
> (Biddulph, Robin, 1993.'CMAC–UNESCO Battambang Mine-Awareness Survey Report'; quoted in Aitkin, 1993: 58)

Villagers are often surviving on minimum resources, and risk is always present in their lives. Risk cannot be avoided, but is dealt with by the balancing of different livelihood strategies, with the benefits of one activity outweighing the constraints of another. Village deminers put themselves at risk because they enter minefields, because they clear mines by eye and with basic equipment, and because they handle mines. However, this risk is balanced by the benefits obtained through these activities, namely access to resources. Village deminers are fully aware of the risks involved in mine clearance, and, as former soldiers, most have had first-hand experience of the damage that mines can do. Village deminers frequently say that they think the activity is high-risk, particularly as they do not have appropriate tools for carrying out the demining. Most village deminers admit that they are afraid of mines and scared of being injured in the course of their work, although the majority feel that they are more likely to be injured by accidentally stepping on a mine than through their demining activities. As a village deminer in Pailin explained, 'If I don't clear mines on the way to the forest, I would step on them when I return home.' The irony of this, of course, is that in order to demine, villagers have to enter high-risk areas, thus increasing the likelihood that they will step on a mine.

Common injuries suffered by village deminers while carrying out mine clearance include scarring to the chest and arms, and eye injuries caused by the penetration of metal fragments, dirt or grit. However, among the village deminers encountered during the HIB research, the incidence of accidents while demining appeared to be relatively low.[24] Furthermore, incidents of tampering as recorded by CMVIS throughout 1998–99 involved UXO almost exclusively, and children were more likely to be involved than adults (McCarthy, 2000: vii). But village deminers live and work in mined areas. The fact that they are more likely than other villagers to enter suspected areas in order to conduct demining activities for livelihood purposes means that they are still a

[24] Of the 111 village deminers interviewed during the HIB research (directly or indirectly through their families), 96 had not sustained injuries from their mine-clearance activities, although some had mine injuries dating to their time as soldiers. Fifteen village deminers had sustained injuries: one had stepped on a mine during clearance, while the others had sustained injuries to eyes, hands or fingers while in the process of clearing mines.

high-risk group. Pen Samoeun, a village deminer in Bavel, explained that he had injured his left finger in 1996 as he was clearing the path to his *chamkar*. A PMN-2 mine exploded in his hand while he was disarming it. He believes it happened because he was not paying enough attention and had pressed the cover by accident. Many village deminers claim that they are injured when they go to collect resources rather than when they are demining. Im Vanna, a former KPNLF soldier, used to conduct mine clearance in the village where he settled in Thma Pouk district. Originally from Siem Reap province, he decided not to return to his homeland as there was no land for him there. He knew how to clear mines and so thought that, by settling in a mined area, he would still be able to get land by clearing it himself. However, one day he was hunting monitor lizard in the nearby forest and stood on a mine. He lost one of his legs and an arm. He now regrets his decision to settle in a mined area, but feels that he cannot return to his homeland now as he would be dependent on his relatives and would lose face.

The pressure of poverty is frequently the driving force behind demining activities, and current needs appear to outweigh the fear of what may happen in the future. The ability of the village deminer to express, in words, what may happen to the family situation if there were an accident during clearance activities is relatively limited. 'I think that I will not be injured by demining activities because I am familiar with this work. My life will not change, because I am sure that I will not be injured. If I have an accident, I will have to take it into consideration when it happens', explained one village deminer. These opinions may be partly a result of the sheer poverty of many families living in mined areas, which prevents them from planning for the future much beyond where the next meal is coming from. It may also be influenced by the belief that in talking about mines and similar dangers, the likelihood that an accident will happen will increase (Powell, 2001: 37). The financial burden of paying medical fees is a consequence that tends to be mentioned only by those village deminers who have already suffered injuries. Often their families had accrued a large debt to pay for the expenses, which include not only medical fees but also the payment of transport from the village to the hospital. Chhin Keap, the village deminer in Santepheap village, was injured while demining. He recalls that he was taken to a hospital in the neighbouring district of Mongkol Borei, but it took several hours for him to get there. Someone had to carry him to the main road, and it then took a further two hours to travel by car to the hospital. In all, he had to pay 7,000 baht (approximately US$ 170) for two months of treatment. He used some of his own money and borrowed the rest from another family in the village. Unable to pay back the loan in cash, he had to hand over 20 square metres of his own land.

Frequently, village deminers express the perceived consequences of injury or death in more general terms of family hardship or suffering. As one village deminer explained, 'If I was still demining, I could have an accident at any time. If this happened, my family situation would change very much. As the head of the family, I make money to support my family. If a mine took my life, my wife would become a widow, and she and my children would live a hard life.' Some village deminers do seem to be

more confident about their work and have a somewhat more casual attitude to mine clearance, appearing to be less afraid of the potential risks. It is probable, however, that some of this bravado masks an awareness of the risks and is indicative of an unwillingness to voice the possibility of a future accident. Mot Sambath, the amputee village deminer in Samlot, confessed to being 'rather careless' in his mine-clearance activities. He later qualified this by saying, 'although I am disabled, I always feel scared of mines because mines can take your life. I always think that I will have a serious accident if I try to clear more mines, particularly if I make a small mistake or if I am in a bad mood.'

Village deminers do not tend to display reckless behaviour. Their work is steady and considered. A few village deminers admitted to being 'addicted' to clearing mines, which can perhaps be explained as an enjoyment of the adrenaline provided through participating in a dangerous activity. However, usually the motivation behind clearance activities was the feeling that they had no choice. Despite conducting a high-risk activity, the majority of village deminers do attempt to practise a certain degree of self-regulation to reduce the likelihood of injury both to themselves and to others. Although these practices are very much limited by the circumstances in which the village deminer is operating, they are indicative of an awareness of risk and a desire to increase the safety margin. Village deminers frequently said that they would not clear mines if they were drunk, ill or tired, or if they were old or nervous and their hands trembled. As we have seen, familiarity also guides the work of village deminers, and they tend only to clear mines that they recognize and that they know they can dismantle and burn. As one deminer explained, 'Some of the mines are unknown to me, and I dare not clear them. I only put a danger sign at the spot, and I leave the piece of land for the organization to demine.' If village deminers are unable to remove and dismantle mines, either because they are dealing with unfamiliar devices or because the parts are rusty and unstable, they may attempt to burn them *in situ* or, failing this, will place locally recognizable signs to warn other people about a mine.[25] Perhaps the biggest risk factor for village deminers is complacency. As a village deminer in Pailin thoughtfully remarked, 'The elephant with four legs may still fall down, the scholar who has profound knowledge still forgets', referring to the fact that although he may be proficient and experienced at mine clearance, he may still make mistakes or lose concentration, which could result in an accident.

Village deminers do seem to equate their mine-clearance activities with the additional benefit of reducing risk and mine-related accidents for other people in the village, and they are often key people in the village when it comes to informing other villagers about suspect areas. As one village deminer noted, 'Yesterday, I went to collect mushrooms and saw a UXO. I put it on a tree stump with a sign (a juice bottle with a twig from a tree inside it) and informed all the other villagers who go to collect mushrooms

[25] Locally made signs are often used by villagers to mark mined areas or UXO. The most common types of signs are crossed sticks, knotted grass or a tree branch placed across a path before the mine. Although ephemeral, such signs serve to warn villagers until awareness of the mined area becomes common knowledge.

that the area is dangerous.' Despite conducting a high-risk activity, the clearance strategies of village deminers also appear to recognize the importance of safety for others. The majority of village deminers prefer to work alone to reduce the risk of injury to other people, and to prevent themselves from being distracted from their work. A village deminer in Thma Pouk district reported that he put up 'no entry' signs to prevent people coming to watch him demine. This was a similar tactic to that of a village deminer in Koh Kralor district in Battambang, who explained, 'No one watches me when I clear mines. When someone approaches me while I am clearing, I stop my work and tell them to get away from me. I tell people not to enter the mined area, and I put a sign of cross sticks to warn people.' The downside of this practice is that the chances of surviving a mine accident are greatly reduced if the victim is alone. Village deminers realize that this practice puts them at greater risk, especially if they are working far from the village. Often, their only hope is that other villagers will come to assist if they hear the sound of an explosion. However, some village deminers do conduct clearance activities with other people present for this very reason. Pich Sophal said that he would clear mines with a friend watching him from about 10 metres away, so that his friend would be able to help if there were an accident. Village deminers also tend to clear and dismantle mines away from the village and to destroy them in the evening when other farmers have returned to the village so as not to put them at risk.[26] Although many of these precautions clearly do have the intention of safeguarding others from the high risks associated with mine clearance, they are perhaps also driven by a strong sense of self-preservation and the desire not to be involved in issues of retribution and blame that may result from another person being injured owing to the work of a village deminer.

Cultural beliefs or popular myths often influence behaviour, and there are strong associations made between village deminers and various 'magical devices', such as amulets, talismans, strings and tattoos, which are believed to protect the owner from physical harm, particularly during armed conflict. Village deminers often do have tattoos or keep protective charms such as Pali inscriptions or forest-pig teeth, usually obtained during their military days.[27] Rattana, a village deminer in Pailin, said that he still believed in his tattoo as he had once stepped on a mine but it did not injure him. A village chief in O'Chrou district also admitted to having magic to protect him. He explained that a *Kru* had given him tattoos when he was 15, and he had paid for them

[26] According to the HIB study, over 90% of village deminers interviewed both dismantled and destroyed mines in the place where they found them (Bottomley, 2001a: 51), indicating that the deminers attempt to restrict both handling and movement of mines.

[27] The use of tattoos and charms to protect soldiers during battles has been a widespread practice in Cambodia. For example, Lon Nol promoted a type of 'cultural warfare', employing traditional Mon-Khmer *Vethamon,* or 'occult practices', to protect his army from the Vietnamese 'infidels'. The ill-equipped army, consisting of children and recruits with little or no fighting experience, went to war clad in protective devices such as tattoos, holy scarves and talismans. Lon Nol himself believed that he was the leader prophesised by the Buddha to lead a war for the survival of Buddhism in Cambodia against the *Thmils*, or 'foreign infidels' (see Becker, 1998: 123).

with one set of monks' robes.[28] If he were to do something untoward, he feels his *Kru* would know. He believes, however, that the tattoos do not provide him with sufficient protection on a daily basis, and he also has to be aware of his own feelings and intuition as to whether it is a good day for him to clear mines or not. The majority of village deminers interviewed during the HIB research said that they no longer had confidence in these protective objects. Phan Roeung in Snoul Tret village explained that he and his friends no longer believed in the magic of their tattoos, and that they only avoided injury while demining owing to their careful practice and knowledge of the ordnance. During his time in the military, Roeung explained that he had respected the magic, but since he married and had children he believed the magic of the tattoos had diminished. He is no longer able to follow the teachings of his *Kru,* and he also believes that the smell of his children's urine and vomit helps to weaken the protective quality of these devices. Many of the village deminers are demobilized soldiers leading a more settled life with their families, and there appears to be a fairly widespread belief that the power of these protective devices wanes once men begin to have sexual relations with women or if they fail to follow the teachings of their *Kru.* One villager described this with the metaphor, 'If you use the knife every day it stays sharp.' This indicates that at least some village deminers do not place undue faith in the protective powers of magic and are aware of its fallibility. As a village deminer in Battambang province explained, 'I had the tattoos on my feet done after I left the army, as my friend told me I was going to an area with a lot of landmines and so I needed a tattoo to protect myself. But I don't believe in the tattoo so much. I no longer follow the teachings or burn incense. I only have confidence in my own skill.'

However, this is not to say that these beliefs are not still adhered to: they may still represent an additional reinforcement to careful clearance practice. Occasionally, village deminers mentioned that they would follow certain practices to bolster protection by the spirits. One village deminer in O'Chrou district said that after clearing mines he would make a *sen*, a small sacrifice of a pig's head, to the spirits of the land who had kept him safe. He says it is more a tradition than anything, but he stills feels more at ease by following it. Accidents with mines are also sometimes related to the lack of such totems or protective charms. Im Vanna, who was injured when he stepped on a mine while hunting monitor lizard in the forest, related that a year before his accident his house had burned down, destroying all his good-luck charms from his military days. Thus, the association between these beliefs and the ability to stay unharmed may persist, alongside the realization that safety is also linked to safe practice, care and attention.

Over the last ten years, the arrival of professional mine action in Cambodia has also had an impact on the perceptions of risk and safe practice held by village deminers. It has presented villagers with an awareness of an alternative to clearing mines themselves. These are issues that we will go on to discuss in more detail in Chapter Three,

[28] *Kru* is a prefix in the Khmer words for teacher and doctor. It can be translated as 'master' and may refer to the mediating of spirits as well as corporeal beings (Alex Maclean, personal communication).

when we analyse the interface between mine action practitioners and village deminers. To better understand this interaction, we need first to look at the activities of the mine action sector as they have been implemented in Cambodia. This is what the following chapter sets out to do, moving the focus of the discussion from the local to the national level, and examining the discourse and practice within the mine action sector, both internationally and in Cambodia.

Chapter 2

A CLOSER LOOK AT MINE ACTION

IN SOME AREAS WHERE VILLAGERS ARE CLEARING MINES, mine action organizations are also working. The study by Handicap International Belgium found that in 73% of the surveyed villages that had a mine problem, village mine clearance was occurring concurrently with mine action (Bottomley, 2001a: 40).[1] The fact that villagers are clearing mines to free up land or other resources deemed essential to meet livelihood needs does raise the question of whether the mine action sector is failing to meet the real needs of local communities in terms of the type and amount of land being cleared. It also suggests that the sector has not been completely successful in its efforts to reduce the exposure of local populations to the risk of mines through the strategies of mine-risk education and minefield marking. In order to examine these suppositions, it is necessary to turn the focus of the discussion to the mine action sector and to reflect on the purpose and process of this particular type of intervention.

In this chapter, we look at the activities of the mine action sector in Cambodia to see what has been done and why. In this way, it will be possible to highlight both the similarities and the differences between the approaches of professional mine action and village deminers, contrasting individual, local-level clearance with organized national and international interventions. The response of the mine action sector in Cambodia has undergone a process of transformation since the initial activities in the early 1990s. It has shifted from a largely ad hoc response initiated during the peacekeeping efforts of the United Nations to a more comprehensive, planned, developmental approach intended to be more responsive to the needs of mine-affected communities. This chapter will provide an overview of the complicated interactions and decision-making processes involved in professional mine action generally, but with a specific focus on Cambodia.

International mine action represents to a large extent the response of the international community to the mine problem, and is regulated by global standards and procedures. This has, to a certain extent, standardized the mine action response and placed boundaries on adaptability, and hence on what mine action can or cannot achieve within those bounds. Although the mine action sector has begun to move purposefully towards a more community-oriented process, and while it is undoubtedly an essential element of assistance in heavily mine-affected countries like Cambodia, there are still gaps between

[1] See the introduction for an explanation of how the geographical areas for the research were selected.

intentions and action if the sector is examined from a developmental and humanitarian perspective. The analysis of the approach of the mine action sector will also raise questions as to whether the value and purpose of mine action activities are perceived in the same way by villagers and mine action practitioners, issues that will be explored further in Chapter Three.

A Cambodian Problem?

When contamination by landmines occurs, it is perhaps easy to lay the blame and the responsibility for subsequent clean-up operations on the afflicted country itself. This is a view that has been voiced in the past with respect to Cambodia, as when a commander for the United Nations Transitional Authority in Cambodia (UNTAC) forces referred to the mine problem as a 'Cambodian problem' (Davies, 1994: 81). All of the different Cambodian factions involved in the long civil war used landmines. On this account, one may suggest that Cambodians should be the ones to remove the mines, since they were the ones who laid them. But such a viewpoint ignores the wider processes of international politics and aid. When we consider that much of the UXO contamination in Cambodia was a result of intense aerial bombing by the United States, and that the heaviest mine deployment occurred during the period of Vietnamese occupation, it is possible to see that the mine problem is not entirely home-grown. The picture should also include those countries acting behind the scenes in the long civil war, backing the resistance forces and providing funds, armaments and training in mine deployment. But more than this, landmine contamination in a country such as Cambodia, reeling from the effects of so many years of civil war and an international embargo on aid and assistance during the 1980s, is also a humanitarian problem. When the guns fall silent, it is no longer the military that are the main victims of landmines, but rather civilian populations.

Worldwide, landmines tend to be a problem in countries that are the least able to deal with them. The same war that left a legacy of landmines in Cambodia also left a ruined economy, dramatically eroded institutional and administrative systems, scarce human and material resources, and little of the physical infrastructure that had been developed in the 1960s. The situation, further compounded by ten years of isolation and neglect, was one that demanded extensive rehabilitation and reconstruction before one could even consider the country to be proceeding on a path to sustainable development (Curtis, 1998: 67). In the early 1990s, as Cambodia began to emerge from its years of war and civil strife, the country was largely dependent on international aid and assistance. In terms of the landmine problem, Cambodia had neither the finances nor the capability to organize a programme of mine clearance in affected areas. Mine clearance, as practised by organizations, is expensive. The United Nations in 1993 estimated that the average cost for removing a landmine, including all support and logistic costs, was between US$ 300 and US$ 1,000 per mine (Arms Project, 1993: 251), a

figure well beyond the reach of most developing countries. Cambodia was therefore reliant on the goodwill of the international community to begin to tackle the problem.

Throughout the 1990s and into the 21st century, external donors have played a vital role in providing and supporting mine action services within Cambodia. The attention of donors to the landmine problem has derived from an international, largely Western concern about landmines in developing countries. Curtis (1998: 72) has argued that the influx of aid resources to Cambodia, including those for mine action, can to some extent be understood as '"blood money", expiating guilt over what the international community had wrought in Cambodia'. However, the provision of aid money also has to be understood from the perspective of genuine public concern and compassion, and a recognition that the West has the resources to help alleviate the suffering caused by landmines. High-profile media campaigns in the Western world, mainly focusing on the peacetime victims of these weapons of war and on the responsibilities of Western countries to address the continuing problem of the production and trade of landmines, escalated during the last decade of the 20th century. The momentum achieved by these campaigns in raising public awareness about countries stricken by mines is amply illustrated by the meteoric rise of the International Campaign to Ban Landmines (ICBL) and the bringing about of the 1997 Landmine Convention.[2] It has also spurred the Western world to provide the main funds for clearance operations within mine-affected countries. Since 1989, there has been a vast increase in the number of donors and the level of funding available to mine action, and the involvement of the United Nations as the focal point for mine action has similarly raised the profile of these efforts.[3]

The drawback of this public interest in the mine problem is that the available finances then ride on the wave of public concern. As Price & Hope (1999: 1047) argue in respect to the work of the ICBL, 'if public attention wanes, the sense of crisis so important for rapid assessment of the mines taboo may lessen, with a resulting decrease in this source of pressure on states that have not yet signed or ratified the treaty'. Similarly, a mine crisis in one country can easily be surpassed, in terms of interest and resulting funding, by that in another, depending on the extent of media coverage and on where the sympathies and attention of the Western public lie at the time. A criticism of the funding sources for mine action that is voiced by mine action practitioners is that

[2] The International Campaign to Ban landmines (ICBL) was formally launched in 1992 by a group of six concerned NGOs, including Handicap International, that shared the seemingly idealistic goal of banning the use, stockpiling, production and transfer of landmines. ICBL now brings together over 1,300 humanitarian, development and religious NGOs and organizations in 90 countries worldwide. In December 1997, 122 nations signed the Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on their Destruction. As of 13 May 2003, a total of 147 countries had signed or acceded to the Mine Ban Treaty. Together with the campaign's coordinator, Jody Williams, the NGOs of the ICBL were collectively awarded the Nobel Peace Prize in 1997. For more information, see http: //www.icbl.org/.

[3] Since 1997, the focal point for all mine-related activities in the UN has been the United Nations Mine Action Service (UNMAS) within the UN Department of Peacekeeping Operations (UNDPKO). UNMAS is responsible for ensuring an effective and coordinated response to landmine contamination, which includes the development of international technical and safety standards (Horwood, 2000: 11).

resource allocation is often ad hoc and inconsistent, reacting to media attention or pressure groups rather than following a planned approach that reflects actual requirements (Horwood, 2000: 25). This also means that the time-frame for funding to address the landmine problem in each country is finite, and that at some time in the future responsibility for clearing mines and dealing with the resultant problems will fall largely on the shoulders of the mine-affected nation itself. In the meantime, to achieve their missions and sometimes simply to survive, mine action organizations have to be responsive to the rules of engagement governing aid operations in order to keep donors satisfied and to compete with other organizations in proving worthy of funding (GICHD, 2001: 12).

The Western Response

Mine action as it exists today, in Cambodia and elsewhere, derives from this international concern about landmines in developing countries. Whether implemented by Western-run organizations or by national mine action programmes, mine action has to be seen as a product of the West in terms of the ability to finance the sector, to define the nature and extent of the problem, and to provide the expertise and frameworks for action.

The Western response to the mine problem in developing countries has typically involved two main paths: first comes a focus on providing victim assistance, which is followed closely by a preventative focus in terms of mine-risk education and mine clearance. The International Committee of the Red Cross (ICRC) was at the forefront of alerting the world to the problem of landmines as a result of its work in providing medical assistance to victims of war and violence and in collecting victim data from its field hospitals (Croll, 1998: 130). The concern over the injuries sustained as a result of this type of weapon led other NGOs, such as Handicap International, to begin working with landmine victims through the provision of prosthetics and rehabilitation services.[4] Within former war zones, the problem of refugees, displaced by war and returning to areas contaminated with landmines, led to a response in the form of more preventative measures. Campaigns to raise awareness of the dangers of landmines were launched in refugee camps in an effort to educate people about the risks involved in returning to their homelands, which had been mined in their absence.

Mine clearance was originally considered to be a military issue, and there was reluctance on the part of some NGOs to become involved in the work, despite their engagement in victim assistance and rehabilitation. Military personnel and military methods were used to address the threat of mines in civilian communities, partly a result of initial mine action activities in a country often taking place under the umbrella

[4] In 1979, two French doctors were working on the Thailand–Cambodia border in Cambodian refugee camps. The concern engendered by the large number of mine victims led them to set up the NGO Handicap International in France, with the specific aim of providing assistance to the victims of landmines.

of peacekeeping missions, where time is of the essence. The overwhelming concern was with operational clearance, using a tactical approach to access roads or to clear a safe passage through mined areas to enable the UN and other aid agencies to get on with their work. This was basically a functional, emergency response, and little thought or consideration was given to the nature of the mine problem or to the impact of such clearance on local communities.[5] Commercial companies, staffed by ex-military personnel, were often at the forefront of these activities, particularly following the clean-up campaign in Kuwait after the 1991 Gulf War. The clearance was carried out at speed, to contract, and with profitable rewards for those involved.

However, occurring almost simultaneously with these military clearance efforts was the emergence of Northern NGOs into the world of demining, a move that over time was to fundamentally change the face of Western mine action interventions. The new programmes in Afghanistan, Cambodia and northern Iraq between 1989 and 1992 represented the birth of humanitarian demining, an approach that was to transform mine clearance from a military response isolated from the lives and futures of affected societies to a more community-oriented, comprehensive, humanitarian response. The priorities for resource deployment in this new approach were based on humanitarian needs, aiming to return land and infrastructure to safe, productive use and to reduce the risks faced by communities living in mine-contaminated areas.[6] Also important in the approach was the push for the building of indigenous capacities to address the mine problem.

In 1989, the UN mine action programme in Afghanistan engaged in mine clearance, building up Afghan NGOs to conduct the work in the field.[7] In the same year, the first mine-clearance NGO, the British-backed HALO Trust, established a programme in the north of the country. From the 1990s onwards, a number of other mine-clearance NGOs were formed, including another British organization, the Mines Advisory Group (MAG), and the German NGOs Menschen gegen Minen and Santa Barbara. Initially, these mine-clearance NGOs were considered separate from the organizations dealing with victim assistance and rehabilitation, but following their inception there was growing interest among other NGOs in the problems surrounding landmines. A number of NGOs broadened their focus to incorporate mine-risk education, data-collection and political campaigning, in addition to the medical and rehabilitation

[5] The tension between the priority of achieving peacekeeping mission objectives as opposed to developing a longer-term humanitarian mine action plan was a dilemma faced by UN missions in Cambodia, Mozambique and Angola (see Eaton, Horwood & Niland, 1997: 23–37).

[6] Interestingly, the humanitarian approach to mine clearance is not one that applies only to NGOs these days, and some commercial companies have also moved in a humanitarian direction in their work, offering among their services assistance in building indigenous capacity, skill transferral and the promotion of safety and quality assurance.

[7] In Afghanistan, continued sporadic warfare and uncertainty led the UN agency to develop a programme with a basic two-tier structure. A central planning, regulatory, coordination and resource-mobilization body, the UN-led Mine Action Centre for Afghanistan (MACA), contracts Afghan mine action NGOs to undertake specific activities in the field (Eaton, Horwood & Niland, 1997: 30).

NGOs.[8] Norwegian People's Aid (NPA), the humanitarian organization of the Norwegian Labour Movement, began working in mine clearance in Cambodia in 1992, when the UN requested assistance from independent agencies to deploy and coordinate the first groups of trained deminers in preparation for the resettlement of refugees from the camps in Thailand (NPA, 2001: 6). In 1993, NPA also began a mine-clearance programme in Mozambique, and has since provided clearance services and training of both deminers and dog teams (Boulden & Edmonds, 1999: 87). The various activities undertaken by the NGOs working within the field became grouped under the umbrella term 'mine action'. In turn, the mine action sector began to draw heavily on development terminology, using key words such as 'sustainability', 'participatory' and 'community-based' to describe its approaches, and coordination with other development activities became increasingly important. Although mine clearance was still a key activity, humanitarian mine action was attempting to draw on a more comprehensive approach in order to create an effective response. According to UNMAS, the aim of this new approach 'is not technical – to survey, mark and eradicate mines – but humanitarian and developmental – to recreate an environment in which people can live safely, in which economic, social and health development can occur free from the constraints imposed by landmine contamination, and in which victim's needs are addressed' (GICHD, 2001: 8).

Davies (1994: 88) writes, 'Perhaps the most important characteristic of NGO mine clearance work, as exhibited by MAG and the HALO Trust, is the insistence that tasks should be chosen and evaluated in terms of the qualitative value of the area cleared, rather than in quantitative terms.' In terms of mine clearance, humanitarian NGOs stress the importance in their operations of returning land to communities, land that had previously been denied those communities owing to fear that mines might be found there. In this way, even if a clearance task is undertaken and no mines are found, the task is still perceived as worthwhile because of the reassurance provided through the work, which allows local people to start using the land. Because of this, most humanitarian mine-clearance agencies measure their work in terms of the area of land made available and guaranteed free from mines, rather than the number of actual mines they lift. The emphasis on safety and quality-assurance standards is another way in which humanitarian mine clearance differs from traditional military clearance, which is designed for situations of war. Whereas the military tend to work to a basis of perhaps 80% clearance, with the main objective being to make a safe passage through a mined area – known as mine breaching – humanitarian mine-clearance NGOs aim to clear larger areas to a rate as near 100% as possible. The international standards for humanitarian mine clearance are issued under the auspices of the United Nations. These international standards provide a framework for the creation of standing operating procedures (SOPs), which detail the manner in which specific mine-clearance op-

[8] Generally, organizations working in the mine action sector tend to focus on one component of mine action, although some organizations, such as Handicap International Belgium, do diversify, tackling risk education, humanitarian demining, victim assistance and advocacy.

erations are conducted. The current UN International Mine Action Standards specify that the target of humanitarian demining is the identification and removal or destruction of *all* mine and UXO hazards from a specified area to a specified depth (UNMAS, 2003d: v). The specified depth of clearance in each case is determined by a technical survey and is informed by the depth of the mine and UXO hazards and an assessment of the intended land use. The mandate to ensure the safety of populations living in mine-affected areas is also addressed by humanitarian mine action through the implementation of mine-risk education and the marking of suspected mined areas.

Although humanitarian mine action was purported to be a move away from the classical military approach to mine clearance towards a more integrated approach focused on reducing the threat to human life and impediments to social and economic development, in reality the break was less clear-cut. In the beginning at least, both management and technical positions within mine-clearance NGOs tended to be dominated by military or ex-military personnel, who had little or no civilian programme experience. As Philip Paterson (2000: 29) argues, some had 'difficulty in making the transition from the rigid task oriented and regulation-bound military process to the more integrated and "democratic" civilian methods'. The very nature of mine clearance seemed to demand a continued military approach, and as a HALO Trust information sheet explains: 'The dangerous nature of the job necessitates a military style operation. Deminers work in sections of five under the command of a section officer, and in teams of four sections under a field commander. They live in barracks, parade every morning and are each responsible for the upkeep of their uniforms and kit' (HALO Trust, n.d.). The perceived technical specialization of mine clearance, linked to the potentially lethal nature of mines, also kept humanitarian mine clearance at a distance from other humanitarian and development interventions during the early years. In the early 1990s, the objectives held up for demining agencies continued to be defined in terms of the number of mines cleared, and often there was minimal interaction with local communities. Gradually, however, mine-clearance NGOs have become more integrated into the wider development sphere, and, in turn, mine action has become more accountable to the norms that govern other aid interventions. Military personnel still play a dominant role in the sector, although other development professionals have been drawn in, often taking up management roles within organizations. As Eaton, Horwood & Niland (1997) argue, 'mine action is not rocket science and the skills needed to address the problem of landmines should not be seen as "a black art." Technical knowledge of landmines and unexploded ordnance is essential but it is only one of the many skills needed when designing and developing a mine action programme.' [9]

The relatively recent emergence of humanitarian mine action in comparison to other humanitarian aid interventions also implies that the tools, systems and approaches

[9] The majority of deminers working for humanitarian organizations are male, although MAG pioneered the recruitment of female and amputee deminers in 1995–96. Approximately 20% of its mine-clearance staff are amputees, and 20% women (MAG, 2001: 2). CMAC also recruits women to work in the mine-awareness unit and as dog handlers, although the number of female staff is still relatively small.

used to address the mine problem have been developed over the past decade of practice, through a process of trial and error. In the beginning, there were no international standards to adhere to, no lessons learned or guidelines available, and no alternatives to military or ex-military personnel able to assess the technical aspects of the problem. This lack of direction and overall coordination is now being addressed to some extent by the involvement of the United Nations in providing a central focal point for mine action and in working on the development of international guidelines and operating procedures. However, mine action approaches are still dependent to a large extent on the particularities of the individual country. The nature of the mine problem within a country evolves over time as the country moves from a state of conflict through post-conflict rehabilitation and reconstruction, and finally to stability and longer-term development. In each country, the underlying social, economic, cultural and political features differ, and mine action has a responsibility to be responsive to these individual country characteristics. Cambodia has had one of the longest running mine action programmes to date, and through an analysis of this we are able to trace the different stages in the move from mine clearance as an emergency military strategy to the current community-oriented approach, with its own strengths and weaknesses.

The Evolution of the Cambodian Mine Action Sector

Prior to 1991, Cambodia had received no Western assistance in dealing with the mine problem. Mine clearance, when it was first launched in the early 1990s, was very much a hasty response to what was deemed an emergency situation. The mine problem in Cambodia first came to international attention with the planned arrival of UNTAC, a civil and military operation designated to pave the way for free and fair elections to be held in 1993. As part of its mandate, UNTAC was responsible for overseeing a ceasefire between the factions fighting in the civil war, and for supervising the repatriation and reintegration of Cambodian refugees from the Thai border camps. It was also agreed that one of UNTAC's military functions would be 'assisting with clearing mines and undertaking training programs in mine clearance and [running] a mine awareness programme among the Cambodian people' (CMAC, 2000: 6).

In October 1991, the United Nations Advance Mission in Cambodia (UNAMIC) arrived to prepare the way for the deployment of UNTAC forces in Cambodia in March 1992. One of UNAMIC's tasks was to assist with clearing mines and undertaking training programmes in mine clearance and mine-risk education, although, as Davies (1994: 91) argues, the mandate for this work was relatively vague and open to interpretation. It appears that the approach largely focused on training rather than mine clearance per se. The Mine Clearance Training Unit (MCTU) was set up in December 1991, and 600 Cambodian deminers were trained, beginning work the following year, with Handicap International taking on the financial, logistical and administrative responsibility for two field teams of 32 deminers. With the arrival of UNTAC, other agencies such as NPA also provided supervisory personnel to help deploy and coordi-

nate these teams. In addition, deminers from UNTAC's military units began some mine-clearance operations in the country, although the scope of their work was largely limited to what was required for supporting their own activities.

Observers have argued that this initial foray by the international community into mine-clearance activities in Cambodia was very much driven by the needs of the UN peacekeepers rather than local community needs. Security problems in the pre-election period also impinged on the ability of deminers to reach some of the high-priority areas. As a result, most of UNTAC's demining efforts concentrated on clearing roads to enable the movement of the peacekeepers throughout the country (Roberts & Williams, 1995: 140). Davies (1994: 93–95) argues controversially that the areas in which UNTAC deminers worked were not only safe, but were also areas in which they could be easily observed by visiting dignitaries and the press. It was clear that a more viable and longer-term solution was going to be required to address the Cambodian mine problem. The Cambodian Mine Action Centre (CMAC) was to emerge as one of the lasting legacies of the UNTAC period.

On 10 June 1992, CMAC officially came into being. CMAC was envisaged as a Cambodian institution that would be able to tackle the country's mine problem in the longer term after the end of the UNTAC mandate. It was expected to achieve a more integrated approach to the mine problem by combining different strategies of mine-risk education and information, mine marking and clearance, explosive ordnance disposal (EOD) and training. It was also expected to take on a coordination role for all demining activities in Cambodia. As Davies (1994: 96) explains, 'CMAC was also envisaged as being the central co-ordinating agency for demining in Cambodia, with the vital functions of ensuring that quality standards were maintained, national priorities cleared in a rational way, and demining resources maximised in the service of the entire nation.' It was seen as the 'Cambodian solution' to the mine problem, and following the 1993 elections it was made a statutory body of the new Cambodian government. Cambodian supervisors for the demining teams were trained by the MCTU, but no provisions were made for the development of management and other skills needed to run a large-scale mine action programme. As UNTAC prepared to leave Cambodia towards the end of 1993, CMAC faced crisis point and had to struggle to find new donors to replace UNTAC funding (CMAC, 2000: 5–6). A trust fund set up by the United Nations Development Programme (UNDP) to receive funds for demining activities finally became operational in 1994. Despite being a Cambodian agency, CMAC has had to rely almost entirely on international funding sources, with technical supervision provided by the international community.[10]

Since its inception, CMAC has played a leading role in the Cambodian mine action sector, although its reliance on international funding has sometimes placed it in a precarious position. In late March 1999, CMAC hit another crisis point as it faced a stream of allegations of 'financial impropriety, nepotism, corruption and operational

[10] During 2002, 62% of CMAC funding was derived from the UNDP trust fund, 35% from bilateral donors, and 3% from the Royal Government fund (CMAC, 2003: 44).

mismanagement' (NPA, 2001: 8). In the autumn of 2000, donor contributions to the organization were withheld, forcing the downsizing of the operating staff by approximately 2,000 people and bringing field operations to a virtual standstill, an incident that only too clearly highlighted the reliance of CMAC on international funds. However, the crisis also offered the chance for CMAC and the donor community to look at the organizational problems and to find remedial measures. A strategy for reform and restructuring was developed, which included the decentralization of management and operational functions and a review of systems and procedures. In addition, the government established the Cambodian Mine Action and Victim Assistance Authority (CMAA) in September 2000 to take over the responsibility for national coordination and regulation, allowing CMAC to focus on the provision of mine and UXO clearance, marking, training and risk education.[11] CMAC has, despite the upheavals, managed to move beyond the ad hoc emergency response of the earlier years, and has begun to incorporate longer-term planning to provide for more effective and efficient utilization of resources and to orient its approach to addressing socio-economic needs. A socio-economic section was set up at the end of 1996 to begin to address the concerns related to prioritization of land to be demined and the use and ownership of that land after clearance (Hansen, 1999: 12).

CMAC was not the only mine-clearance organization to emerge during the early 1990s. The UNTAC period of 1991–93 witnessed a flood of international relief and development organizations into Cambodia. Among these were the British organizations MAG and the HALO Trust, the first mine-clearance NGOs in the country. HALO began working in the northwestern provinces of Banteay Mean Chey and Siem Reap in October 1991, and MAG arrived one year later with a programme in Battambang province.[12] Handicap International and NPA also began to provide technical advisors to CMAC in 1992 (Hansen, 1999: 9–10). Since this early period of mine action in Cambodia, a number of other NGO actors have emerged on the scene, although mainly in the fields of victim assistance and rehabilitation, along with mine-risk education. Mine clearance has also been carried out by the military engineers of the Royal Cambodian Armed Forces, and the first officially registered and approved private commercial demining companies began operations in Cambodia in March 2001 (Kyne, 2001). By November 2000, the mine action sector in Cambodia was estimated to be operating with a workforce of some 4,000 personnel in government, NGO and commercial institutions, and with a total annual budget of over US$ 20 million (Bullpitt, 2000: 2).

[11] The dual role of operations and coordination resulted in CMAC resources being overstretched, meaning that it was unable to carry out both roles efficiently. With the establishment of the CMAA by the Cambodian government in September 2000, CMAC has been able to focus more on operational activities. The CMAA has a mandate for coordinating and regulating all mine action organizations, including those dealing with victim assistance.

[12] HALO was contracted by the UNHCR to undertake a mine survey of the provinces targeted for major repatriation of people. The organization began demining operations later in the same year.

Humanitarian NGOs working in the mine action sector in Cambodia have always maintained a strong regard for the social and economic impact of their work. The mine-clearance NGOs, even in the very early years, were concerned with the task of removing mines for the purpose of reducing injuries and facilitating the return of war-affected populations to mine-contaminated areas. Although the actors in the mine action sector largely remain the same, the approach has been evolving gradually over the years in an effort to meet the changing needs of the population, the demands of donors and the requirements of the country's authorities.

Back to Basics: The Clearance Process

Humanitarian demining is a time-consuming, labour-intensive, costly and dangerous process. The problem of reliably locating buried mines has defied easy solution, and the amount of vegetation, the terrain, soil conditions and the types of mine involved can all hamper the work of the deminer. In Cambodia, the predominant detection methods of all the clearance agencies are manual, involving a handheld metal detector, a probe, and a trowel and a knife to excavate around mines.[13] Given the aim of achieving a near 100% rate of clearance, manual clearance remains the most effective and adaptable method of demining. For our discussion here, it is interesting to note that the actual methods used for clearance bear close similarity to the techniques used by village deminers, although the formal approach and access to equipment of professional deminers sets them apart.

Traditionally, deminers have been organized into large platoons for clearance work. CMAC deminers are organized into normal platoons of 29 staff with 12 metal detectors, and mobile platoons of 33 staff, also with 12 metal detectors. For large-scale tasks, two or three normal platoons are combined into a demining site, with support staff based at the site. Mobile platoons include support staff within each platoon and focus on medium-scale tasks. However, since 1997 CMAC has also deployed small Community Mine Marking Teams (CMMTs) that, contrary to their name, conduct clearance in addition to marking. Comprising five team members and two detectors, these CMMTs are more mobile than the larger platoons and are better able to address smaller, emergency tasks within a community. The demand for clearance by NGOs to facilitate development work has often resulted in two or three of these CMMTs being grouped together to work on larger tasks, such as clearance of land for a health centre, a schoolyard or a road. With only 12 of these teams in operation, this has meant that the clearance of very small emergency tasks for communities has been somewhat neglected. In an attempt to better address this need, Handicap International Belgium is currently supporting CMAC in the development of a new demining unit, the Mine Risk Reduction Teams (MRRTs). These teams, each with 17 multi-skilled staff members, are able to take on medium-sized clearance tasks for communities and NGOs,

[13] Information on the demining process of professional deminers was mainly obtained from Davies (1994) and Croll (1998).

thus freeing up the CMMTs so that they can respond to the very small-scale tasks. The MRRTs also conduct survey and marking, UXO disposal and risk education. Currently, there are four MRRTs deployed in selected high-casualty villages in Battambang and Banteay Mean Chey, and there are plans to deploy another two teams later in 2003, expanding the coverage area to Pailin. The MRRTs are fashioned very much on the model of the MAG Mine Action Teams (MATs), which are comprised of 15 people with seven metal detectors.[14] The idea is that these teams are relatively mobile and can be transported in one vehicle, thus responding more quickly to clearance tasks. The advantages of these types of quick-response teams will be discussed further in Chapter Four.

During the clearance process, deminers tend to work in pairs, with each pair alternately resting and working throughout the day. In Cambodia, all demining teams wear some form of protective clothing – such as ballistic helmets, visors and flak jackets – during mine-clearance activities.[15] The minefield is divided into a series of parallel lanes, each about 25 metres apart, to reduce the chance of multiple casualties in the event of an accident. One deminer in each pair works in a metre-wide lane for up to 30 minutes, and then changes place with his or her partner. In this way, only one deminer is kept in the danger lane at any one time.[16] Vegetation is removed from the mined area, often by hand, although some agencies, such as the HALO Trust, occasionally burn the undergrowth or use machines for cutting purposes when the conditions are suitable. Tripwires are checked for, and the deminers then advance with metal detectors, which they slowly move from side to side over the ground. Electronic metal detectors are the main hi-tech tool of the deminer, but although they ease the process of locating mines, they are not infallible. Some types of mines have little or no metal and can only be reliably detected by prodding, and the laterite soils prevalent in some areas of Cambodia also have a high metal content that can cause problems for the use of detectors. In addition, detectors tend to detect every bit of metal in the ground, including pieces of shrapnel, old bullets and wire, and these then have to be investigated in case a mine is present, adding to the time-consuming nature of the work. If a suspected mine is located – that is, if the metal detector signals a find – the position is marked and prodding then takes place.

Prodding involves pushing a pointed metal rod into the ground to make contact with a mine. In Cambodia, most deminers use a squatting position while prodding, a procedure that has been adapted to fit local norms, while in other countries, for example Afghanistan,

[14] For an introduction to MAG's use of community liaison and the MATs, see Carstairs (2002).

[15] There has been some dispute among demining practitioners as to the use of certain items of protective clothing (see Smith, 1998a). Some argue that the clothing is hot and uncomfortable to work in, and that it restricts vision and movement, which can all affect the performance of a deminer. Others argue that protective clothing is essential for demining operations. MAG, CMAC and HALO Trust deminers in Cambodia all wear ballistic jackets and visors.

[16] HALO Trust introduced a 'One Man, One Lane' system in 1998, which HALO states has doubled the number of demining lanes for the same running costs with an improvement in productivity (ICBL, 1999: 400). MAG also introduced a 'One Person, One Lane' system early in 2002 (MAG, 2003a).

deminers may lie prone to carry out the activity. The probe is pushed into the soil at a shallow angle of 30 degrees, a technique that supposedly helps the deminer to strike the side of the mine rather than the top, where in most instances the pressure mechanism is located. However, there are still pitfalls in the technique, and mines can be turned on their side, booby trapped or concealed by stones, all of which make prodding a potentially dangerous activity. If a mine is located, it is excavated using a knife and a trowel, and soil is gently brushed from the surface. Mines can be destroyed *in situ* or disarmed, removed and destroyed elsewhere, usually by explosive demolition or burning. Mine-clearance organizations in Cambodia have generally opted to destroy mines *in situ,* considering it the safest practice since mines can often become unstable through long periods in the ground; this approach also reduces the contact the deminer has with the ordnance and prevents the mines from being reused. To destroy a mine *in situ,* a small explosive charge is placed beside the mine, which is then detonated by remote control. While being a relatively safe method of mine destruction, this is also costly and time-consuming, in that each mine has to be destroyed individually. Lifting mines and storing them in one place for mass destruction increases the risk factors, although arguably it can speed up the demining process, and for these reasons it was taught by some of the UNTAC supervisors. It is a method that has been used by the French demining organization COFRAS and by CMAC demining units when working around the historic Angkor monuments in Siem Reap province, to avoid damaging the temples.

The slowness of manual mine clearance has led some of the organizations operating in Cambodia to experiment with other approaches to clearance tools, namely machines and dogs. The use of machinery for mine clearance has long appeared to be an attractive proposition, in that machines can supposedly clear mines more quickly than a deminer with a prodder, and they avoid the necessity of deminers walking into minefields and making physical contact with mines.[17] In 2000, MAG deployed two Tempest Mini Flail machines, developed to remove the dense vegetation that slows down manual clearance. It has also tested adapted tractors to assist with the clearance process (MAG, 2001: 12–13). MAG now utilizes a Pearson Tractor, a multifunctional vehicle adapted from agricultural technology. Similarly, the HALO Trust has experimented with locally-adapted armoured tractors with brush-cutters or sieve mechanisms to aid the mine-clearance process (Hansen, 1999: 10), and CMAC has used flails, brush-cutters and, in cooperation with the Federal Republic of Germany, field-tested the RHINO mechanical demining system (CMAC, 2000: 21–22).[18] However, with the exception of the HALO Trust, the mine action organizations in Cambodia have perhaps

[17] See Paterson (2000) for an in-depth analysis of the use of mechanical means for humanitarian demining.

[18] Flails consist of an armoured vehicle with heavy chains attached to a rotating drum. The flail is intended to increase the rate of manual demining by preparing the land through the destruction of tripwires, cutting of vegetation and sometimes detonating the mines. After three years of operations, the CMAC Flail project came to a close in February 2002 owing to concerns with cost-effectiveness and Cambodian working conditions (CMAC, 2003: 24).

been somewhat reserved in their use of machinery. A large part of this reserve derives from the fact that none of the machines currently available are able to locate and destroy mines to the necessary standards set in humanitarian demining. Manual demining still remains the only method to ensure as close to 100% clearance as possible, and machines have only been able to assist with manual techniques rather than replace them. In addition, climate and topographical obstacles have often prohibited the use of certain machines, particularly during the Cambodian monsoon season. For the more sophisticated machines, there is simply a lack of resources, both human and monetary, to support such expensive technologies in Cambodia, even in the short term. [19]

Mine-detection dogs – which have proven highly successful, for example in Afghanistan – are currently being experimented with in Cambodia.[20] In the year 2000, two CMAC dog teams funded by the Swedish government became operational (CMAC, 2000: 24). Five mine-detection dog teams are now working in Cambodia, and another 35 dogs are currently being trained, with the plan being to increase the number of teams to seven by the year 2005 (CMAC, 2003: 21). Mine-detection dogs can assist the manual demining process by sniffing out the explosives contained in mines, although manual prodding is still required once a dog has identified a mine. Dogs work best in minefields that are not densely contaminated, but they are also beneficial for working in land with heavy metal contamination, as they can help to speed up what would otherwise be a lengthy process if metal detectors were used alone. Mine-detection dogs are also suitable for area reduction, and recently there has been some discussion in Cambodia about using the dog teams for quality-assurance checks once land has been cleared.

However, despite all of this work during a decade of operation, only a fraction of the land that is mined or suspected of being mined has been cleared. According to the CMAC database of 3 May 2000, 644 square kilometres of land is mined, and another 1,400 square kilometres believed to be mine-contaminated.[21] About 155 square kilometres have been cleared so far, a figure that includes an approximation of the land

[19] Criticism has been raised within the mine action sector over how some donors and governments have invested significant levels of funding to research and develop new mechanized means of demining, but often the equipment is found to be inappropriate under the field conditions normally prevailing in mine-affected countries (Horwood, 2000: 30).

[20] See Horwood (1998) for an overview of the use of dogs for operations related to humanitarian mine clearance. An ongoing project at the Geneva International Centre for Humanitarian Demining (GICHD) aims to systematize knowledge on mine-detection dogs (see http://www.gichd.ch).

[21] The full extent of the mine problem in Cambodia has been under constant debate. Current estimates of the total numbers of mines have been reduced from 10 million to 4–6 million (and many millions of UXO). UNTAC identified more than 1,900 potentially contaminated areas, totalling approximately 3,600 square kilometres, and CMAC figures in 2000 suggested approximately 2,050 square kilometres (ICBL, 2000: 387). A Landmine Impact Survey of the mine problem in Cambodia, completed in April 2002, recorded that approximately 4,500 square kilometres of land is known to be or suspected of being contaminated with mines and/or UXO. This figure represents only 2.5% of all land in Cambodia, although 46% of the total number of villages (6,422 out of 13,910) suffer some degree of contamination; see Geospatial International (2002).

cleared by village deminers (ICBL, 2000: 387, 389).[22] Estimates have also abounded about the length of time it will take to clear Cambodia of mines. Bullpitt (2000: 33) suggested that, on the basis of existing demining techniques and current clearance rates, it would take some 250 years to clear all of the suspected areas in Cambodia, although the direct risk posed to the population would substantially decrease over the next decade. Mine action organizations, facing up to the reality that they will never be able to completely rid Cambodia of mines, have placed stress on targeted mine clearance through systems of prioritization, along with risk reduction through marking and mine-risk education activities in areas where land remains contaminated.

Defining Priorities

Prioritization refers to the process of identifying the most important areas to be cleared, marked, or to receive mine risk education. This process is essential, as mine action resources in Cambodia are limited and needs overwhelm the capacity. As more information has come to light on the outcomes of mine action interventions, the issue of prioritization has become increasingly important. As Eaton, Horwood & Niland (1997: 57) explain, 'Increasingly agencies are responding to the realization that a key factor in the successful programming of operational activities is a prioritization system that carefully reviews a range of considerations so that the most vulnerable communities, and those who are most likely to benefit, are assisted in a timely manner.' However, the actual process of prioritization is complex, involving a number of stakeholders and issues of costs and expected benefits; and, in the Cambodian case, it is more often than not operating with a minimum of available information.

Many NGOs and national mine action centres have a broad outline of whom they consider to be the priority group, usually poor, vulnerable communities living in mine-contaminated areas. In addition, priority areas for clearance are often defined by the clearance organizations, typically including land for resettlement, land for agriculture, land for community development and land for infrastructure, although each organization orders these priorities according to its own standards and mandate. However, the definition of both the target group and the target areas to be cleared are relatively broad categorizations open to wide interpretation. This approach has been referred to as the 'rule of thumb' approach, whereby the choice of clearance tasks is guided by a simple typology of tasks, with final decisions as to what merits as a priority being taken by senior managers (Harpviken *et al.,* forthcoming). To help define the priorities further, information such as accident rates, demographics, levels of contamination, the coping strategies of local communities and the potential for development may also incorporated into the decisionmaking process. Understanding these issues requires the

[22] Between 1993 and 1999, CMAC cleared 53.88 square kilometres of land, HALO Trust 8.42 square kilometres, and MAG 3.74 square kilometres (ICBL, 2000: 389). Other entities that have contributed towards the total clearance figure include the army, COFRAS, UNTAC and commercial companies.

acquisition of good, reliable information, something that has been lacking in the Cambodian mine action sector. In the early years, the perceived emergency situation resulted in little information-gathering before clearance. As Horwood (2000: 15–16) explains, whole regions were often marked as being mined as 'fast, imprecise reconnaissance tours were made with minimal interaction with communities and local authorities'.

Since those early days, more information has been collected on the mine and UXO situation. Handicap International Belgium, in cooperation with the Cambodian Red Cross, operates the Cambodia Mine/UXO Victim Information System (CMVIS), which, since 1995 has provided data on the landmine casualty situation in Cambodia.[23] CMAC has also collected and verified reports of suspected areas since 1992, and this information is then stored on a centralized database. However, other than CMVIS and the CMAC database, there has been a relative dearth of reliable and comparable information on the mine problem. Without this data, it has been a difficult task for organizations to allocate resources effectively, to set priorities or to measure progress. The principal tool of the mine action world for gathering information on the extent of mine contamination and the resultant socio-economic impact is now the Landmine Impact Survey (LIS). However, a comprehensive national LIS was only started in Cambodia in 2000, almost ten years after the international response had begun.[24] Poor security and a lack of funds and coordination had precluded such a survey being carried out earlier, although in the meantime the different agencies involved in mine clearance often carried out partial surveys using their own systems and criteria.[25]

The selection of specific tasks for clearance may involve a variety of stakeholders, including local residents, government bodies, development organizations, donors and the operators themselves. The socio-economic section of CMAC, for example, is responsible for ensuring that CMAC's activities are consistent with the commune-, district- and provincial-level plan of operations (CMAC, 2000: 34). Some mine-clearance organizations are now using a more community-based, participatory approach to defining mine-clearance priorities. MAG has community liaison teams that use Participatory Rural Appraisal (PRA) techniques to assess the nature of mine contamination as it affects a community (MAG, 2001: 4). Much of the art in using participatory approaches lies in ensuring that the voices of the most marginalized members in a community are heard, not only those of the more prominent members. To get accurate information that reflects the needs of a cross-section of the community, agency staff

[23] The Ministry of Foreign Affairs of Finland, UNICEF and the US Department of State provide financial support for CMVIS. CMVIS coordinates the gathering of data on mine/UXO injuries and deaths, which are then processed and analysed through a database system and disseminated to the wider mine action community through regular reports (see McCarthy, 2000).

[24] The Canadian company GeoSpatial International conducted the Landmine Impact Survey in Cambodia, with funding from the Canadian government through CIDA. The survey was completed in April 2002, accredited by the UN in 2003 and cost close to US$ 2 million (ICBL, 2000: 388; 2002: 140).

[25] For a discussion on impact assessments, see Harpviken *et al.* (forthcoming).

need to spend considerable time in each village, establishing relationships, building trust and gaining a better understanding of the mine/UXO problem and the people who are most affected. Generally, mine action organizations tend not to allow enough time in villages to develop these participatory processes effectively, which often results in 'participation' being a cursory, token gesture. Villagers, in particular the poorer sections of the community, are often absent from the village during the day, or for extended periods of time, and contacts are frequently made only with village leaders or commune-level representatives. Because of this, mine-clearance agencies are vulnerable to being manipulated by local interest groups, powerful individuals or an unrepresentative local structure. Even when participatory processes are facilitated at the village level, the final decisions on mine clearance are made outside of the village in line with the priorities of the local authorities and the priorities of the mine action organizations themselves.

An important consideration for mine action agencies in the prioritization process is the weighing of the anticipated returns from clearance activities against the cost of the investment. Economic analysis in the form of cost–benefit formulas has become one important mode of analysis applied to impact assessment.[26] Because mine action is costly and largely reliant on donor money, the ability to present a cost–benefit analysis of how money has been spent is appealing and may encourage prioritization of those tasks that offer the best ratio of benefits to costs. A basic cost–benefit model was presented in a report by the Geneva International Centre for Humanitarian Demining in 2001, comparing the cost of clearance with the future benefits per square metre of land (GICHD, 2001). The case studies presented by the report demonstrated that although in some cases there are positive economic returns from clearance (for example, in the case of clearance of community infrastructure), the clearance of polluted farmland is only beneficial if clearance costs can be reduced. Cost–benefit models can question whether it is essential to demine a particular area of land for a population or whether it would be more beneficial in economic terms to utilize land elsewhere that is not contaminated. Such models can also examine whether the income resulting from the use of recultivated land justifies the investment in demining it (Schoeck, 2000). Economic analysis is beneficial in providing a broader picture of constraints and costs, although, as Harpviken *et al.* (forthcoming) point out, 'assigning an economic value to what most people consider fundamentally non-economic values (such as human lives)' disqualifies it from being used as the main basis for priority-setting by humanitarian mine action. In addition, the resulting analysis of areas beneficial for clearance from an economic point of view perhaps will rarely match the priorities of the communities and individuals living in contaminated areas.

Rather than focusing purely on economic returns from clearance, mine action organizations have increasingly turned to prioritizing clearance tasks according to the beneficiaries who will use the land once it has been cleared. This orientation has increasingly led

[26] See also Harpviken *et al.* (forthcoming) for a discussion of economic analysis in impact assessment.

mine action organizations in Cambodia to cooperate with other development organizations through the clearance of areas that will then be used for community-development projects, thereby attempting to target the greatest number of beneficiaries and ensuring productive use of the land following clearance. The relationship between demining organizations and community-development NGOs has been reasonably long-term in Cambodia. In mid-1992, MAG submitted a proposal to the European Community for a demining project in which it would work in partnership with the sister agency of Handicap International France, Action Nord Sud, which specializes in community-development work. The funding of such a proposal was 'the first time ever that demining had been accepted as an integrated part of development' (Davies, 1994: 87). Other organizations soon followed suit. The HALO Trust and CMAC have worked with NPA on resettlement projects in Banteay Mean Chey, and CMAC has also been working with CARE International in Bavel district in Battambang province on a project specifically called 'Integrated Demining and Development'. Greater integration with development projects has enabled mine-clearance organizations to provide a service that is more accountable and assured in terms of land cleared, beneficiaries reached and land utilized after clearance. The increasing cooperation between mine-clearance organizations and development organizations, together with local government departments, is also working to counter problems of conflict and dispute over cleared land, another issue closely related to prioritization.

The Land Dilemma

In many areas, mine action programmes are freeing up a scarce resource – safe land – and thus it is vital for the accountability of organizations to ensure that the cleared land is handed over to the intended beneficiaries. However, the misuse of cleared land is a common problem for mine action programmes, and is an issue that also reflects on and influences the process of prioritization. During the late 1990s, as Cambodia moved from conflict to relative stability, there was an increase in land speculation, frequently leading to the dispossession and eviction of large numbers of rural poor. As discussed in the previous chapter, the dislocation caused by war and the lack of an adequate law or system relating to land ownership has exacerbated the land problem in Cambodia.[27] Post-clearance land disputes resulting from shifting, displaced or returned populations and increasing land speculation and grabbing in mine-affected areas have posed a considerable problem for mine action organizations working in the country. As the volume of demining in Cambodia has grown, there have been numerous in-

[27] The 2001 land law includes provision for a social land concession, whereby a land concession may be granted to poor families so that they may establish a residence for themselves or practice subsistence cultivation. In theory, this should ensure that poor families are guaranteed ownership of areas of land, even before clearance has taken place in the case of mined land. However, the sub-decree that outlines the criteria, procedures and mechanisms for granting the concession is believed by many NGOs to be a flawed document that is open to wide interpretation. The sub-decree was approved by the National Assembly in spring 2003, but has yet to be implemented.

stances of cleared land being abandoned, or grabbed from the intended beneficiaries by more powerful people.

In response, the Cambodian mine action community began to initiate steps to minimize the possibility of misuse of land after clearance. Some organizations had already begun to develop individual systems in an attempt to ensure that the intended beneficiaries received and kept the cleared land. MAG developed several systems over its years of operation, including the taking of thumbprints prior to clearance and insisting on signatures from both village and commune authorities guaranteeing that land would be used for the stated purpose (MAG, 2001: 11; Kato, Lewis & Try, 1998: 18). However, by 1998 it was clear that a more comprehensive and coordinated response was required. Following a national workshop on 'Land Use Planning and Management', held in Battambang province in June 1998, the Cambodian government created the first Land Use Planning Unit (LUPU) in May 1999. The LUPU system was established to assist in the process of prioritizing land for clearance and in monitoring land use following clearance, involving localized bodies in the prioritization process and in the selection of the intended beneficiaries. Following the establishment of the first LUPU in Battambang province, LUPUs have since been set up in the provinces of Banteay Mean Chey, Preah Vihear, Otdar Mean Chey and Krong Pailin.[28] The ownership of each LUPU belongs to a Provincial Sub-Committee (PSC), which comprises representatives of the provincial government and government departments. The mandate of the PSCs is to ensure effective land use and management in mined areas and to solve conflicts arising in land-use management (ICBL, 2000: 392). The LUPU process begins pre-clearance with workshops held at the district level to review demining and development tasks proposed by the local authorities. Following the workshops, the local authorities, mine-clearance agencies and development NGOs conduct field investigations to verify and validate tasks. The final selection of clearance tasks is overseen by the PSC with the cooperation of the local authorities, mine-clearance agencies and NGOs. An annual provincial demining and development plan is then signed and approved by the PSC. Post-clearance, the LUPUs are involved in overseeing the registration of beneficiaries and the compilation of post-clearance documents.

The LUPU process has helped to promote discussion and coordination between key stakeholders to ensure that demined land is allocated to the people most in need and that land disputes are mitigated. The process has been continually refined over the four years since the inception of the first LUPU, and guidelines for the LUPU process based on the lessons learned from practical implementation are now being developed with the technical assistance of HIB and Australian Volunteers International (AVI). CMAC has been actively involved in both the pre- and post-clearance LUPU process,

[28] The LUPU in Battambang has received support and funding from a variety of organizations, including Australian Volunteers International, UNDP/CARERE (Seila), CARE and World Vision. Handicap International Belgium is currently supporting the LUPUs in Banteay Mean Chey, Preah Vihear and Otdar Mean Chey, although its support will be phased out in the latter part of 2003. NPA also provides technical, logistical and some financial support to the HIB-supported LUPUs. The LUPU in Pailin is now receiving support from Seila.

although some duplication of procedures between the CMAC socio-economic department and the LUPUs still exists and requires clarification. Both MAG and the HALO Trust have utilized the LUPU process to a certain extent. MAG has been an active stakeholder in the pre-clearance process, whereas HALO tends to have limited its involvement to the post-clearance registration of beneficiaries.

Despite these efforts by the mine action community to improve the process of prioritization, the capacity of mine action as it exists in Cambodia today is largely unable to respond to many of the requirements of mine-affected communities. The clearance of individually owned agricultural land is still problematic, as is the clearance of low-quality marginal land or areas that are difficult to access by demining teams, such as forest land. The main strategy that has been employed to address the problem of communities continuing to live in contaminated areas is mine-risk education, which attempts to teach people about the risks of mines and UXO and to promote behaviour change so that risk may be reduced.[29]

Reducing Risk Through Education

Mine-risk education in Cambodia began in 1993 using strategies that were formulated in the context of huge numbers of refugees coming back to Cambodia after the civil war. These people had limited knowledge of the mine problem and were returning to often heavily contaminated areas of which they had little or no knowledge. In this situation, it was deemed necessary to quickly disseminate general information regarding the danger of mines and UXO to enable the people to return to their homelands with some degree of safety.

Mine-risk education in Cambodia, as derived from this initial need, has consisted mainly of information-provision and instruction, using dummy mines, posters, leaflets, videos and school materials with mine-risk messages and images.[30] Typically, mine-risk education has been carried out by mobile teams comprising two to four people, who travel around the countryside visiting mine-contaminated villages and conduct presentations outlining the main safety messages. The main message conveyed to communities through mine-risk education is that mines and UXO should not be touched, and information on how to recognize devices and possible mined areas reinforces this message. Rural houses throughout mine-affected areas are adorned with posters identifying common mines and UXO and warning of the dangers of touching these devices. More inventive means of conveying mine-risk messages, such as thea-

[29] Mine-risk education may also be provided to journalists, tourists, development workers and government officials to inform them of the mine problems in the area where they may be working. The UN is currently adapting guidelines on mine-risk education for development workers in Cambodia.

[30] The use of dummy mines has been much debated among mine-awareness practitioners, with some arguing that if educators handle dummy mines in awareness sessions a mixed message is sent out. Dummy mines are now often enclosed within glass-fronted case to convey the message that you can look but not touch.

tre, puppetry and role-play, have also been employed to help to get the message across. Mass-media campaigns consisting of television and radio spots and billboards have been utilized by CMAC and World Vision to vary the means of delivery and to help get safety messages across to a wider audience.

However, as countries recover from conflict, communities become more stable and less transitory, and villagers often learn what areas are contaminated in their vicinity and begin to adapt to the risk. The focus shifts from immediate survival to sustaining livelihoods. As a result, today many villagers have a relatively good awareness of the mine and UXO problem in their area, and factors such as poverty and the continuous search to meet basic livelihood needs continue to force people into mined areas, rather than ignorance about the nature of the threat. As commented in the 2001 *Landmine Monitor Report*, 'it is less frequent than one might expect that people are "unaware" of the danger of mines. In many situations people know or suspect that an area is mined, but go into or through it intentionally. The reasons for this are various: curiosity or adventure seeking, a feeling of invincibility or inevitability, or in most cases just economic or survival pressures. If the alternative to entering the mined field or forest is starvation, community members must sooner or later run the gauntlet of death or serious injury' (ICBL: 2000: 33).

A major weakness of the mine-risk education approach in Cambodia to date has been the failure to target those most at risk owing to livelihood pressures. While curiosity or lack of knowledge have been and continue to be dealt with through awareness campaigns, various types of intentional risk-taking – including village demining – have been largely ignored or misunderstood in the messages and strategies of mine-risk education programmes. As we saw in our examination of village deminers in Chapter One, it is very often male adults who undertake high-risk activities to secure access to food. A MAG paper, outlining the organization's new mine-risk education approach in 2000, acknowledged that its earlier mine-risk education activities 'did not reach the majority of the male population who, based on statistics, are most at risk' (MAG, 2000: 1). A CMVIS report for the period January–December 2001 reported that 66% of casualties during this period were men, and 43% of these men were injured or killed while farming, collecting wood or food, fishing or clearing new land. A further 20% were injured or killed while travelling, and 28% through tampering activities (CMVIS, 2002). Tampering activities may also include activities driven by livelihood needs – for example, demining to gain access to resources. These statistics suggest that there is a need for mine-risk education programmes today to gain a clearer, more nuanced understanding of the motivations behind intentional risk-taking and to develop new strategies that will better address the changing situation of mine-affected populations.

World Vision has been the only organization to specifically target adult males practising high-risk activities through their mine-risk education activities. The approach focuses very much on the idea of encouraging behaviour change among these high-risk individuals, and the methods employed include showing photographs of mine victims, providing counselling sessions and introducing local amputees who can provide

first-hand experience of the negative impact of mine injuries. The notion of behaviour change for the World Vision programme draws very much on the idea that members of the target group are 'irresponsible' or 'pretend to know everything about mines or UXO' and believe in 'magic to protect them from injury'.[31] However, the impact of a risk-education programme that provides negative messages without offering realistic alternatives or without understanding fully what motivates dangerous behaviour may be limited. Because of this, there has been a gradual acknowledgement among mine action agencies in Cambodia that mine-risk education needs to be reformed and to become more responsive to risk-taking that is driven by a more complex set of factors than simply lack of knowledge or awareness. As Andersson *et al.* (forthcoming) explain, 'Attitudes, subjective norms, intentions, the ability to talk about a particular issue, and agency – the *ability* to do something about it – all play a role.' The new ideas are based on the premise that awareness and understanding work best when a two-way exchange of information is engendered and communities are actively involved in identifying ways of reducing risk. Rather than seeing communities as passive recipients of mine-risk education, the idea is to involve the communities, and in particular the high-risk groups, through participatory techniques, thereby utilizing existing skills and knowledge as the basis of the approach.

In Cambodia, this approach is still in its infancy. In August 2000, a working group, organized by UNICEF and involving all of the organizations working in mine-risk education activities, met to discuss and clarify the future mine-risk education strategy.[32] Primarily, it was felt that mine-risk education needed to become more community-oriented and better targeted, and that it should also better recognize the economic pressures that often drive people to take risks with mines and UXO. Following these discussions, HIB and UNICEF assisted CMAC to develop and implement a one-year pilot project entitled 'Community-Based Mine/UXO Risk Reduction' (CBMRR), operational in six high-risk districts in Battambang and Pailin.[33] Begun in 2001, the project has now successfully completed its pilot phase and has been expanded to new districts in the provinces of Pailin, Battambang and Banteay Mean Chey. The CBMRR project aims to reduce the number of accidents caused by mines and UXO by addressing the livelihood pressures that contribute to risk-taking and by establishing effective dialogue between mine-clearance teams and local communities. This is achieved through district-based staff working closely with local communities to identify the mine or UXO problems in each community and to develop community action plans to address these problems. Access to appropriate interventions such as mine action, community

[31] Taken from the minutes of a World Vision presentation of activities to the Cambodia Mines Awareness Working Group at a meeting held at the Demining Regulatory Authority Office, Phnom Penh, 21 September 2000.

[32] The organizations participating in the working group included World Vision, World Education, UNICEF, HIB, MAG, CMAC and the Cambodian Red Cross.

[33] The districts and villages for CBMRR deployment were selected on the basis of high casualty rates as recorded by CMVIS, cross-checked with field investigation and interviews with local authorities about the landmine problem and casualty rates.

development and victim assistance is facilitated by the CMAC District Focal Points and by locally elected mine/UXO representatives at village, commune and district level. An intention of the project is to tap into and support capacity at the local level so that villagers gain more decisionmaking power and ownership with regard to the mine problem in their community. Participatory activities such as mapping, risk-ranking and action planning are conducted with villagers to help provide a catalyst for community discussion and analysis of mine problems.[34]

The work of the CBMRR project is encouraging, although there is still a long way to go before its true objectives are achieved. The concept of the project has proven difficult for mine action practitioners to fully understand, and on many occasions CBMRR has been seen as a project with the sole purpose of facilitating better reporting systems for mine action. Maps drawn by village members have been criticized for their lack of technical accuracy and scale, and in some cases these maps have been redrawn by CMAC technical staff, thus losing their value as representations of how communities themselves perceive their mine problems.[35] Action plans developed by a community have sometimes omitted any tasks to be carried out by members of the community themselves, and mine action units are represented as the key people to respond to tasks. When CBMRR representatives were questioned about this during a recent monitoring trip, they replied that the villagers were carrying out some activities, but these were not important enough to include in the action plan.[36] These are problems that are not insurmountable, but are perhaps common to mine action activities moving towards a more community-oriented approach. The CMAC CBMRR staff are working towards addressing these weaknesses in their approach, but as staff who are more familiar with the instructive approach of traditional mine-risk education, it is sometimes difficult for them to hand over more responsibility to the communities with whom they are working.[37]

It is this interface between mine action practitioners and villagers living in mine-contaminated areas that we will examine in more detail in the next chapter. As we have seen, mine action has been a critically important intervention in a country like Cambodia, and the sector has provided services that the national government would have been unable to provide alone. Beginning in a somewhat isolated way, the response

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[34] The World Vision Mine Action and Awareness Teams also approach risk education through a set of participatory activities similar to those of the CBMRR project, using PRA techniques for community-mapping and prioritization, providing development assistance through their own Area Development Project, and encouraging communities to elect mine action representatives.

[35] The CBMRR project is currently experimenting with mapping exercises carried out by different groups in a village, for example women, newcomers, older residents, etc., to try to highlight the different perspectives these groups may have about the impact of the mine problem in their environment.

[36] Notes taken by the writer during a monitoring trip to a CBMRR activity in Kamrieng district, Battambang province, May 2003.

[37] The Project Management of the CBMRR project comprises former staff of the CMAC Mine Awareness Unit. This unit is still in existence, and in addition to running the CBMRR project it continues to operate a mass-media campaign and mobile Mine Awareness Teams.

of the mine action sector can be seen to have matured over the years, with strategies changing in line with the transforming needs of communities and the socio-economic situation in Cambodia. There has been a conscious effort within the sector to adapt and transform in order to become more accountable, sustainable, integrated, needs-oriented and developmental for the benefit of the intended beneficiaries. Nonetheless, the continued presence of village deminers throughout the ten years of mine action activities in Cambodia does point to some shortcomings in the international response. This may partly be due to the limited capacity of the mine action sector: there are simply not enough human or financial resources to meet the needs of each and every mine-affected community. However, the provision of further resources will not necessarily provide the ultimate solution. Perhaps what is really required is a review of existing approaches and a better deployment of current resources. This can only be achieved through a better understanding of the needs of villagers living in mine-contaminated areas, their existing coping strategies and their perceptions of the existing mine action intervention.

Chapter 3

EXAMINING THE INTERFACE

THE PRECEDING CHAPTERS have outlined in some detail the mine-clearance activities of rural villagers in Cambodia, as well as those of mine action agencies. On that basis, it should be possible to draw out similarities, differences and contradictions between the two. The actual process of mine clearance is remarkably alike in both cases, being rudimentary, slow and labour-intensive, using a manual method and relatively basic tools. Both groups are working to clear the ground of mines, although the motivations and perspectives that drive the work are ultimately divergent, originating in different social and cultural contexts. Villagers clear mines for individual livelihood needs, framed within the context of household decisionmaking that primarily aims at maximizing food security and the wider influences of community structures, norms and expectations. Mine-clearance organizations work to the standards and expectations set by the world of global development, where the vision is international and universalizing (Escobar, 1988; quoted in Pigg, 1992: 492). Although the activities of the latter are oriented towards addressing the mine problem in specific localities and under diverse conditions, the overall mandate for their work is set by the West. Pigg (1992: 492) contends that the meeting of the two – the 'first' and the 'third' world – in a development or humanitarian context forms a conceptual space of cultural contact. An ideological encounter is established in the arena of the village, where different cultures are forced to interact. As Voutira, Benoist & Piquard (1998: 2) explain, 'givers and recipients of aid may share concern with the elimination of the immediate effects of crises, but they do so from different cultural perspectives'. The ways in which village deminers and mine action practitioners see, experience and make sense of the world differ because of these perspectives. This complicates interactions between the two and often leads to misunderstandings and false assumptions, while highlighting issues of knowledge and power.

This chapter aims to explore the day-to-day encounters between villagers and mine action organizations in greater depth. It will begin to identify the social and historical experiences that condition those encounters, and it will examine the emerging dichotomies between the two. We will consider whether it is possible to identify a discourse of mine clearance produced through national and international institutions, how this represents and justifies interventions, and how it reflects, if at all, the experience and knowledge of village deminers. In turn, we will also look at how such discourse is experienced and interpreted in a particular locale. What will be proposed in this chapter is that mine action interventions, like development interventions generally, provide

their assistance through simplified frameworks and in accordance with a narrative that allows little room for negotiation and change. As Chambers (1998: 1) argues, 'though development realities and fashions change fast, normal professionalism – the thinking, values, methods and behaviour dominant in a profession or discipline – is stable and conservative'. In contrast, the interface between the 'insiders' and 'outsiders' at the village level demonstrates a more nuanced and complex scenario. The villager response is ultimately flexible and negotiable, and villagers will concede, contradict, acquiesce or resist, negotiating the best possible benefits for themselves out of the external intervention. Such dialectical strategies derive from the 'selective internalisation or hybridisation of a number of apparently conflicting ideologies' (Crewe & Harrison, 1998: 156), reflecting the way in which villagers are becoming increasingly receptive to the influences of wider, non-local systems while at the same time being grounded by local norms and expectations. The response of communities to mine action is not uniform, but rather mirrors differentiation between actors at the village level, uncovering compliance and cooperation, in addition to conflict and resistance. In conclusion, we examine what 'harm' the perpetuation of the dominant discourses of mine action may bring at the local level, and whether there are any possibilities for bridging the divide between mine action and village mine clearance.

The Village Deminer Training Debate

Throughout the history of mine action in Cambodia, village demining has been a regular occurrence, often understated, often unobserved. In fact, it is clear that villagers were clearing mines in Cambodia long before mine action officially arrived during the UN peacekeeping mission. However, village mine-clearance activities have only become debated within the wider forum of international aid and assistance since the arrival of mine action in mine-affected countries, and even then only sparsely. Village demining has become an issue seen in relief against the outside interventions, defined through a narrow lens of professional mine action, and as such it loses its character as something that is in fact independent, autonomous and pre-dates mine action. The debates surrounding village mine-clearance activities in Cambodia have been argued within a framework of reference to professional mine action, contrasting village demining activities with professional perceptions concerning skill, training, risk and safety.

In Cambodia, the subject of village mine-clearance activities became a hot topic in the early 1990s, soon after the arrival of mine action with UNTAC. The first documented account of village mine-clearance activities in Cambodia was compiled in 1993 by Adjutant Philippe Houliat, a French mine-clearance and EOD practitioner serving as a supervisor and instructor with the French contingent of the Mine Clearance Training Unit (MCTU) of UNTAC. Working in the heavily mined province of Banteay Mean Chey in northwest Cambodia, Houliat came across the activities of a number of Cambodian villagers involved in the detection and removal of mines located

in the areas surrounding their villages. Using basic question guidelines, he interviewed five village deminers, photographed their clearance methods and compared their techniques to those used in professional demining (Houliat, 1993a,b,c).[1] A month after these initial surveys, Houliat drew up a plan for training village deminers (Houliat, 1993d).[2] He proposed that the training would run for three days, preferably in the vicinity of the village in which the village deminers were based. It would cover general exercises in mine identification, mine marking, and basic survival and rescue techniques. Controversially, it would also include sessions on demining and mine-disposal techniques. He proposed that the training be carried out mainly through instructive means, using mine-clearance and EOD specialists to implement the training, although some field exercises would be included. The trainees would be provided with a demining kit, consisting of a prodder, a trowel, a spade, marking signs, red string, keys to neutralize mines and notebooks to register demining or marking operations. Demonstrating a genuine concern for the work of village deminers, Houliat believed that such a course would enable village deminers to carry out, for the benefit of their communities, limited mine-clearance operations in the vicinity of their villages.

The proposal opened up a heated debate within the mine action sector in Cambodia. Some practitioners, among them Houliat, argued that since this type of informal demining would occur regardless of the opinions of professional deminers, it would be better to give village deminers training and equipment in order to minimize the risks involved. The limited resources available for humanitarian mine action were seen as a good reason by some to investigate ideas such as village demining to expand the scope of activities aimed at eliminating the landmine problem. Genuine concern was expressed with regard to the risks undertaken by village deminers, and Handicap International's Jean-Pierre Ferey (1993) emotively argued in a letter to the MCTU, 'please don't close the door on these village deminers, these courageous people who, right now, are like tightrope walkers acting without any safety net'. Handicap International was at the forefront of advocating for action on behalf of the village deminers, a concern arising from its mandate of disability prevention. In June 1994, almost a year after the original Houliat proposal, the organization put forward a proposal to USAID that included a component to assist village deminers in Kampot and Kampong Speu,

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[1] Houliat's interviews with the village deminers (Houliat, 1993b) covered in some detail the techniques used for clearance. He also questioned the villagers as to why they were clearing concurrently with UNTAC clearance teams, although little light was shed on this particular issue. The question evoked the response, 'don't know' by several of the deminers, and the answer was not followed up. However, all five respondents stated that they cleared mines to reduce the risk for children, families and cattle. The village deminers were also questioned about their needs, and whether they could be helped in any way with their demining work. The unanimous answer for this was that they did not know, although when asked more directly if they would like to receive training, all five villagers replied in the affirmative, though two qualified this by saying that they probably would not have time to attend.

[2] In May 1993, the MCTU also drew up a programme for village deminers, which was in essence an advanced awareness course, dealing with retrieving oneself or others from a mined area using prodding and feeling for tripwires.

two southern provinces considered at that time to be severely affected by mines.[3] The proposal followed closely on Houliat's recommendations of the year before, suggesting that village deminers should be provided with enough training and assistance to be able to carry out limited community-related mine-clearance tasks.

Neither of these proposals was to see the light of day owing to the misgivings of other practitioners within the mine action sector. Much of the opposition to the proposals was framed in terms of safety, risk, responsibility and liability. Although the practitioners were perhaps concerned for the safety of the villagers, their arguments focused very much on the demand for standards and competence in clearance. One of the concerns posed by demining agencies was the dilemma of having two perceived standards, one for professional demining teams and another for village deminers. This was seen largely in terms of the 'unconventional methods' used by village deminers as compared to the regulated procedures and safety standards followed by the demining teams. Early in the discussions about village mine clearance, the Cambodia country director of MAG had stated, 'MAG currently cannot endorse any programme that seeks to train ill-equipped, inadequately trained and unsupported villagers to demine due to our commitment to the essential safety standards recognised internationally by EOD operators' (Horwood, 1993). This was a viewpoint that was endorsed by other practitioners. In a letter to Handicap International, Lieutenant Colonel Mulliner of the MCTU explained that he felt, 'we cannot accept any responsibility for their actions as they are not formally employed to demine and we could never hope to control them all' (Mulliner, 1993). In addition, there was concern that such programmes would sanction activities that would not only be a risk to the village deminers, but also to other villagers who attempted to use the unsystematically cleared land (Roberts & Williams, 1995: 145). As Mulliner (1993) explained, 'The areas they work in can never be officially recognised as being clear of mines until a CMAC demining platoon has covered the area afterwards, and so their actions are perhaps of limited value.'

In response to the 1994 proposal by Handicap International, CMAC submitted a modified proposal, entitled 'Village Self-Protection Against Mines' (VSPAM), which was, in effect, an advanced mine-risk education course. P. J. Curry, a technical advisor to CMAC, stated that the task of initiating a programme of village demining had been postponed because of 'higher operational priorities' of the organization and because of the 'moral, legal and doctrinal questions which must be resolved before such a programme is started' (Curry, 1994: 1). The concerns outlined by Curry in the CMAC document dealt with issues of liability, standards of clearance and, ultimately, the language being used to describe the activities undertaken by villagers. He concluded that, 'on the surface it would appear that to teach villagers anything beyond the current mine risk education doctrine is irresponsibility bordering on criminal. If CMAC were to teach villagers that they were capable of *demining*, that would indeed be criminal'

[3] USAID was proposing to fund the reconstruction of National Route Four from Phnom Penh to the southern port of Sihanoukville. As part of this package, Handicap International, acting as the intermediary between USAID and CMAC, put forward a proposal to cover mine clearance, mine awareness and assistance to village deminers (Handicap International, 1994).

(Curry, 1994: 4; emphasis in original). The proposal – and ultimately the debate about village demining – was finally shelved in February 1996, as CMAC felt that it would not be liable for casualties, could not support the project logistically and would not justify a differential safety standard for village deminers vis-à-vis professional deminers.

The debate about training village deminers is important for our study here as it begins to reveal some home truths about the mine action sector. Although the concerns raised by both sides in the debate are legitimate, they also have to be placed firmly within the context of professional mine action. As can be seen from the above discussions, village demining was considered from the point of view of Western conceptions of project planning, expertise, knowledge and safety. With the exception of some of the practitioners arguing for support to the village deminers, there was little in the way of actual analysis of the motivations driving villagers to clear mines, and few questions were raised about the effectiveness of the mine action intervention.[4] Rather, it was the question of the knowledge, skills and techniques of the village deminers in comparison to professional deminers that fuelled the debate. This brings us to a discussion of the way in which mine action has framed and justified its intervention in terms of knowledge and professionalism, and through a portrayal of 'beneficiaries' of the interventions as vulnerable victims to be assisted.

Victims and Survivors

> *Disaster strikes. When word reaches the outside, people rush to help the victims. By the time aid arrives from outside, however, the 'victims' are helping themselves.*
>
> (Anderson & Woodrow, 1989: 1).

Humanitarian interventions, including mine action, are not exempt from considerations of power and ideology. Foucault (1980: 39) argued that power is present in all social relations, permeating society in a capillary way rather than descending in a linear fashion from a single centre of authoritarian control. In this way, the use of power can be seen as something that is both pervasive and subtle. It is often to be found in forms of knowledge and discourse about such knowledge that form a 'regime of truth' that each society accepts and makes function as true (Foucault, 1980: 131). Discourse represents social realities in a particular way, but tends to simplify otherwise complex

[4] At this time, there was a drive by some practitioners to carry out more in-depth studies of village demining in order to better inform the debate (see Howell, 1996), although this did not materialize until HIB instigated the study of village deminers in 2000. Both the French and Belgium sections of Handicap International have also advocated for studies of village demining to be undertaken in other mine-affected countries, such as Angola, Mozambique and Thailand.

and diffuse realities through a process of exclusion and choice. Truth is distorted by choosing what to present, and conversely what not to present.

The use of simplified, explanatory narratives dominates in policy and development. In terms of development interventions, the identification, analysis and proposed solution to a problem are framed through a 'narrative' consisting of the classic properties of a beginning, a middle and an end (Roe, 1991: 288). Crewe & Harrison (1998: 1) argue that the use of such explanatory narratives allows planners and policymakers to articulate and make sense of complex problems, thus helping to ease and speed the process of decisionmaking and to mobilize the funds, institutions and technology required for implementation to proceed. Narratives tend to use neutral, scientific language, labelling the 'problem' and the target groups that are seen to be at the core of the problem (Escobar, 1995a: 140). Intervention in the perceived problem is justified through the use of scenarios that warn of what will happen if the problem is not addressed. In terms of mine contamination, these narratives allow mine action to identify and propose the solution to the problem, and to warrant their right to intervene.

Landmines are perceived in the Western world as a global crisis, and much has been written about this crisis in terms of its dimensions. As Cahill (1995: 4) explains, 'the enormity of the global land mine crisis, and the increasing rage against the special crimes that mines commit against the innocent, in times of peace as well as conflict, are finally and belatedly generating public demands for action'. The narratives used to describe and explain the problems of mine contamination in Cambodia are informed by a particular set of understandings about conflict, war, poverty and vulnerability. They draw on military expertise of mine warfare and contamination, linked closely to humanitarian concerns about the resulting devastation in terms of human casualties and unproductive land. The idealized image of a productive rural countryside is often contrasted with the 'no-man's land' in the aftermath of war. Rural communities become vulnerable victims who are maimed, injured and killed by these 'silent sentinels' of the war, a portrayal enforced through media images. The 'package' that is considered a solution to the problem is based on an approach that relies on technical expertise of mine clearance and the education of affected civilian populations. These authoritative narratives are prevalent within the policy documents of both national and international mine action institutions, framing the problem and the need for assistance on the behalf of communities living in mine-contaminated areas. As Chambers (1994: 3) claims, 'the initiative, in enabling them to better help themselves, lies with the outsiders who have more power and resources, and most of whom are neither rural nor poor'.

Although there is much truth behind the dominant narratives of mine action, they also have to be seen as economies of truth, wherein the diversity and complexity of local situations is simplified into a generic village consisting of populations of vulnerable victims waiting to be assisted. Humanitarian mine action is genuinely concerned with the threatened communities as part of its primary commitment, but the organizations also have to be answerable to the international community, the support of which is essential for ongoing funds and support. Simplified narratives ease the process of

fundraising, as they skim over contradictions and contentions and present a standard problem with a pragmatic solution, attractive to both donors and Western publics. However, as Summerfield (1998: 32) muses, 'There is too often a one-way transfer, generally north–south, and the question is who has the power to define the problem and make these definitions stick?' This is partly because understanding of the real situation on the ground is dimmed by distance. Mine action tends to work from the centre outwards, with decisionmaking and planning carried out at a central level. This echoes the way Chambers describes development planners, who are often 'distant from the people and conditions they are analysing, planning for, prescribing for and making predictions about' (Chambers, 1999: 31). The discourse requires little testimonial evidence from the people on whose behalf the activity is being carried out, but images of mine victims, of these 'speechless emissaries' (Malkki, 1996), often suffice to support the narratives.

The authoritative narratives of mine action thrive on numbers, which dehumanize and neatly order the groups of people living with mines, be they victims, vulnerable villagers or children. Populations affected by mines are seen in terms of victims, those maimed and killed by the devices and those who are unable to access the resources and land necessary for their own survival. As 'beneficiaries', they are seen in terms of the number of people who will benefit from the mine action intervention, whose lives will be eased through the reduction of risk or through access to previously inaccessible resources. However, advocating for rural mine-affected communities in this way does not represent the complexity and diversity of the situations in which mine action intervenes. The mine action narratives tend to dehistoricize and decontextualize populations, masking the background and past experiences of the people and marginalizing their existing knowledge.

As we have seen in Chapter One, local people often have a number of strategies for coping with the adverse situations in which they find themselves and, far from being passive victims, are frequently proactive and self-helping. Village deminers, despite feeling they have few options available to them, are taking an active role in their lives and drawing on their existing skills to improve the situations of their families. As Anderson (1996: 9) contends, battlegrounds are often the spaces of everyday life, and the line between combatants and civilians blurs and disappears. Villagers in the northwest of Cambodia have long been living in these battlegrounds, and as a result have often developed quite complex strategies for their own survival. Village deminers demonstrate only too well their capability to address and deal with their situation through the clearance of mines. Although village deminers and their families may be vulnerable, they are clearly not victims. However, as Anderson (1996: 2) argues, 'when international aid agencies arrive in conflict zones to provide assistance to people affected by the war, their programmes often "miss" these capacities'. More than this, village deminers constitute a direct challenge to the authoritative narratives of mine action in that not only are they defining what they perceive their problem to be, but they are taking action to address it. The response of mine action to this challenge has been one of reframing the 'mine problem' as the problem of 'village deminers'

themselves. In doing so, agencies demonstrate their power to determine how the issue is seen and to present what they believe to be the appropriate solution. The 'problem' of village deminers becomes legitimated through the promotion of an authoritative discourse whose focus is on technical expertise, standards and professionalism.

Professionals, Experts and Villagers

Despite the changes that have occurred in mine action over the years, the mine action sector – and the demining component in particular – continues to be shrouded in an aura of technical expertise and professionalism. This has resulted in a large part from the military orientation of mine action. As Kjellman *et al.* (forthcoming) explain, 'A characteristic that has tended to define the sector as a whole is the preponderance of a military culture.' The promotion of a 'no nonsense' approach and specialized military knowledge of ordnance has not only provided suitable justification for the appropriateness of each organization for the job, but also provides mine action practitioners with the necessary 'knowledge' to gain the credibility of donors, the national governments with which they work and local people themselves. The professionalism of mine action is based very much on technical procedures, which are largely standardized internationally to keep mine clearance working in an acceptable, ethical manner and with the least possible occurrence of risk. This mindset aligns closely with what Chambers (1998: 3–5) has termed 'normal professionalism', whereby value is placed on the correct methods for doing things, the process is conservative, and security of the discipline is sought through 'specialisation, simplification, rejection and assimilation'. The stress on technical expertise and professionalism, however, ultimately implies hierarchical power relations, as outside interventions are imposed over local knowledge and practices.

Mine clearance, as discussed in the preceding chapter, continues to follow a rigid, task-oriented approach attributed to the inherent dangers involved in the work. This is compounded by the fact that, despite the increasing number of development practitioners with different backgrounds entering the sector and the greater integration of mine action with other development interventions, the actual process of clearance is still largely a military affair, undertaken by paramilitary organizations. Humanitarian organizations have a moral responsibility for ensuring the safety of not only the populations among whom they are working but also their own staff. Safety, for humanitarian agencies, in terms of operating procedures and also safety of the land cleared, is of the utmost importance. Professional clearance work is guided by Standing Operating Procedures (SOPs), which detail the preferred or established methods of conducting an operational task or activity (UNMAS, 2003a: 24). Although the SOPs can be adapted to reflect local requirements and circumstances, the procedures tend to be strictly followed to ensure acceptable safety levels. In terms of clearance of land, the ultimate goal of humanitarian mine action is 100% clearance, so that land handed over to communities is ideally risk-free. The stress on safety – of the land cleared and of the

local populations who will use that land – remains the main banner under which humanitarian mine action defines and distinguishes itself.

In terms of Western standards of humanitarian demining, village mine clearance is perceived as a hazardous, high-risk and inadequate practice with no set clearance standard. Village mine-clearance practices differ from professional mine clearance in several pronounced ways, the most obvious difference being in terms of formal training, equipment and regulation. Unlike clearance platoons, who will check the full extent of a suspect area, village deminers generally clear only those parts of the land where they believe mines are laid, resulting in a patchwork type of clearance. The apparent amateurism of the village deminers, who have no metal detectors, no training, no colleagues, no cars, no medical backup and no overall view of the 'mine problem,' is an obvious contrast to the professionalism of mine action teams. Technically, village demining can never meet the acceptable safety standards of humanitarian mine action, without support. From the view of Western standards of mine clearance, village clearance can never realistically replace professional clearance in terms of thoroughness and safety (Horwood, 2000: 21).

The perceived comparison between professional deminers and villagers was clearly highlighted in the debate within the mine action sector about training village deminers. Initially, the discussion revolved around the question of providing training for the village deminers, presumably in an attempt to bring the villagers closer to the professional standards of demining platoons. The debate highlighted clearly the perceived dichotomization between the professional deminers, 'us', as opposed to the village deminers, 'them'. The distinction between professional clearance and what village deminers do was clearly underlined by the reluctance to equate village mine clearance with professional '*demining*' (Curry, 1994: 4). Not only was the matter simplified to the process of clearing the mines, rather than looking at the broader implications of *why* the villagers were clearing mines, but also the solution was framed in terms of training, or transferral of expertise. It focused on teaching how to do things, how to recognize mines and what not to do, but little account was taken of skills and experience that the village deminers might already have had. The perceived difference in professionalism and expertise between the village deminers and the professional platoons has continued to form the main basis for discussion of village mine-clearance activities among mine action practitioners.

Leach & Fairhead (2000: 36) have warned against extreme interpretations of Foucauldian discourse. They argue that, by concentrating solely on confrontations of discourse, it absolves the actors involved in institutions of 'consciousness, intentionality and responsibility' and obscures 'the everyday dilemmas and situations of interaction faced by scientists and administrators, and the way they respond to them'. As the debate about village demining demonstrates, actors within the mine action sector have responded to the issue of mine clearance by villagers in different ways, depending largely on where their own sympathies and areas of expertise lie. Although working under a discourse of mine action, it is clear that on a day-to-day basis mine action practitioners encounter and deal with situations that contradict the dominant narratives.

Those working in the field are aware of the complexities at the village level and of the inadequacies of the dominant discourse in terms of portraying reality. This represents the meeting point of external discourse and local knowledge and frames of reference, where the dominant truths and perspectives are questioned and challenged and contradictions arise. In some cases, these dilemmas have led to a questioning of the dominant discourse and to a change in approach and strategy.[5] Development is becoming more oriented towards local actors and a commitment to participation, sustainability and equity. As Pieterse (1998: 369) contends, 'a fundamental change that has taken place in the "modern history of development" is that agency has become important. Development is now more anchored in people's subjectivity rather than in overarching structures and institutions.' However, to a large extent, power still shapes the development process through the deployment of dominant, often Northern, concepts and values.

With village deminers, it is clear that the persuasive Western narrative of technical expertise continues to predominate, despite the differences in opinion as to where the appropriate solution lies. The encounter between mine action professionals and village deminers is often one of fleeting observations and ingrained assumptions, and little attempt has so far been made to better understand the activities of these villagers.[6] The activities of village deminers are still framed as a 'problem' to be solved by outside interventions, and continue to be seen in direct contrast to professional mine action. Encounters with village mine-clearance activities are often met with dismissal by professional mine action. Village mine clearance is deemed to be inadequate and unsafe, and village deminers are labelled 'ill-equipped', 'amateur', 'untrained' and 'unsupervised'. These distinctions between professionalism and amateurism have been maintained within the mine action sector, as can be illustrated by the visit of a mission consisting of representatives from the mine action community to view the work of village deminers in Psa Prum Dein village, Krong Pailin.

In February 2001, a mission consisting of representatives from Handicap International Belgium, UNICEF, Oxfam, the Cambodian Mine Action and Victim Assistance Authority (CMAA) and CMAC travelled to Pailin to investigate the demining activities of villagers living in Psa Prum Dein village (see also Chapter One). Psa Prum Dein is a market area about 300 metres from the Thailand–Cambodia border. Two casinos and an

[5] The awareness, for example, that the needs of communities regarding mine-risk education have changed has resulted in a challenge to the teaching methods that have been commonly utilized. A new participatory approach, which begins to acknowledge the local understanding of the mine problem and involves the affected communities themselves in the development of strategies to reduce risk, is now gaining precedence in Cambodia and elsewhere.

[6] One of the team members for the HIB study was seconded from CMAC to provide technical support and safety advice for the other team members. However, this team member was also trained in research methodology and interviewing techniques, and carried out several in-depth interviews with village deminers. Although he had entered the research with fairly standard assumptions about the danger and inadequacies of village mine-clearance activities, after several long interviews with villagers he reported that he was surprised by the extent of the knowledge of the village deminers.

'international market' have already been built near to the border crossing. Many of the families living in Psa Prum Dein had been settled in the area for three or four years when the local authorities revealed in 2000 that the area had been earmarked for commercial development. Aware of their imminent eviction from the market area, the villagers had begun to clear land for a new village area within a dense bamboo forest situated along the K5 mine belt.

The village had been visited by the HIB research team in November 2000, and some of the village deminers had been interviewed.[7] Following the release of the research study report in Phnom Penh, representatives from HIB and UNICEF raised the case of the village deminers in Psa Prum Dein with the CMAA at a mine action coordination meeting. The representatives suggested that, because of the scale of the clearance being undertaken by the villagers and the fact that they were undertaking this clearance because of possible eviction, the case warranted further investigation to gauge what possibilities there might be for assistance. The CMAA agreed that a mission should visit Psa Prum Dein for one day to investigate the situation further and to make some recommendations as to how the CMAA should address this issue.

On arrival at Psa Prum Dein, the mission representatives were taken to the site where the village deminers were clearing. Prior to the mission visit, the road cleared by the village deminers had been verified by a CMAC Community Mine Marking Team (CMMT) to ensure that the investigation could be carried out without incident. The mission representatives were able to observe how the situation had changed since the earlier visit made to the site by the HIB study team.[8] The village deminers had obtained one Chinese metal detector and two Vietnamese metal detectors using money contributed by the other villagers. They had completed clearance of the road to the intended village site and claimed to have found close to 1,000 mines. When the CMAC CMMT rechecked the land, one grenade was found. Since the visit of the HIB study team to the site in November 2000, there had been two accidents. One village deminer had lost the lower part of his leg when he stepped on a mine while clearing vegetation, and another had received injuries to his eyes and face when a mine he was disarming exploded. Several other people who had been standing nearby at the time of the accident received shrapnel wounds, increasing the total number of casualties to seven people.

The villagers had a plan for the new village site that was viewed by the mission team. The plan included housing plots for villagers plus land for roads, a school and a health centre. They had papers up to district level approving the scheme, but no recognition beyond that. However, word had obviously spread about the possible availability of plots of land near the border, and almost 900 names were on a list claiming the right to a plot. The Pailin authorities were aware of at least 500 families awaiting new plots of land in the area, but the actual number of families living in Psa Prum Dein was closer to 300. Although the authorities has assured the mission team that the people

[7] See Bottomley (2001a: 43).

[8] One of the original members of the HIB village demining research team also joined the mission to Psa Prum Dein.

would not be forced out of the market area, the villagers themselves were unsure how much time they had before being evicted.

The mission team believed that, as the villagers were being driven to clear mines because of impending eviction from the land on which they were currently living, the situation could not be addressed satisfactorily by simply prohibiting the villagers from clearing mines. Rather, it was proposed that alternative action should be taken that would help to alleviate the situation in terms of land security. Clarification was required on the land-eviction situation, and guarantees sought that the villagers would be able to stay in their original village until the new village land had been cleared by CMAC. It was proposed that information be disseminated to each of the villagers through an official meeting, and perhaps with an official letter, which would provide a guarantee that the villagers would not be forced to move from the Psa Prum Dein area before the demining was completed. It was recommended that the original 300 families should be reallocated contiguous plots of land in the new village area prior to clearance, a process that could be overseen by the new Ministry of Land Use Planning and the Land Use Planning Unit (LUPU). This would require a confirmation of names and identities of the original families. The process would provide these villagers with greater security over the land in the new area by guaranteeing official recognition of the relocation and perhaps the provision of land titles. It was recommended that CMAC should review its existing work-plan to consider whether it would be feasible for it to begin clearing land for housing plots in the new village as soon as possible. It was also recommended that CMAC should assist in the immediate removal and destruction of mines the villagers had cleared, which were stored in a house in the village.

However, when the mission returned to Phnom Penh, orders were issued by the CMAA that the provincial authorities should immediately prohibit the villagers from clearing mines on the grounds that they were a danger to themselves and others. The CMAC work-plan for 2001 had four villages marked for clearance in Pailin. Following discussions between CMAC headquarters and the manager of CMAC Demining Unit Three based in Pailin, the work-plan was reviewed and readjusted so that the new village area could be cleared. To accomplish this, however, it was necessary to redeploy a platoon from clearance in another village. Perhaps as a result of the top-down decision made by the CMAA forbidding the villagers from continuing with their clearance activities, the villagers became reluctant to hand over the mines they had cleared to CMAC without payment. In response, CMAC decided against redeploying the platoon to clear the new village site. Early in 2002, the villagers of Psa Prum Dein went to a municipal building in Pailin to protest their imminent eviction. A news story related that the residents were to be resettled in an area littered with landmines, although the Pailin governor reported that the proposed resettlement site was being cleared of landmines and would soon be safe for habitation.[9]

[9] 'Cambodian Townspeople Protest Plan To Resettle Them in Mine-Strewn Area', *ICBL Media Report,* 30 May 2002; cited from: http //story.news.yahoo.com/ (30 May 2002).

The Pailin case was unusual and complex: unusual in that the local-level demining by villagers was thoroughly organized, and complex in that it involved issues concerning land eviction and dilemmas surrounding safety and the risks involved in village mine clearance. The villagers in Psa Prum Dein had been able to consider and respond to their particular situation in a proactive way by organizing themselves to clear mines for a village in a new area. They had been able to provide payment for the village deminers, to draw up a feasible plan for the new village and to gain some recognition and approval from the authorities. As is often the case in Cambodia, the land issue had become complicated by an increase in the number of potential beneficiaries, far above and beyond the original number of families living in the village. This not only confused the issue of who was actually entitled to land in the new village area, but it also meant that the capacities of the villagers to clear the land were going to be stretched to the limit. The village deminers had successfully, and relatively thoroughly, cleared many mines from the road, although they had also suffered quite a high number of injuries in a short time, injuries that could perhaps have been avoided if safer practices had been followed.

Although complex, the Pailin case was not beyond solution, but the outcome reached following the mission was perhaps not the most satisfactory. Notwithstanding the complexities of the situation, the response of the CMAA was based largely on issues of professionalism and authoritative power. Despite the recommendations of the mission team that the villagers should not be prohibited from their mine-clearance activities until the issues related to land insecurity had been addressed, the CMAA requested that the Pailin authorities stop the villagers from demining. The apparent justification for this was the relatively high accident rate of the villagers, which was stressed at a mine action coordination meeting in Phnom Penh.[10] The fact that the villagers had actually cleared the land relatively thoroughly and in an organized manner was overlooked.

The response of CMAC to the situation was also less of a solution than a compromise. The CMAC work-plan for 2001 had outlined plans to clear in four priority areas in Pailin, although the Psa Prum Dein area was not listed as one of these priorities. This meant that, in response to the Pailin case, resources were simply redirected from one place to meet the needs of another. Although this provided an immediate answer to the perceived problem, it failed to consider whether the need for demining in the former village was greater or whether the demonstrated capacities of the village deminers in Psa Prum Dein warranted their being less of a priority.

The intention of HIB and UNICEF in raising this case with the CMAA and other stakeholders was to promote a constructive settlement, although in hindsight the mission failed to produce any real solution to the problems faced by the villagers. The decisions of the CMAA and CMAC were also well-intended in terms of preventing further accidents, but the persistent viewpoint that underlay the decisions was that the

[10] Author's minutes of discussions concerning the village demining in Psa Prum Dein at the meeting of the Cambodia Demining Co-ordination Committee, Phnom Penh, 23 March 2001.

villagers did not have the necessary skills, equipment or expertise to clear mines. As a result, the decisions negated the existing capacities of the villagers and placed the risk of injury from mines as priority despite the fact the villagers were facing numerous other threats to their survival, not least through their land insecurity. A surface exploration of the issues provided the basic information for the decisionmakers, and predefined answers provided the solution to the perceived problem. However, at the village level the viewpoint is often not so clear-cut.

The View from the Village

The encounter between villagers and mine action professionals happens in the arena of the village. It is in this familiar context that villagers meet, come to terms with and attempt to understand such interventions. It can be argued that an outside intervention in the form of mine action in a mine-affected community is dramatized and given more importance by outsiders than by villagers. For villagers living in mine-affected areas, mine action provides an alternative, an option, but one option among many. For many villagers, mine action is not a reality. As Horwood (2000: 34) contends, 'the sobering reality is that, after ten years of international mine action, if we were able to bring together all the mine-affected communities and landmine survivors world-wide to one huge conference and ask how many of them had seen any evidence of international or national intervention or assistance in mine action, the results would be shocking'. Villagers may have seen posters with mine-risk messages or attended a mine-risk education presentation. Some villagers may have had actual clearance in their locality, whereas others may only have glimpsed mine action vehicles emblazoned with logos passing along the road. Mine action is an intervention that, at best, is fleeting within the lives of most villagers. It is largely peripheral to their everyday lives, and, with or without mine action, villagers continue to manage and cope with their situations using a complex web of activities and strategies, while drawing on their own capabilities and knowledge.

For villagers living in mine-affected areas, mine action is a welcome intervention in terms of enabling them to access resources and to prevent accidents. As a woman in Prei Chan village in Banteay Mean Chey province explained, 'Now CMAC has come to clear the mines in my village, especially for the housing plots. This is very important for me. If CMAC clears the land, I can grow vegetables to sell.' Although the work of village deminers often does benefit the wider village community, this impact is relatively limited, and for those households with no family member with a mine-clearance capability, access to resources remains a major concern. For village deminers too, the arrival of demining platoons in the village presents alternatives: they can stop clearing mines and let the organizations clear for them, concentrating on making a living from something else. Village deminers clear mines because they feel that they have no choice, but they would prefer for mine clearance to be undertaken by organizations. As one village deminer explained, 'If people don't clear mined land, they will

have nothing to eat and will not be able to raise their children. So they have to clear mines. They risk their lives to clear mines. They would like to change their activities by not clearing mines, but they cannot do that as they would have no land on which to plant rice.'

Outside interventions arriving in a village often raise villager expectations, either intentionally or unintentionally, that resources will be made available to meet local needs, and villagers frequently adapt their behaviour in the hope of getting a share. When the prospect of alternative clearance arises, villagers attempt to negotiate for clearance by organizations to their best possible advantage. Villages that have had little contact with mine action in the past often present demands that are unrealistic, and at best ambitious, given the resources and capacity of mine action. A village chief in the Koh Kralor district of Battambang showed members of the HIB study team a handwritten note, which he wanted to pass on to a clearance organization. It read: 'We certify that there are a lot of mines in our village, and so we wish to get the chair of the district development office to deal with this problem. The 111 families living in this village have rice fields and *chamkar* on land that is mined.' These high expectations for clearance are rarely met, often leading to disillusionment among village authorities and villagers.

In areas where contact with mine action has been more frequent, or where the local authorities are familiar with development organizations, needs are more likely to be defined in terms of what organizations are believed to be able to provide. However, even with requests for demining a site for a schoolyard, a pump well or a road, clearance by organizations is not always forthcoming. The relatively slow rate of the manual clearance methods of mine action, discussed in the previous chapter, means that clearance of land is ultimately limited to areas perceived as priority and that demonstrate the greatest humanitarian return. However, for families affected by landmines, a sustainable, independent livelihood is only possible once they have access to agricultural land or other resources essential for meeting livelihood needs. Delays, misunderstandings and the provision of advice that appears untenable to villagers in their current situation often mar relationships between villagers and mine action organizations and encourage those villagers who are able to do so to continue with their own clearance work.

The lengthy wait for mine clearance experienced by villagers is a source of frustration that often drives them to continue with their own clearance activities. The time between an organization's first visiting a village, surveying and marking the land or conducting awareness training, and finally coming to clear mines can be several years. As one village deminer explained, 'If I wait for the mine-clearance organization to clear the mines in the village, my children will die of hunger. I am also very scared that my children will step on mines in the *chamkar*. I do not want to improve my mine clearance, nor to attend a training course, but I want the organizations to clear the mines in the village.' In many cases, families have been settled in areas long before mine action organizations arrived in those areas. They have been clearing mines continually to free up land and resources, and see little point in stopping their activities on

the chance that an organization may come to clear for them a few years later. A village chief in Bavel district, Battambang province, interviewed during the HIB research in late 2001, explained, 'If you come here in the dry season, you will hear the explosions [from the mines being burned] when the people return home from tending their cows. The people want the organizations to clear the mines and UXO on their housing plots and on the rice fields far away from the village. People catch the organization cars when they are driving along the road, and they show the staff the mines they have cleared and collected. For instance, today they found a mine and put barbed bushes around the mine to prevent other people from touching the mine. This village has sent a proposal to the commune authorities to ask the organization to come and clear the mines on the rice fields. The organization provided application forms in 1997 and 1998, and the commune authority filled out the forms and sent them to the organization. But the people living in the commune have never been to the headquarters of the organization, and the mines in the field have not been cleared.'

The village authorities, who are usually responsible for submitting requests for clearance to the commune authorities, often express how difficult it is to request clearance, not because of the forms that have to be filled out, but because of the process. As one village chief explained, 'we have reported about the mine problem many times, and used a lot of paper, but no one has come to clear. The mine-clearance organizations pass through the village, but they do not stop.' The process often highlights villagers' feelings of being on the periphery, removed from the centres of decisionmaking. Once their requests have left their hands, they have little idea where the forms go, much less whether an organization will respond to their requests. This often results in feelings of powerlessness at the village level. Ordinary villagers may rely on the village authorities to request mine clearance, but the village authorities themselves may feel that their ability to summon outside assistance is considerably limited. Some village authorities feel that it is easier if development organizations can make requests for clearance, which perhaps reflects how considerably more weight is given to the development plans of organizations than to the plans of village authorities in mine-clearance prioritization. A representative from the commune authorities in O'Chrou district, Banteay Mean Chey, explained how the NGOs working in the area often had more success in requesting mine clearance than the local authorities themselves: 'If an NGO requests mine clearance in this area, it is better than if a villager or the local authorities request. We have asked three or four times already, and the [mine-clearance] organization does not come. If the NGO requests, the process is quicker.'

In terms of the strategies used by mine action to reduce the risk for populations living in areas awaiting clearance, the organizations also appear to have made little headway in preventing some villagers from carrying out their high-risk activities. The humanitarian message of safety is directly conveyed to villagers through the medium of mine-risk education. The basic message transmitted during both mine-risk education and mine-clearance activities is that civilians should not touch mines or UXO. Village deminers, who intentionally enter minefields to clear landmines, appear to be the worst nightmare of every mine-risk education programme, or alternatively their

greatest challenge. However, the success of mine-risk education in reaching the village deminers is questionable. The HIB study found that a relatively small number of village deminers had attended mine-risk education, although predictably others had not because they were too busy carrying out livelihood activities, work that frequently took them out of the village for several days at a time. A few reported that they did not attend mine-risk education because they knew about mines and UXO already, an indication of the inadequacy of the traditional information-provision methods of mine-risk education in the current situation. Others seemed to believe that if they did attend mine-risk training, they would learn more about clearing mines and identifying those that they did not know. As one village deminer explained, 'I have never gone to mine education as nobody called me to attend. But if there was training, I would attend as I want to know about the mines I cannot clear yet.'[11]

For those who had attended mine-risk education, the usual description of activities was the airing of a video and the distribution of posters and leaflets, techniques that perhaps make little impact on the daily lives of the village deminers. Villagers do appear to engage with the discourse of safety and risk, and often reiterate the messages they hear in mine-risk education. Several village deminers reported that 'mines do not recognize their owner', but the fact that they continue with their clearance emphasizes the chasm between the messages and the everyday realities of the villagers. Many village deminers reported that mine-risk education made them feel scared, or perhaps heightened their awareness of the possible dangers. In fact, mine-awareness organizations, formally known in Khmer as *Ongka phsop phsay min,* are often referred to by villagers as *Ongka (tweu owie) klach min,* or 'the organization that makes you scared of mines'. However, in the majority of cases, mine-risk education does not prevent villagers from continuing with their clearance activities. As one village deminer explained, 'I participated in mine-awareness education conducted by the organization. This has made me scared of digging the land and hitting mines accidentally, especially those that are deep in the ground. However, I have no choice but to demine my land; otherwise I cannot provide for my family.'

In many areas where clearance has not yet begun, small bamboo houses and neatly cultivated plots are to be found on land surrounded by red skull-and-crossbones signs proclaiming the land mined. In some areas in Battambang province, villagers reported that there had been areas marked as mined in the past, but the signs had been put up so long ago that they had since rotted or fallen down. They also said that the villagers themselves had sometimes used the signs for fans, and the posts for firewood. Meanwhile, the villagers who had the ability to clear mines had been doing so as their needs required. The justification of many of the village deminers in these situations is simply that they cannot wait for clearance activities to begin. As Eaton, Horwood & Niland (1997: 14) argue, if it is the very means of survival that is affected by mines, 'it is not

[11] An evaluation by Community Information for Empowerment and Transparency (CIET) in Afghanistan in 1997 found that traditional mine-awareness training actually encouraged greater curiosity and misplaced confidence, and that direct training was associated with an increase in upper-body injuries consistent with tampering; see Andersson *et al.* (forthcoming).

tenable to assume that affected communities can be cautioned of the dangers and asked to await the arrival of mine clearance teams some subsequent years hence'.[12]

The frustration at the slowness of the mine action response is understandable given that mines are a constant threat to villagers within their daily lives. As we saw in Chapter One, for villagers living in mine-contaminated areas, the mine issue has to be addressed in some way if they are to be able to continue supporting themselves and their families. Mines have become a part of their daily lives, a fear that has to be overcome virtually on a daily basis, and decisions are thus based on pragmatism. One villager in Samlot district explained that, although he was afraid of mines, to live in a mine-affected area meant that to deal with this problem was *thomadar*, or 'normal'. When mine action arrives, however, villagers will often change their routines in response to the intervention.

As a result of increasing contact with mine action organizations, some village deminers have altered their practices in an attempt to adopt safer behaviour. Village deminers described how they no longer burned the mines that they removed, but kept them for mine-clearance organizations to take away and destroy. In some cases, village deminers store the mines where they find them, usually in their fields, putting them in visible 'safe' places, such as on tree stumps or grass tussocks, until they can be collected by an organization. Occasionally, village deminers will take the mines they have cleared back to the village, often for the simple reason that the organizations pass by on the road through the village. This is a practice that, despite good intentions, substantially increases the risk for both deminers and other villagers.

It is common for village deminers to stop their clearance activities when an organization arrives, usually because they believe the organization will take over the clearance of their land. However, these strategies do not always yield what is expected, and often villagers are forced to revert to their former actions if the organization does not meet their expectations. A villager in Rattanak Mondol district, Battambang province, explained, 'I attended mine awareness five times when I was in the refugee camp in Boeng Ampil, and also in my village in 1993, 1999 and 2000. They explained a lot, for example, that we must not touch mines and that we should report the mines we find to the organization. But when I found mines, I reported them to the organization and they didn't come and clear them. The organization staff said that they were out of their target location and so they couldn't clear them. I think that this is different from what we were taught. I had to clear the mines myself.' This is perhaps indicative of the contradictions between the messages provided in mine-risk education and the ability of mine clearance to provide the appropriate response.[13] Such contradictions add to the

[12] Villagers in an evaluation of a mine action programme in Cambodia were asked if the marking of minefields was sufficient to prevent people from entering these mined areas. The answer was no. 'The explanation given was that markers fade or get taken away, people forget or get drunk, children don't listen and animals don't understand' (Kato, Lewis & Try, 1998: 21).

[13] This example highlights clearly the need for mine-clearance practitioners to look at the possibilities for transforming clearance activities from the relatively rigid, plan-bound approach of most current clearance towards a more flexible, rapid response.

confusion at village level and undermine the credibility of the outside 'experts' in the eyes of the villagers.

Anderson (1996: 17, 33) has pointed out that the introduction of external resources into a context where resources are scarce can reinforce competition, suspicion and inter-group hostility. Villages are not harmonious and homogeneous entities consisting of 'victims' or 'beneficiaries'. Very real differences in terms of interest, status and motivation exist within rural communities, and the ownership and control of resources in Cambodia has become an increasing indicator of economic and political power. The intervention of mine action is therefore far from neutral, as it brings with it the ability to free up scarce resources and to allocate these resources among the chosen 'beneficiaries'. In the past, there have been many instances in Cambodia of demined land being expropriated by powerful people, or of intended beneficiaries selling the land and moving on elsewhere. As we saw in the previous chapter, mine action in Cambodia is beginning to address such issues through the introduction of participatory methods for village-level identification of clearance priorities, and through the establishment of more democratic decisionmaking bodies, such as the LUPUs. However, any decision implies a choice, and within villages there will always be some people who will gain at the expense of others. At the village level, such choices can engender feelings of distrust and suspicion of the 'outsiders', and also of unfairness at the way in which land is distributed.

'HALO Spade' is one such villager who feels that the distribution of demined land has not benefited his family.[14] He has lived in a village in the Thma Pouk district of Banteay Mean Chey for three years, but has been based in the area since 1979 as a soldier fighting with the resistance forces. Together with nine other families, he has cleared mines from land for housing and cultivation in an area next to the Thailand–Cambodia border. Nearby, a large area of land is in the process of being cleared by an organization for resettlement plots. The local authorities have requested that 'HALO Spade' and the other families move from their land, saying that it is an 'anarchic' area. The families do not want to move, as they feel that they have invested time and effort in clearing the land, and they have built their houses and planted fruit trees and crops in their gardens. The land they have cleared is larger than the resettlement plots, and most of these plots have already been allocated owners, so they do not know where they would go if they were moved. They wonder if the mine-clearance organization will pay them any compensation if they are forced to leave their land. They would like to continue clearing mines from their land, but now they have stopped. 'HALO Spade' says that he does not want to put time into clearing mines from land that he may lose in the future.

In areas in the northwest of Cambodia where populations of newcomers are settling in villages with longer-term residents, conflicts over scarce resources are often apparent. A

[14] 'HALO Spade' is a nickname given to this villager by his friends and family. 'HALO Spade' was carrying out his demining work in a village in which a HALO Trust platoon was also working. While humorous, the name perhaps highlights how villagers differentiate between the demining work of the professionals and the villagers according to the sophistication of tools being used.

common perception of longer-term residents is that if their land is demined by organizations, it will then be handed over to the authorities and redistributed among other residents, particularly the newcomers. The fact that land cleared for resettlement is often distributed through a lottery system is also a worry to these families, as it means there is no guarantee that they will receive good-quality land. This worry has led some villagers to clear their own land, rather than requesting mine clearance.

Despite the best intentions of mine-clearance organizations, and also of village deminers who are usually more than happy to turn their demining work over to the 'professionals', clearance by organizations often does not respond to the expectations or priorities of many villagers, and may in fact fuel resource competition. Professional mine clearance obviously helps to alleviate the mine problem to a large extent and to reduce risk. However, the increasing emphasis on conducting clearance with the greatest humanitarian return means that exclusions are made and community needs are prioritized over individual needs. If village farmland is not cleared by the organizations, it is usual for village mine clearance to restart once the organizations have left the village. Where there is a lack of alternative livelihood options, this is a decision over which the villagers feel they have little choice. At the same time, the relationships between village deminers and other villagers can also be seen to shift ground in relation to the intervention of mine action as positions and perceptions are negotiated.

Materials, Motivations and Metal Detectors

The arrival of uniformed, equipped platoons of deminers from mine-clearance organizations does change villager perceptions towards mine clearance. There is widespread recognition that professional platoons can clear land more thoroughly than villagers, acknowledgement largely based on comparisons of equipment and resources. From the perspective of the village, mine action is closely related to other development interventions. It is something that comes from outside, that brings material benefits and arrives in large white cars. It is linked to the world beyond the village, and, as Pigg (1992: 510) has argued, images of development as viewed from the village are often linked to concepts of social difference.

Villagers perceive mine-clearance platoons to be organized, professional and well-equipped. The status of village deminers may decline when mine action arrives in a village, as the organizations pose a direct alternative to the skills of the local men. Some villagers may internalize the values of the mine action interventions, either as a way of attempting to negotiate benefits or in order to appear 'developed' and receptive to the world outside the village, and in so doing will distance themselves from the village deminers, labelling them as dangerous and irresponsible. A village deminer in Pailin related a common tale of how the local authorities had previously praised the village deminers for their work in clearing land, but since the arrival of mine action in the municipality, the villagers had been advised to leave the clearance work to the organizations. A district chief in Battambang province also explained, 'So far, the dis-

trict authorities have prohibited people from clearing mines and have told the people to report to the organizations when they find mines.' Mine clearance becomes associated with the outside, and villagers who clear mines have sometimes been dubbed with names – such as 'HALO Spade' and 'Informal CMAC' – that highlight the perceived inadequacies of the village deminers compared to the outsiders. The orientation of villagers towards mine action NGOs derives partly from the desire to be seen to be more 'developed' and open to outside interventions, reactions that are also common in community-development work. Through acknowledgment of the superiority of the assistance brought by the outsiders, it is often hoped that the benefits of those projects or activities will be accrued and that life will be improved beyond what can normally be achieved through local efforts. However, the differentiation between the 'outsiders' and the 'insiders' is seen in terms of access to equipment and resources rather than professional capabilities. As one villager explained, 'I think that the land that has been cleared by village deminers is not safe, even though they work in those areas. Demining agencies have tools, but villagers just have a spade.'

In the same way, village deminers do not see themselves as different from the professional deminers in terms of knowledge and skill, but rather in terms of equipment, salary and organizational support. When village deminers have encountered mine action, the observation of the more sophisticated equipment and safety clothing of the professional deminers frequently acts as a deterrent for villagers clearing mines, at least while the organizations remain in the village. Villagers are often informed by organization staff, and sometimes through mine-risk education, that their techniques for clearance are outdated, inadequate and dangerous. One village deminer explained that he had been told by an organization that 'eyes are not automatic', referring to the idea that locating mines by eye is inadequate when compared to the use of a metal detector. Another concluded, 'I think that in the future I will be injured or killed, and so now I stop demining and leave this work for the organization. If I continue, I cannot escape from injury. If I only use a hoe, I will be injured.'

Perceptions of difference are also linked to the fact that mine-clearance platoons are paid by the *ongka* (organization), and that they have perceived security in their jobs and financial resources to assist them in the event of an accident. The difference is explained in terms of professional deminers having a good job, rather than having superior skills or expertise in clearing mines. A contrast in motivation is also recognized at the village level, and village deminers sometimes compare their own work and situation to those of the professional deminers. One village chief pondered, 'the organization is clearing in this village, but they are clearing on land that is not important. Many cattle graze where they are clearing, and there has never been an accident. Why do they clear where they are not needed? But they are Khmer too, and they work for money. I do not want them to lose their jobs.' Similarly, a village chief in Malai district commented, 'The organization deminers are better than us [village deminers], but they are slow. The villagers can work faster, and they have more incentive, as it is their own land.'

The ideal of becoming a salaried worker for a mine-clearance organization is also one that has not escaped some villagers. The attraction of being an agent, rather than

just a beneficiary, of development brings the double incentive of both clearing their land and receiving the benefits bestowed on the staff of organizations, including status and a regular income. The wife of a village deminer expressed the desire for her husband to work for the organization by stating, 'he has no other job and he also has experience in mine clearance'. The fact that few villagers are actually employed by organizations sometimes leads to disparaging remarks by villagers about the staff of mine-clearance organizations. They are seen to be lazy, and it is argued that, since they are being paid to clear, it is in their interest to clear slowly. 'HALO Spade', perhaps discouraged by his dealings with the local authorities, remarked that he thought the organizations recruited people on the basis that those recruited could afford to pay for their position rather than that they had the skills required to clear mines.

Over the course of time during which mine action interventions may come and go, villagers continue to address the mine problem in habitual ways. Village deminers often resume their work after an organization has left the village, and frequently they continue to remove mines found by other villagers. However, in some places the encounter with professional mine action inspires villagers to speculate on how they can deal with the mine problem in a more comprehensive way on their own. Villagers may internalize the messages and ideas of the mine action practitioners, but they may also formulate their own ideas and solutions, which are not necessarily in line with the objectives of mine action. This can happen as a result of having encountered mine action activities but not having received the anticipated benefits of clearance. Misunderstandings and inability to meet the needs of all the villagers has sometimes resulted in a loss of confidence and an undermining of the credibility of mine action interventions in the eyes of some of the villagers. However, in villages where mine action has yet to arrive, there may also be evidence or talk of village-level strategies to counter the mine problem.

The solution that some village authorities and village deminers propose to this dilemma is for village deminers to take on village clearance tasks. What is required, according to many villagers, is simply more equipment. A village chief in Banteay Mean Chey province outlined his ideas: 'I would like to see the villagers continuing demining if the NGOs and the government could support them through the provision of five or more metal detectors. I would set up a group of villagers to clear all the land, and I would collect money from the other villagers to support these deminers. The villagers work faster than the organizations, and they have more incentive, as it is their own land.' Another village chief explained, 'If we clear our own land, we would not need payment, just the equipment and training. If we had machines, we could set up a group of villagers to clear the mines, and if there was an accident the group would be responsible by themselves to support the injured. They would not accuse anyone. Mine-clearance agencies have a small team, and they need to clear mines in many parts of the country.'

This was a view that was endorsed by many village chiefs and village deminers during the HIB study, and interestingly it was the solution adopted by the village deminers in Psa Prum Dein village in Pailin, who decided to organize themselves to clear land for a new village. Again, the perception of difference between the organizations and the village deminers is not seen in terms of knowledge and skills, but in terms of materials

and motivations. In fact, the superior skills of the village deminers – in terms of knowing where mined areas are located in the village vicinity and the problems mines cause for the villagers – is often cited as a further reason why such an idea would work. However, in reality, as we have seen in Chapter One, such organized village clearance often fails to materialize because of concerns about safety and compensation, the need to meet everyday food requirements, and because villagers are unable to gain access to metal detectors. In Psa Prum Dein village, the villagers had begun their work without the use of metal detectors, but had put together money collected from the other villagers to buy three devices. However, these detectors were second-hand and inferior in quality to those used by professional demining teams, something that was quickly pointed out by the mine action professionals during their meeting with the villagers.

The response of villagers to mine action cannot be neatly categorized as resistance or acquiescence. Rather, it involves a complexity of interests, motivations and attitudes driven by individual needs. Villagers do not perceive themselves as 'victims', but they understand only too well their vulnerabilities. Their existence depends on their own ability to meet everyday needs, and the capabilities they draw on to meet these needs become their defence against their own vulnerability. Mine action intervention poses an alternative to local self-help. It represents the provision of materials and assistance from outside the village and is an attractive option for villagers who have been running the gauntlet of mine clearance themselves. However, the capacities of mine action are limited, and so the question has to be raised as to how mine action interventions, steeped in Western concepts of safety and technical expertise, are successful, and how they can complement villagers' own efforts at meeting livelihood needs.

Increasing Vulnerability?

The arrival of professional deminers in Cambodian villages has highlighted the meeting of two very different worldviews: that of the villagers, whose main motivation for mine clearance is economic survival, where risk is relative, and that of the Western, scientific view of mine clearance, where safety and the elimination of risk has become the overriding concern.[15] As we have seen, in the institutional context of mine action,

[15] The denominator common to most definitions of the mine problem is that of 'risk' or 'safety.' Interventions are justified through the need to reduce the risks faced by populations living in a mine-affected area. However, it is useful to consider risk management in terms of 'absolute risk' and 'relative risk'. Absolute risk is the extreme definition, whereby mines are seen to pose the ultimate and overall threat to mine-affected populations. Absolute risk perhaps describes best the way the mine problem is perceived by mine action. The management of that risk is considered to be the total removal of the threat. Relative risk describes a more pragmatic approach to risk management, whereby the risk engendered by a mined environment has to be seen in the context of other factors that also involve elements of risk. For villagers living in mined areas, the risk of injury by mines is one factor in everyday living that has to be seen in the context of a subsistence lifestyle, where risk is prevalent. Clearing mines, for example, is thus a risk that is undertaken in order to mitigate the risk of not being able to meet food-security needs. This idea will be discussed in more detail in the following chapter.

the assimilation of facts and generalizations tends to predominate and justify the need for intervention. This is not to say that mine action practitioners do not understand or appreciate diversity, but that 'the understanding of diversity that individuals have consistently dissolves in favour of a more convenient institutional *lingua franca*' (Pigg, 1992: 504), one that is more attuned to the interests of an international audience. What is interesting is that the acceptance of the authority of these dominant narratives is ambiguous at the village level. Although villagers can frequently reiterate concerns about safety and risk, their own perceptions of the mine action intervention derive more from their awareness of social difference and from concerns engendered by their precarious living conditions. Villagers take on board some of the messages of the dominant narratives, they compare their own work with that of demining platoons, but, despite this, they continue to clear mines if there is still a need.

The encounter between the international mine action vision and the locally grounded view does not lead us to an easy solution to how to understand and address village mine-clearance activities. Humanitarian mine-clearance operators in Cambodia admit that current clearance is unable to respond to the needs of all of the people living in mine-contaminated areas. This is a problem that is not unique to Cambodia, and Brown (1999) has argued that if the clearance methods and rates of humanitarian mine action remain unchanged, resources will continue to be inadequate compared to the scale of the problem. It would seem reasonable therefore, to argue that village deminers fill an essential role in village life by being able to clear their own land, by clearing land along public paths and tracks, and by assisting other villagers by removing mines when requested to do so. However, a formal recognition by mine action organizations that village deminers are in fact an integral and proactive component of development in rural Cambodia has huge ethical implications. To encourage village deminers in their work entails a risk of being accused by the international community of endorsing an activity that places villagers in a position of unacceptable physical risk, hence the perpetuation of the authoritative discourse on technical expertise. The paradox of this situation, of course, is that, with or without the endorsement of mine action, villagers will continue to clear mines if they still require access to land and resources.

For mine action to enforce a halt to village demining activities also raises ethical questions. In her book *Do No Harm*, Mary B. Anderson (1996) examined the harm that humanitarian agencies intervening in situations of conflict can bring about by ignoring local-level capabilities. In terms of the mine action intervention, the attempt to respond to this issue encounters an unprecedented complexity. Harm can be mitigated at one level by prohibiting villagers from clearing mines, but at another level harm is engendered by disallowing local-level strategies for coping with a mined environment. Village deminers do help to reduce risk, either for their families or for the wider community, by clearing mines in their vicinity, however crude and sporadic their approach. At the same time, the risk that they take in mine clearance is balanced against the risk of not being able to access resources or land and provide for household food-security needs.

Mine action frees up scarce resources for vulnerable people living in mine-contaminated areas, but it also affords exclusions. Choices are made as to what land is cleared and where, and as to who the beneficiaries will be. The dominant narratives of mine action – which encourage villagers to abandon activities categorized as high-risk and to await clearance by demining platoons – effectively deny expertise at the village level and restrict local-level coping strategies. [16] If the capacity of the mine action sector in Cambodia was such that it could meet all of the needs of all of the people living in mine-affected areas, then this perhaps would be acceptable. However, with the current capacity of mine action, the authoritative approach is ultimately encouraging a dependency on an outside intervention that is unable to meet the demand. This in itself raises questions of vulnerability. Anderson & Woodrow (1989: 11) have suggested that the concept of needs be replaced with vulnerabilities, defined as 'the long term factors which affect the ability of a community to respond to events or which make them susceptible to calamities'. The meeting of basic needs, the argument goes, does not address the longer-term vulnerabilities of people. Vulnerabilities can only be addressed through the promotion and encouragement of local-level capabilities and strengths, an approach that is beginning to be endorsed by mine action in other areas of intervention. However, in terms of village mine-clearance activities, it appears that it is simply not tenable for mine action to support, or even acknowledge, these local-level capabilities. As a result, village deminers and professional deminers continue to coexist in an uneasy relationship that is pervaded by contradictory and conflicting opinions.

In the following chapter, we will examine some of these issues concerning risk, needs and vulnerabilities in more detail in an attempt to analyse and tease out possible solutions for the current stalemate between village deminers and professional mine action practitioners. What will be argued is that, for mine action to be able to address the issues surrounding village demining effectively, there needs to be a more pragmatic approach. This will involve challenging existing preconceptions about what is possible and desirable, and it will require a greater understanding of the cultural divide between the international worldview and the local-level view. As Hastrup & Elsass (1990: 306) suggest, 'the main question, therefore, is not whether culture and development conflict, but how they can be combined to the satisfaction of a particular people'.

[16] The 1999 domestic law to prohibit the use of anti-personnel mines provides for criminal penalties, including fines and imprisonment for offences committed (ICBL, 2000: 381). For village deminers aware of this law, this law has placed their local demining efforts in jeopardy, as they fear that if they are found clearing mines they will be fined or sent to prison. The law has filtered down to the village level in some areas by word of mouth through commune and village authorities, or through information passed on by mine action organizations.

Chapter 4

CROSSING THE DIVIDE

THE DIVIDE BETWEEN VILLAGE DEMINERS and mine action practitioners is one that has been largely forged through the promotion of 'mono-values' applied to diverse local contexts with different values and beliefs. The chasm has been perpetuated to a certain extent through the use of simplified explanatory narratives to justify interventions, which in many instances have overridden local-level capabilities and knowledge. This has led to a situation where, despite the many accomplishments of professional mine action, gaps and prior bias have emerged as the intervention meets the local level. Local expectations are not always met, and the dominant narratives often contest and contradict local interpretations and actions.

To suggest that there is a straightforward answer or solution to the issue of mine clearance by villagers is unrealistic, and to suggest that the solution lies only in the hands of the outsiders would be both narrow and misguided. Already we have seen that individual recipients at the village level have proved inventive and flexible in their responses to the mine/UXO problem and to the mine action intervention. Mine action practitioners have also demonstrated the ability to take on board lessons about the inadequacies of existing approaches and to strive for an approach that is better suited to the situations in which they are working. This suggests that the two perspectives can be bridged to the extent that some of the gaps can be closed, some of the biases can be overcome, and the interventions themselves can become more responsive to the needs of the mine-affected communities. What will be proposed in this chapter is that analysis of the dialectics between village deminers and mine action practitioners indicates that there are lessons to be learned, lessons that can provide a spur to rethinking some of the processes, approaches and concepts of mine action.

Mine action organizations have perhaps become overdependent on the supplication of villagers to justify their presence and to affirm their value to the community. Even when practitioners may be aware that what is happening in the field is not ideal, interventions are often continued in the same way under the pretext that it is the safest and most efficient way of organizing them. Needs related to the mine problem are frequently redefined by both villagers and practitioners at levels that can be supported by mine action, and as a result villagers become more dependent on mine action. However, Bullpitt (2000: 2) has argued that it is unlikely that mine-clearance operations in Cambodia will continue at the same rate. He suggests that the current capacity will be maintained for the next five to ten years, followed by a reduced capacity that will remain to deal with smaller or lower-priority tasks. This scenario suggests that some villagers

will continue to have a very long wait for mine action, while others may never see it at all. Local populations will continue to have to live with this particular legacy of war and the risks it entails. If mine action is really going to do justice to its humanitarian mandate, these facts suggest that mine action needs to review its existing approach and to consider ways in which a more adaptable and sustainable response can be tailored to the needs of these communities.

There is perhaps a need for mine action to strike more of a balance between the exigency to accommodate safety and quality-assurance concerns and the need to understand and address the vulnerabilities that lead to high-risk activities. Examination of notions of *risk* and *vulnerability* implies that a paradigm shift is required, which will open up new avenues for exploration while building on what has already been achieved to date. The following pages will begin by examining *risk* and *vulnerability* in the context of mine action and the communities living in mined areas, and it will be suggested that the focus of mine action needs to shift to consider the underlying *vulnerabilities* that lead people to undertake high-risk activities. Following on from this analysis, recommendations will be presented as to how mine action could improve its response for mine-affected communities. Communities, and individuals within those communities, need to be included to a greater extent within the mine action process, so that mine action can begin to offer a more responsive, diverse, community-oriented service, rather than simply provide a blanket solution that is covering up the gaps and contradictions. Village deminers can help mine action practitioners understand both the strengths and capabilities of particular communities, while also indicating the vulnerabilities. A focus on the *vulnerabilities* faced by communities living in mine-affected areas highlights the limitations imposed by the current mine action approach, which in turn suggests that there is a need for the sector to become more adaptable and flexible. What will be suggested in this chapter is not an ultimate response to the questions raised by village demining, but rather some tentative thoughts as to how mine action could achieve greater understanding, compatibility and responsiveness.

Reviewing Perceptions of Risk

Landmines cause horrific injuries. The execrable nature of landmine injuries on unsuspecting victims has been key in the political mobilization of the ban on landmines, and has continued to drive humanitarian mine action organizations to strive for a goal of minimum risk. *Risk* is a key term within the domain of mine action, where it refers to the specific actions that put people at risk of being injured and killed by landmines. *Risk* is deemed to be something that should be limited so far as is humanly possible, and safety is a central factor in the process and planning of mine action (Paterson, 2000: 29). For *risk* to be reduced, exposure to mines must be minimized. For clearance platoons, this is achieved through stringent safety measures and operating procedures, which detail the manner in which specific mine-clearance operations are conducted, helping to ensure that professional deminers are exposed to the minimum amount of

risk despite the dangerous nature of their work. For villagers living in mine-contaminated areas, mine action attempts to reduce and mitigate *risk* through the process of clearance, through the marking of land awaiting clearance and through mine-risk education to alert populations to the danger of mines.

A closer analysis of perceptions of *risk* can begin to question the applicability of the 'universal' safety standards of mine clearance in rural areas where a life-threatening scarcity of resources remains a continual concern for a large majority of the population. Perceptions of what merits as a *risk* can vary between different cultural settings, as well as between different communities or individuals within the same setting, and for one group to impose their perception of *risk* on another can be inappropriate, counterproductive and have greater potential for harm. We have established that *risk* for mine action is perceived largely in terms of the primary and visible effects of landmines, that is, the injuries that they cause. Risk elimination prevails as the strategy of choice by mine action, but at times there is an obvious disjunction between the approach of mine action practitioners towards dealing with the perceived risk and the approach and perceptions of their 'beneficiaries.'

In view of these aims to minimize the risk of exposure to landmines, the activities of village deminers are untenable for mine action, and this uneasiness has underscored many of its assumptions, attitudes and actions taken to address the issue of village demining in the past. However, for village deminers, the problem of landmines has to be seen as only one part of the sum of problems and hardships faced on a daily basis. For villagers, the danger posed by landmines is very real, and many mine victims in the Cambodian countryside can testify to this. Mines can cause enormous social, economic and psychological stress, and even simple activities such as fetching water, collecting fuel wood or going to the toilet can become complicated and stressful (Powell, 2001: 34). However, the risk of sustaining a mine injury may be relative to other fears, such as disease, malnutrition, eviction and land insecurity, and each villager has to consider the expected gains of a certain activity against the possible risk and loss. As Eade (1998: 166) explains, 'for people who are living in poverty and on the margins of society, the difference between normal life and what outsiders define as a crisis may be marginal. Poverty and exclusion are themselves a kind of chronic emergency.'[1]

[1] The simplest way to equate perceptions of the risk entailed with living in a mined environment is to consider a comparable scenario. Crossing a road may be seen as a high-risk activity in which the costs have to be weighed against the benefits. Each time we cross a road, an element of risk is involved, although this is balanced by the knowledge that, if we do not cross the road, we will not be able to carry out our daily activities. The level of risk involved in crossing a road may vary from place to place depending, for example, on the volume of traffic, the width of the road and the availability of pedestrian crossings. The perceived risk may also vary from person to person. A young, agile person may be able to cross the road more quickly and with less consideration of the risk involved than an older or a disabled person, or a foreigner who is unused to the direction in which the traffic is travelling. To try to mitigate risk, we may practise basic road-safety behaviour or use pedestrian crossings, but normally the need to get to the other side of the road is greater than not crossing the road at all. Interestingly, road accidents in Cambodia are quickly becoming a major cause of disability and death. Data from the System d'Information Medicale at Calmette hospital in Phnom Penh records that during the year 2000, 2,113 patients (17% of the total number of patients)

This 'balancing' or managing of the different risks faced by poor, marginalized families can be illustrated through the case of 11 families living near a railway line in Stung Bot village, Banteay Mean Chey province. The families are among many IDPs or returnees who left their homeland during the long civil war, joining the resistance forces, settling in Site 2 on the Thailand–Cambodia border, or both. Following repatriation in the early 1990s, many of the families congregated in Poipet town. Most of the families took 'Option C' in the repatriation programme, which meant that they were provided with a monetary settlement rather than land (Eastmond & Öjendal, 1999). By keeping close to the border, many families felt safer in that they had a quick escape route back to Thailand if fighting were to break out again. Others were unable to return to settle in the areas in which they lived prior to departure, having been away too long and having lost their land to others. The perceived trading or labouring opportunities along the border are also a factor that has continued to pull people to the area over the years. At the time the families arrived, Poipet was a small market town, and the old village area where they settled was covered in forest and heavily mined. The families had to clear the land before they settled. A mine-clearance organization came to clear the village land in 1994–95, but continued Khmer Rouge activity meant that more mines were laid in the areas that had been cleared. However, as peace and stability returned to Cambodia, the border reopened and the town of Poipet began to boom economically. The accompanying spate of urban construction and demand for land soon engulfed the village area where the families had settled. In 1996, a senior military commander laid claim to the land, and the people were forced to move. Some of the villagers claim that they were coerced into paying money to the commander and that they were threatened.

Eleven of the evicted families came to live in a section of Stung Bot village on land near the railway line, which was provided by the village chief. The area had been a frontline between the government troops and the Khmer Rouge, and when the villagers arrived the land was covered in dense undergrowth and heavily mined. The families began to clear the land for housing. The villagers have now cleared their housing plots, and some have small vegetable gardens. Over half of the population continues to rely on labour work in Thailand, although work is not always available and Cambodian labourers sometimes find themselves subjected to harassment, abuse or imprisonment at the hands of the Thai police. When the border is closed or work is unavailable, the families rely on collecting thatch and firewood to sell. An organization cleared mines from a road and a schoolyard at the other end of the village, but has not cleared the area where the villagers are living because the ownership of the land is contested. The village chief explained, 'I don't know who the landowner is, but the villagers have already built their houses. I requested for mine clearance, but we were told that the land belonged to someone else and so they couldn't clear. The villagers

were admitted to the hospital after road accidents, and 85% of the injuries suffered could lead to disabilities (Goodge, Heng & Weichert, 2001: 5–6). By way of an approximate comparison, the total of mine/UXO casualties for Cambodia, as recorded by CMVIS for the same year, was 811 casualties (CMVIS, 2001).

have lived here since 1997. If the land had been abandoned for three years, they would have no ownership rights, but they have been living here for three years. I will go to the court for these villagers to request they can keep the land.' Already, fencing posts have been erected on land facing the houses built by the villagers, and the families are waiting apprehensively to see if they will be moved from their land again.

For the villagers living near the railway line in Stung Bot village, the risk taken to clear mines from the land is continually balanced against their need to be able to settle on land and provide for their everyday livelihood needs. As former refugees or IDPs, they lack possessions and secure tenure over land. They are largely defenceless against the whims of powerful landowners, and their ability to meet daily food needs is dependent on the availability of labouring work in Thailand or on their own efforts to clear mines from land for small-scale cultivation. Clearing mines from small patches of land for their housing and vegetable plots has been the only way that they have been able to lay any sort of claim to land they can call their own. However, their claim is a fragile one. Despite having lived in their current place for three years, they have been unable to secure title to their land and are once again facing imminent eviction.

What this case study suggests is that the main reason people undertake high-risk activities such as mine clearance is because of underlying vulnerabilities. Vulnerability has been described as the 'lack of buffers' villagers have to respond to difficult situations (SCVCS, 2000d: 1). If villagers lack 'buffers' – skills, land, assets and good health, for example – then they are more predisposed to harm. Vulnerability tends to be the driving force behind villagers embarking on high-risk activities, and some villagers are more susceptible to vulnerability than others, depending upon their ability to access resources, their poverty level and their own capacities. Within a given set of people, susceptibility to vulnerability may vary according to factors such as gender, age, wealth and class. The more vulnerable a community, household or individual, the more likely is it that high-risk activities will be undertaken to meet livelihood needs. Villagers who do not have the resources or the means to sustain themselves will be forced, through economic necessity, to enter mined areas or to perform mine clearance themselves. Vulnerability therefore focuses on how susceptible a person may be to dangerous situations, whether these involve the risk of stepping on a landmine or the risk of not being able to meet food requirements because of living in a mined environment. It is these scenarios of risk that have to be confronted by many villagers whose vulnerability allows few, if any, alternative options. For their part, village deminers, who have the courage and ability to clear mines, attempt to address their own longer-term vulnerability through the provision of land or access to resources by undertaking a high-risk activity in the shorter term.

Any entrance by outsiders into the complex web of village life risks upsetting the balance and leaving villagers more vulnerable than before. What we have to consider with the mine action intervention is whether it is succeeding in reducing both the *risk* posed by the hazard of mines and the *vulnerabilities* of the people, or whether by addressing the *risk* it is unintentionally perpetuating the *vulnerabilities*. Mine action rightly recognizes that exposure to mines means that there is a greater likelihood of injury or death,

which in turn inevitably leads to greater vulnerability for rural households. The very fact that village deminers deliberately enter mined areas puts them in situations of greater risk where, if an accident or fatality were to occur, it would drastically increase their household or individual vulnerability. However, because mine action focuses so heavily on the isolated *absolute risk* of landmines as a hazard, it tends to neglect the *relative risks,* which are related to the social and economic vulnerability of communities living in mine-contaminated areas. In other words, if mine action marks land as contaminated, it is dealing directly with the *absolute risk* of mines as a hazard and is effectively isolating the population from that risk. However, if the villagers need to access the resources in that area to meet their livelihood needs, they will continue to take risks by entering the mined area to mitigate the risk of being unable to provide for their food-security needs.

In the same way, the response of the mine action sector to the work of village deminers has been largely authoritarian. By criminalizing or halting the activities of village deminers because of their high-risk nature in terms of exposure to mines, mine action may effectively be depriving individuals or households of an important strategy for meeting food-security needs. Implying that village deminers are somehow incompetent or irresponsible may also erode villagers' confidence in their own capabilities and encourage dependence on outside interventions. If the complexity of the mine problem in any particular locality is depoliticized and presented as a technical issue, local-level vulnerabilities can often increase as a result of the failure to take account of the broader political, social and economic context. As a deputy village chief in the border area of O'Chrou district in Banteay Mean Chey explained, 'Now, with all the laws banning people from cutting down trees and clearing mines, it makes it very difficult for people to live. They have to rely on labouring [in Thailand]. But when the Thai border closes, what can people do?'

The stringent clearance standards and operating procedures of mine action contribute to making the process of clearance painstakingly slow. The promise that mine action will clear village land often does not materialize, or it takes a considerable waiting time and then fails to meet the needs of all the villagers. For rural villagers, life is a day-to-day proposition, and to simply warn villagers of the problem and request them to wait for clearance is unreasonable and demonstrates a misunderstanding of the nature of the problems they face. Even in areas where mine clearance has occurred, we cannot assume that communities are no longer vulnerable to the risk posed by mines. The risk of mines as a hazard may have been reduced in the immediate proximity of the village, but the vulnerabilities that often lead to high-risk activities may remain. Sections of the community may still be forced to venture further afield than the cleared areas in order to support their livelihoods. An evaluation of mine action projects carried out in Cambodia in July 2000 found that, despite high concentrations of mine clearance, minefield marking and mine-risk education interventions in some affected areas, no correlation could be made between accident rates and mine action operations (Horwood & Crossland, 2000: 16). This again implies that even when mine action works to reduce the *absolute risk* of mines, the underlying vulnerabilities and

the accompanying range of risks resulting from these vulnerabilities may still force villagers to enter mined areas.

The probability of an injury or fatality happening stems both from the physical hazard of landmines and from the degree to which people are susceptible and vulnerable to being affected by that hazard. There is a need for mine action to consider and address both. The focus perhaps has to shift from the *absolute risk* of being killed or injured by mines to a consideration of vulnerabilities, on the premise that if assistance is provided with regard to the latter, the former will decrease as a result. A key to achieving the breakthrough lies in recognizing the different perspectives of *risk* and placing a heavier emphasis on the *vulnerabilities and other risk factors* that force people into entering high-risk areas in the first place. Admittedly, the ethical choice to divert the focus away from *absolute risk* to vulnerability is difficult for mine action, but perhaps the decision is best taken on the grounds that the villagers who are forced to live with landmines on a daily basis are the ones who know best. This implies a more comprehensive focus on vulnerabilities in tandem with risk. These are issues that we will go on to discuss in terms of the lessons that have been drawn from the work, attitudes, beliefs and perceptions of village deminers. A stress on vulnerabilities suggests that mine action should be looking towards involving communities to a greater extent in mine action decisionmaking processes, and at becoming more closely integrated with other development agencies and institutions outside mine action to help provide a more comprehensive approach. It suggests that, for mine clearance, consideration is needed as to how the focus on the absolute risk of mines can be balanced by strategies that enable more land and resources to be freed up for villagers, so that the need for them to knowingly enter high-risk areas is reduced.

The Training Question

As we have seen, the 'solution' most commonly proposed by advocates of village deminers in Cambodia has been to provide training. As Crewe & Harrison (1998: 132) point out, 'Gaps in knowledge, it is assumed, may be overcome with efforts such as extension, technical assistance and training.' Not only does this solution directly and specifically confront the perceived problem of village deminers, but it is also a solution that can be carried out directly by mine action and result in tangible outcomes. Theoretically, trained village deminers would be a relatively low-cost solution for mine action, given that they could receive a token salary, if any, and would be able to remain in their communities while working, thus avoiding expensive accommodation and transportation costs.[2] In theory, such an approach would enable villagers to clear

[2] A rapid internal assessment of Afghan volunteers working as mine-awareness trainers under HIB's Community Based Mine Awareness Programme in Afghanistan (carried out by HIB in 2000) showed that the vast majority of volunteers would not be prepared to participate in volunteer mine-clearance operations without compensation for their time at least equal to that of professional deminers. That they were prepared to undertake mine awareness without compensation was a reflection of the relative flexibility with which they could approach the work: in their own

land that otherwise might not be cleared by mine-clearance organizations, thus being relatively complementary, in addition to providing a constant presence within villages to help out in case of emergencies. Trained village deminers could help speed up the demining effort and increase its coverage. In terms of benefits for the village, it could also be assumed that village deminers would have additional incentives for carrying out this work, as they would be able to clear their own land in addition to other community land. Benefits would accrue to the local populations in that some village members would be employed as deminers, thus bringing income into the village economy, in addition to assisting with the clearance of mines in the vicinity. However, the idea of training village deminers in Cambodia has, to date, not reached beyond the planning table. The major demining agencies active in Cambodia have been opposed to the formal facilitation of village demining because they believe it cannot be made acceptably safe under any conditions. In other countries where it has been tried, it has also proved to be less of an ideal, and concerns about safety and supervision continue to plague such initiatives.[3]

Training narrows the question of village demining down to considerations of expertise, and, as we saw in the previous chapter, the premise for training villagers has been largely a result of mine action professionals distinguishing between their own working standards and those of village deminers. The training appears to have been conceived from a 'teaching' point of view, glossing over existing skills and capabilities, which not only discredits local expertise but may also prove detrimental in tackling problems of bad practice. Given that in most countries demining agencies tend to give no more than four to six weeks of training (Smith, 1998b; Eaton, Horwood & Niland, 1997: 58), this suggests that the actual techniques of demining can be learned relatively quickly. However, the key to ongoing safety of operations depends very much on the continued close monitoring and supervision of demining activities. Training is based on the premise that villagers will have access to a certain amount of equipment and that mine action professionals can closely monitor their work. This is where the real crunch lies in terms of considering the appropriateness of this as a solution. An opera-

time and usually in close proximity to where they lived or worked (Reuben McCarthy, personal communication).

[3] In Mozambique in the late 1990s, the HALO Trust developed a technique for road clearance called Labour Intensive Road Verification (LIRV), which involved the daily employment of about 50 locals to excavate roads that were possibly mined. The local people were completely untrained in mine clearance, but the roads were selected when, in HALO's judgement, the danger of finding a mine was minimal. Each local labourer was paid on a daily basis according to the number of strips cleared. Croll (1998: 139) praised the programme, as the roads were being cleared thoroughly and relatively rapidly, and money was pumped into the local economy through the wages of the labourers. However, LIRV was also quite widely criticized owing to the fact that it was reliant on subjective judgement in deeming roads low-risk, and a lot of pressure was placed on the reliability of the team leader or supervisor. As Boulden & Edmonds (1999: 93) reported, 'Due to these questions about LIRV and the general lack of first-hand information for many about the technique, reports circulate that accidents have occurred on LIRV-cleared roads, and that HALO refuses to allow outside verification of the programme's efficacy.' For further case studies and analysis of the integration of local capacities in humanitarian mine action, see Skåra (forthcoming).

tion involving groups of village deminers would be difficult to monitor in the field, as CMAC rightly pointed out when it rejected the idea of establishing training courses for village deminers (Curry, 1994). Despite the savings that could be made on salaries, the actual training process and monitoring system that would be required later would perhaps be no cheaper to implement than the current teams of professional deminers.

Formal training tends to ignore the complexity of the wider situation in which both villagers and mine action practitioners are operating, reducing the issue to one of technical expertise and a cost–benefit analysis. This essentially lifts the discussion out of the context of the village. Many villagers who are clearing mines are farmers, and to remove them from this activity would not be a long-term solution. Several villagers interviewed during Houliat's (1993b) research and the HIB study confessed that although they would like to attend training and learn more, they felt they would not have the time to do so. A village deminer in Pailin exclaimed, 'I do not want to improve my mine clearance, nor attend a training course, but I want the organization to clear the mines in the village. If I attend a training course on mine clearance, my family will die of hunger.' Village deminers tend to look on mine clearance as a sporadic, self-help activity, and although the ideal of working for a mine-clearance organization is sometimes raised, it is unlikely that it would be an option they would choose over their farm and land. Training proposals also tend to fit somewhat uncomfortably with the knowledge that most village deminers are clearing land for their own individual purposes. This suggests that, even with support from outside, there would be problems in terms of liability if village deminers were to clear for others. As a village chief in Banteay Mean Chey explained, 'I only clear my own field. Other villagers do not ask me to clear, and I do not want to work for others, as what would happen if I were injured?'

It could be argued that training, on the one hand, reduces risk by allowing the villagers to become more proficient at mine clearance, but on the other hand increases risk through encouraging, hence expanding, the exposure village deminers have to mines. However, training tends to ignore the issue of underlying vulnerabilities, and in fact such a solution could be seen to increase vulnerabilities, in that it would take villagers away from their normal work and so would increase their dependency on mine action organizations. Ultimately, the mine problem is finite, although in most countries pockets of problems will continue to exist after the agencies have withdrawn. To train village deminers could put an emphasis on making them a part of the professional organizations, to some extent taking them out of their own environments and placing them in a position that is relatively dependent on the organizations concerned. As with the training of indigenous mine action professionals generally, this would raise questions about the creation of unsustainable capacity when the agencies withdraw.

The promotion of 'safer practice', perhaps through mine-risk education sessions or informal discussions with village deminers, or through demonstrations by professional deminers working in the field, would perhaps be a viable alternative. This would fit better within the context of what the villagers are doing, and it would not take them out of their village and away from meeting their daily livelihood needs. The fact that

village deminers have in some cases already attempted to adopt safer behaviour through their contact with the organizations suggests that they would be responsive if such ideas were promoted further. The dangers that they face by working in mined areas are, in the majority of cases, apparent and well understood. Where improvement could be made is on topics such as safety drills for extracting themselves and others from mined areas, safer practice during actual mine clearance and instruction in first aid practice. The provision of basic safety equipment, for example goggles or visors, might also help to reduce the severity of injuries when they occur.

The argument that counters this proposal is that educating villagers on safer practice may encourage them to undertake demining activities when they would not otherwise have done so. However, unless training is linked to the setting up of formal structures, this does not appear to be a likely scenario. Village mine clearance is driven by the need to access resources, and villagers who do not consider themselves to be village deminers may also remove mines when they impede their livelihood activities. Most villagers will not clear mines if there is not a need for them to do so. The promotion of safer practice in terms of techniques of clearance, disposal and victim assistance would not encourage an increase in the numbers of village deminers, but would help to make the existing coping strategies of the villagers safer, in addition to building on their existing knowledge.

Involving Communities

The focus on risk and risk prevention has in many cases led to a fairly instructional approach in mine action activities, treating villagers as passive audiences. The assumption that village deminers are foolhardy, irresponsible people tends to have been a relatively common viewpoint throughout the mine action sector, and it has long been an underlying theme in the approach of mine-risk education for high-risk groups. Mine-risk education has continued to present the no-risk message that villagers should not touch mines, and videos or photographs of people who have been wounded by mines or UXO while practising high-risk activities are commonly shown as part of education sessions to drive home the message. Such images tend to give both negative and sensationalist portrayals of those who have already been injured, and perhaps intensify feelings of blame or guilt through this particular representation of misfortune. The economic and livelihood pressures that push people like the village deminers into undertaking risky activities appear to have been largely unacknowledged in mine-risk education.

The inability of mine-risk education to prevent high-risk behaviour driven by livelihood needs can perhaps be illustrated by a case study in Prei Chan village, the most remote village in the north of O'Beijoun commune, Banteay Mean Chey province. The village is literally surrounded by minefields as it sits on the K5 mine dyke close to the Thai border. Eighty hectares of land in and around the village are thought to be mine-contaminated, and none of the households cultivate land (Tapparat *et al.,* 1999).

The majority of families rely on work in Thailand. When the border is closed, they collect thatch and firewood to sell. A clearance organization had started operations in the village, and by late 2000 had cleared the road and a rectangle of ground for the school.

A village deminer, his wife and three young children live in the village. They have lived there for six years. They are returnees, and originally came from Siem Reap province, but were unable to return to their homeland as they had no land there. During the factional fighting in 1997, O'Beijoun commune was in the thick of the conflict, and the family had to flee again to Thailand, where they stayed for one year. When they returned to the village, only the house posts of their home remained. Their house is now a small, battered, bamboo-and-thatch shelter. Two faded mine-risk education posters adorn the outside walls of the house. The husband cleared the mines from their housing plot, and occasionally he would clear for other people. However, recently his eyes were injured while he was demining, and his sight is now impaired. He has had to stop demining and is now only able to collect firewood. For one cubic metre of firewood, he can earn 4,000 riel (approximately US$ 1.00), and in one day he can sometimes collect two cubic metres. Underneath the house are bundles of thatch, which the family collects to make into roofing materials to sell. The thatch can be sold in Cambodia at a price of 100 riel (US$ 0.02) per bundle, but if it is sold in Thailand they can get 200 riel (US$ 0.05). To collect both the thatch and the firewood, the family have to enter mine-contaminated areas.

We saw in Chapter Two that, as the situation of people in Cambodia has changed, there has been a growing realization within the mine action sector that mine-risk education needs to adapt and change too. Information-dissemination has been, and continues to be, effective in warning people who have little knowledge of the risk of mines, but it has a limited effect for those who continue taking risks despite being well aware of the dangers. The majority of people living in mine-affected areas in Cambodia today are not ignorant of the dangers of their environment. Mine-risk education has acknowledged this and, as Eaton, Horwood & Niland (1997: 56) argue, it has demonstrated a greater appreciation of the importance of engaging affected communities in activities that will change behaviour, rather than purely warning them of the risks.

Intentional risk-taking is often more nuanced and complex than simply being a result of irresponsibility, recklessness or feelings of invincibility. Individual attitudes and beliefs can lead to risk-taking, but more often than not such actions result from livelihood pressures, which in turn can be exacerbated by social, environmental, political or legal factors. This suggests that, in addition to focusing on behaviour change, mine-risk education also needs to encompass a focus on reducing risk through identifying the vulnerabilities that lead to high-risk activities. Rather than working as outsiders coming in to solve the behavioural problems of the locals, it is crucial to recognize that there are many sources of vulnerability to mines at the local level, and these interact in complex ways. It is often vulnerability that drives people to clear mines or to undertake other high-risk activities. When those vulnerabilities are reduced, people

can respond differently to knowledge and information. By reducing vulnerabilities, risk behaviour will inevitably change, as indicated by the village deminers who claimed that they would prefer not to clear mines if someone else could do it for them.

An encouraging development in mine action in Cambodia has been the move by organizations to transform traditional mine-risk education into an approach that is more community-oriented, beginning to acknowledge the importance of local-level knowledge and involvement. This move towards a more comprehensive and integrated approach is based on the premise that awareness and understanding work best when communities are actively involved. Both MAG and World Vision have moved towards these more integrated approaches, utilizing community resource people to mobilize and advocate at the community level. CMAC, with support from UNICEF and HIB, has also demonstrated its commitment to this type of approach through the establishment of the Community-Based Mine/UXO Risk Reduction (CBMRR) project. As Powell (2001: 6) states, 'Increasingly, mine awareness is being viewed as a process that encourages populations to become involved in defining the issues and responses rather than as an imposed solution.' Mine action is also beginning to acknowledge that taking risks with mines is not always due to ignorance or stupidity, or to a lack of knowledge, but that vulnerabilities often lie behind much apparent 'misguided' behaviour.

However, community involvement is not just limited to mine-risk education. As we saw in Chapter Two, the mine action sector in Cambodia is gradually opening up to allow representatives from the local level to become more involved in survey, marking and the prioritization process for mine clearance. The LUPU process, for example, actively involves different stakeholders from different levels within a province, and these participate in the planning and prioritization of the clearance of mined land. The CBMRR project of CMAC plays an important role in facilitating participatory activities at village level, with the aim of identifying contaminated areas considered high-risk in the view of the local people. The villagers can then prioritize these areas for clearance. The project also assists the villagers to develop action plans to address different aspects of their mine/UXO problem. Village-level representatives are elected by their communities to become the focal point for mine/UXO issues in their localities. Commune- and district-level representatives are also selected to ensure that the involvement and commitment continues through the different levels. In this way, the project aims at greater involvement of mine-affected communities in the mine action process, and recognizes that a two-way communication process is essential.[4] However, the move towards a more integrated, community-oriented style of working will require a considerable effort on the behalf of mine action practitioners if it is truly going to become effective.

[4] The CBMRR project is 'community-oriented' rather than 'community-based'. For a project to be truly community-based it has to have originated at the local level. However, the fact that the project recognizes the importance of local knowledge and the need for local people to be actively involved in addressing the mine/UXO problem in their locality is a crucial step forward in mine action thinking and implementation.

The way in which humanitarian mine action has been presented in the past has not always encouraged the participation of affected villages in identifying their problems and setting their priorities, or in defining how these priorities should be met. 'Participation' has been relatively cursory, and the extent of village involvement has often been reduced to answering questions on a socio-economic survey, providing labour to place permanent markers or attending mine-risk education presentations. Any village identification of priorities is still subject to processes of categorization and prioritization by people external to the village. Often priorities are based on criteria defined by the donor and the implementing organization rather than criteria defined by the people living with mines.

Mine action has also tended to work through the established hierarchies of leadership at the local level, and thus existing inequalities may be exacerbated and top-down decisionmaking structures reified and enhanced. Village chiefs, as government appointees, do not necessarily have solid knowledge of the local mine problem. They may also be influenced by political considerations or protocol rather than pure livelihood considerations. Village Development Committees (VDCs) in Cambodian villages are often not able to adequately identify or access the needs of vulnerable families in their villages, being better equipped to address community needs as a whole (Rao & Swift, 1998: 9).[5] Formal leaders tend to be men, and the majority of mine action personnel and technical staff are male. Thus, priorities are often defined by men with little consideration of the views or needs of women.

However, even some of these male leaders perceive that they are still held at arm's length from the decisionmaking processes of mine action. There appears to have been a lack of access to reliable information concerning mine action in villages, and this has undermined the capacity of villagers and village authorities to realize their options and to determine their own interests. Confusion exists among authorities at the village level as to how to contact agencies and what happens once an application form for clearance has been sent. Sometimes, when platoons of deminers are based in close proximity to the villages where they are working, this provides for greater contact, but often the impact is limited because most of the decisionmaking is centralized. In one commune in Banteay Mean Chey province, a mine-clearance organization was based on the road between several of its target villages. However, this did not appear to ease the understanding of the process of requesting assistance and how decisions were then made. A deputy village chief explained, 'Most of the village deminers have no choice. We requested for the organization to come and clear for us but they didn't. We have filled in the form three or four times now, but the organization has not yet replied. I am not sure if the forms we sent even got to the organization, as each time the organization comes back to the village they tell us to fill in the same form again and again. We are now fed up with filling in the form. If no one clears for us, we will clear by ourselves.'

There is a need to develop a more community-oriented approach to inform mine action. Such an approach should become the basis for mine action interventions so that it

[5] VDCs were established in the mid-1990s by the Provincial Department of Rural Development in collaboration with UNDP/CARERE, and were intended to serve as the focal point of development activities in Cambodian villages (Simmons & Bottomley, 2001: 30).

can be ensured that the needs of the people, as defined by themselves, are being met. Compared to other development interventions, mine action is a relative newcomer, its establishment within the international aid world occurring just over a decade ago. Initially dominated by a military approach to the problem, there has tended to be a lack of reflective critical analysis within the mine action sector as compared to other development interventions. However, it is becoming increasingly obvious, as demonstrated by the continued existence of village demining and the misunderstandings surrounding this high-risk activity, that the mine action sector needs to reflect on its current approach so as to move towards a better and more adaptable practice. In line with critiques of the work of development agencies, mine action needs to gain a better understanding of the local situation, so as to ensure that interventions make as positive a difference as possible in the lives of those living in contaminated areas. This in itself is a huge challenge. Development organizations, even those that have worked for many years with rural communities, are still constantly struggling to find the best way to achieve this. The mine action sector does need to take a more proactive role in learning lessons from community-development organizations working in the field, and to reflect on its own experience of working with local communities. The use of participatory approaches to define the mine/UXO problem at the village level and to inform interventions is a crucial part of this process.

There is no key to getting communities involved in the mine action process, but a start would be made when villagers begin to see that their knowledge is valued and useful to the process. In a way, mine action practitioners have to become more like community-development workers who, rather than providing technical and instructive information, take on more of a listening, responsive role. Community involvement, from village level upwards, can lead to a greater sense of collaboration in tackling the mine problem, among community members as well as between the community and mine action practitioners. Participatory approaches can help to ensure that the impact of mine contamination is understood from the points of view of as many different people in a mine-affected village as possible. Locals can help to identify the way in which mine contamination impacts differently on the livelihood activities of men and women, for example, and to identify those people in a village whose vulnerability leads them to undertake high-risk activities. They can assist in the understanding of how seasonal factors, population movements, and political, economic and social factors also affect the impact that mines and UXO have on a particular community at a particular time.[6] The mine action sector needs to improve its use of participatory ap-

[6] The use of participatory approaches for mine action in Cambodia is in its infancy. However, some documents outlining frameworks for participatory, community-oriented approaches for mine action have been developed in the last two years, based on research and implementation in the field. These include the Standing Operating Procedures for the CMAC CBMRR project, which provides guidelines for participatory activities as implemented by the CBMRR field staff with villagers in heavily mine-affected areas. Another comprehensive document is 'Community Landmine/UXO Awareness Education in Cambodia: A Guide to Using Participatory Approaches To Plan, Monitor and Evaluate Mine/UXO Risk Reduction Education', prepared by Bruce Powell for the Macfarlane Burnet Institute for Medical Research and Public Health (Powell, 2001).

proaches so that it can gain a more accurate, nuanced picture of the situation within mine-affected communities.

However, not only is it important to extract information from those who are affected by mines, but it is also important to provide information about mine action to them, showing them the opportunities, alternatives and constraints. This also implies a need to build on local-level capacities to deal with the mine problem. Mine action practitioners have tended to encourage a certain amount of dependency among mine-affected communities on the services that mine action can provide. However, as we have seen, the mine action sector in Cambodia simply does not have the resources and capacity to respond to the needs of mine-affected communities. It is crucial, therefore, that local capacity is also tapped into and strengthened so that villagers living in mine-affected areas are encouraged to take on more responsibility in dealing with aspects of the mine/UXO problems in their own locality. For example, village representatives can be trained to provide basic mine-risk education messages to other community members on an ongoing basis. Village authorities or other representatives can be encouraged to become focal points for mine/UXO information in their villages, taking responsibility for recording and reporting mines, for placing and maintaining mine warning signs, and for liaising with mine action representatives. Most importantly, participatory approaches should be increasingly employed to allow a broad spectrum of community members to decide on their clearance priorities. If community members at all levels can be drawn into consultative processes, they can also become advocates and catalysts for change within their communities.

Although usually a relatively small group within a village, village deminers have the potential to play an important part in the shift towards more community-based approaches. Village deminers, who up until now have been castigated by mine action agencies and the authorities for undertaking high-risk activities, could prove to be valuable resource people in their communities, and may be interested in participating in mine action activities because of their knowledge of the subject. Within the community, village deminers are the ones with perhaps the best knowledge as to where the minefields are located in and around the village, whose lands they affect and whose livelihoods are impeded. This is essential local knowledge that can be tapped into by mine action agencies working or intending to work in the area. Village deminers can assist with the identification of suspect areas or with prioritization in terms of mined areas that hamper village livelihoods and other general mine-related information. If they are demobilized soldiers who were previously based in the area, they can also provide additional information, such as the location of military bases, the types of ordnance present and the patterns of deployment. This would not only make the most of existing expertise, but would be a step towards a more collaborative and participatory relationship between mine action organizations and the villages in which they work. The current frustrations reported by some village deminers in terms of a lack of response by mine action agencies illustrates the need for greater collaboration and coordination within the sector with regard to the information that is being passed on at village level, but also as regards the resulting action. For instance, if village deminers

are told that they should hand mines over to mine action organizations, then those organizations should ensure that they have adequate systems in place for dealing with such requests for assistance.

For mine action, spending time in villages talking over problems can take time away from clearing mines from the ground, and it may not produce the immediate, tangible outcomes that can be reported to donors. The pressure to speed up implementation and to show results to donors can mitigate against productive consultation and participation with the communities. At the same time, the involvement of villagers, particularly the most vulnerable, may prove difficult to arrange when such people are involved in daily survival issues. However, although establishing community-oriented approaches can take time, in the longer term the impact will be more effective and sustainable. In the end, it will be up to mine action organizations to make their own decisions and decide where their priorities lie. New approaches will need serious rethinking on the part of mine action practitioners, as they are not only asking different things of the community, but they are also changing their own approach and self-awareness.

Considering Clearance and the Risk Question Again

The underlying rationale for the development of international standards and operating procedures for the different aspects of mine and UXO clearance is to maximize safety in what remains an inherently dangerous profession. The systematically high standards of clearance that humanitarian mine action strives for mean that clearance below these near-perfect standards is now deemed unacceptable. The only clearance method that can achieve anything close to this level is the painstakingly slow manual process. This of course affects the productivity of mine action, in terms of the amount of land that can be cleared and returned to the people. The balance between the amount of land returned to the people and the question of safety generally tends to tip in favour of the latter. As a result, humanitarian mine action is constrained in its mission to free up scarce resources, and the needs of the communities cannot always be met.

The way in which mine action has dealt with this constraint has been to prioritize clearance. As we saw in Chapter Two, site selection is usually initiated by requests from local authorities and organizations working in mine-contaminated areas. Prioritization is then decided in line with the criteria of the clearance organization, which in turn may be influenced by the priorities and considerations of donors or the host state, as well as other issues such as access, security and the level of impact. Assessment of the likely impact is important in view of the limited capacity of mine clearance, and common factors for prioritization include the number of beneficiaries, who they are, and what the land will be used for after clearance. Often, the land cleared by the organizations will be neutral community land, which can boast high numbers of beneficiaries and thus high impact. Generally, land prioritized for clearance is inhabited. Areas such as forest or grassland are usually deemed low in priority for the very reason that they are uninhabited areas, and notoriously difficult to access. However, the as-

sumption of the value of inhabited land over uninhabited land overlooks the fact that villagers often move beyond village boundaries to support their livelihoods, a reality that is given additional meaning when we consider that a relatively high number of accidents occur in forest areas.[7]

Clearance agencies also prefer to prioritize those areas of land where there is some assurance that the land will be used by the intended beneficiaries and for the stated purpose, a factor that has encouraged increasing collaboration with development organizations in the process. Professional mine clearance obviously helps to alleviate the mine problem in a village to a certain extent, but it does not provide for the main livelihood needs of individual families, nor respond to one-off requests for assistance. The work of village deminers can be seen both as complementary to the work of mine action in terms of the different land types cleared and as indicative of wider community needs. As a village chief in Thma Pouk district, Banteay Mean Chey province, explained, 'The priority for the villagers is now agricultural land. Where there are lowland fields for growing rice, there are anti-tank mines, and the people are afraid of them. It is very difficult for the villagers to clear there, as they can only clear the mines that they can see.'

The resulting scenario is complex. Mine clearance reduces the risk of mines on the areas of land selected for clearance to an extent where the residual risk is minimal. However, while high-quality clearance provides good-quality, safe land to use, the resources and time required to clear all mined areas to this level mean that vast areas will remain uncleared for many years. People in a village are free to use the land cleared by a mine-clearance organization with relative safety, but those very same villagers may also be forced to undertake high-risk activities by entering the remaining mined areas or carrying out village demining simply because their livelihood needs demand this. Again, there is no easy solution to this scenario, but considering perceptions of risk may again help shed light on possible options.

Mine clearance often tends to engender the belief that the process results in areas totally free of mines, but in reality there is always an element of residual risk. Brown (1999) has argued that although the goal of clearing to as near 100% as possible is understandable in emotional and moral terms, it is largely unsustainable in practical terms. Mine clearance does not totally eliminate the threat, but is a risk-management tool that reduces the risk of mines to acceptable levels. The high standards set by the organizations also raise the expectations of the villagers, expectations that are not always lived up to. As a village chief explained, 'The organization cleared mines in the plot for the new health centre, but when the villagers went to look [after clearance], they found some mines by the roots of the tree.'

Village deminers themselves, and the villagers living in areas where local mine clearance occurs, understand the concept of residual risk. As one village chief explained,

[7] Of recorded mine/UXO casualties for the period 1998–99, the largest number – 38% – occurred in forest terrain (McCarthy, 2000: 61). Incidents occurring in forests began to rise between August and December, the seasonal variation roughly corresponding to the period of time when villagers start to look for alternative sources of income during the dry season (McCarthy, 2000: 52).

'The land cleared by the villagers we estimate to be 80% safe. There is still the risk of mines left in the ground, as they have no metal detectors to find the mines laid deep in the soil.' For most village deminers, the fact that they have removed mines from land has ultimately reduced the overall risk on that land, despite the knowledge that some mines may remain. The risk is acknowledged and managed through careful cultivation practices in the first year or two of use. The lesson that perhaps needs to be learned from this is that risk needs to be viewed in more realistic terms. As Brown (1999) has suggested, 'the key to achieving the breakthrough lies in a risk management process with a more realistic, some might say pragmatic, approach to mine clearance using existing resources and technology'. Decisions need to be made as to whether it is deemed more beneficial for the villagers living in mine-contaminated areas to have clearance that is limited but thorough, or to have quicker and more expansive clearance but with a higher percentage of residual risk. By taking a more pragmatic view of risk, there are possibilities for more inventive clearance methods that could speed up the demining process and better provide for the needs of villagers.

Reinventing Mine Clearance

If a mine is suspected in an area, manual demining requires that detection be attempted over the entire area. In mechanized demining, prior detection is not required before destruction. As Schoeck (2000: 90) explains, 'In the case of manual demining, removal or destruction of a mine is always preceded by its detection and localization in the soil. It comprises the main part of the demining work and accounts for the major part of its cost. By contrast, with mechanized demining, mine detection as a separate time and cost consuming process is omitted because of the tools moving through the soil striking and fracturing the mine without previous identification of the mine.' Mechanical clearance is certainly quicker than manual clearance, but the standard of clearance is normally deemed to be lower, varying between 75 and 95% for different appliances under different conditions. The question for humanitarian demining is whether the rate of accidents in areas waiting to be cleared manually would compare with a rate in areas that have been cleared less thoroughly but more quickly by machines. Gasser & Thomas (2000: 63) argue that risk-assessment methods show clearly that rapid clearance of as few as 80% of the mines in an area could halve the casualty rates over the following 20 years compared with the current near perfect, but very slow method. They also point out that the large decrease in civilian casualties would perhaps be accompanied by a small increase in deminer casualties, an outcome that would be unacceptable to most clearance agencies. However, the use of mechanical methods does have the potential to increase clearance rates, and, as Brown (1999) suggests, any shortcomings could probably be overcome through strategies such as better management or more thoughtful selection and use of equipment.

The use of machinery in demining has been much debated, and critics have argued that valuable resources are consumed in the attempt to develop the ultimate demining

machine. Machines are often expensive, and the technology spent developing them usually far outweighs the benefits of their use. As Paterson (2000: 7) points out, 'field experience confirms that the search for the single, comprehensive machine that can respond in all contexts and against all threats is not only unrealistic, but may also delay innovation'. However, the utilization of modified industrial machines has in fact already proved to provide valuable support to demining programmes. Machines can be used for mine detection or destruction, or for preparing the ground for manual demining by cutting back vegetation and breaking up the soil. Relatively low-cost machinery has been adapted and is becoming more effective every year. As Paterson (2000: 7) explains, 'The machines that are making a direct impact on speed, efficiency and safety in mine clearance are mainly based on relatively simple agricultural or construction machines and adapted to suit mine clearance requirements.'

All of the clearance organizations in Cambodia have either field-tested machines or experimented with modified machines. Some machines have proved to be more appropriate than others. During 1999 and 2000, CMAC field-tested the German-manufactured Rhino demining machine in Battambang province. Paterson (2000: 128) conjectured, 'Deployment of the 55 metric ton Rhino will be a major obstacle, given that the roads are difficult for a Land Rover, the bridges are light capacity and in poor condition. The country is mostly hill or rice paddies, which are underwater, and separated by intricate and fragile dike systems that will collapse at the approach of a 55 ton vehicle.' CMAC reported that the trials went well, although the machine did not always clear to consistent depth (sometimes over and sometimes under the normal demining requirements of 30cm), and it also threw mines into previously cleared areas (CMAC, 2000: 23). There were also reports that the machine did get stuck in the mud, although the general speed of demining was increased. But the prohibitive expense and limited availability of such sophisticated demining machines makes their use on a wide scale unfeasible and impractical for Cambodia for the time being. CMAC was certainly not able to purchase the Rhino, and it ceased operations after the trial.

The other, more suitable alternative is to use cheaper, commercial tractors, which can be modified for the job in the country where they are needed. The HALO Trust has been at the forefront of experimenting with this type of technology in Cambodia, and since 1996 has used machines for brush-cutting, survey and area reduction. Experiments are also being conducted on the practicality of sieving laterite soils to locate mines. HALO claims that their increased use of machines in combination with manual clearance 'resulted in a 100% increase in clearance rates during the first half of 1999 over the same period in 1998' (HALO Trust, 1999: 120). MAG Cambodia also utilizes several mine-clearance vehicles to assist its manual clearance teams. This includes the Pearson tractor, which, like the HALO machines, derives from adapted agricultural technology (MAG, 2003b).

Cutting back the vegetation before demining is a time-consuming task estimated to take a manual deminer in Cambodia up to 80% of his time (Paterson, 2000: 120). Machinery developed for brush-cutting can radically reduce the time spent by deminers on this task. Similarly, if successful, the sieving of highly metallic laterite soil could

reduce the time spent probing for every piece of metal a detector picks up. Area reduction of minefields is another area where machines can be deployed to a greater extent. Minefield detection in Cambodia is extremely difficult owing to the way in which the minefields tend to be random and haphazard, rather than well-laid out military minefields. What has tended to happen is that, once mines are located, the whole of the surrounding area is marked as suspect, resulting in large tracts of land effectively being marked out of bounds for communities for long periods of time. Area reduction by machines could help to release formerly suspected land back to communities. Some machines could perhaps also be used for clearance alone. Although clearance could not be deemed adequate by current international standards, it would help to reduce the risk taken by villagers clearing the mines manually. By being able to free up larger areas of land more quickly, villagers would have more land to utilize for growing crops, and would thus be less inclined to venture into higher-risk areas. The use of bulldozers to clear relatively large areas of land has also been a method reportedly used by local authorities in Pailin to free up land for development or settlement.[8]

An increase in the use of modified machines is perhaps one option for helping to speed up the demining process in Cambodia, particularly if used in combination with manual demining. However, certain land types would not be conducive to the effective utilization of machines. Villagers may already have settled on mined areas and begun to grow crops. Bulldozing their agricultural land because of one suspect mine is very likely not an option that they would choose. Often machines work best on level, easily accessible land, and so mechanized demining would still not be possible in many of the areas where villagers perhaps need mines cleared to access common property resources, along narrow paths, riverbanks or in forests, for instance. Manual demining thus could never be totally replaced by machines, but still there are more inventive ways of approaching manual demining that could offer noticeable benefits at the local level.

For village deminers, access to resources tends to be the priority over complete safety of land, and generally villagers clear mines that directly block their access to an area rather than spending time checking that the complete area of land is clear. By doing this, villagers are able to relatively quickly and easily remove 'nuisance' mines and continue with their daily activities. This is an approach that differs greatly from the traditional mine action approach, which relies heavily on large platoons of deminers who methodically clear every inch of large areas of land. CMAC still maintains 48 demining platoons deployed in six separate demining units in six provinces (CMAC: 2002: 18). However, ideas about the appropriate approach to manual clearance are beginning to change in the mine action world. Mine action practitioners in Cambodia have conjectured that in the longer term, when the landmine problem in Cambodia has been reduced, smaller, on-call response capabilities will be required rather than large

[8] In O'Cheu Krom village in Sala Krau district, Pailin, a bulldozer was used to clear the road in the past, and as a result soil has been pushed into large mounds at the side of the road. In the mounds of soil, there are mines at different depths and angles, making demining for the CMAC teams based there extremely hazardous.

platoons of deminers (Bullpitt, 2000: 34). The idea of an operational approach using smaller, more mobile demining teams is one that has already begun to hold sway in Cambodia and elsewhere.[9]

Large platoons tend to be based in permanent camps in their province of deployment and work to centralized plans, which are drawn up in advance. Demining by resource-heavy platoons requires careful consideration of cost-effectiveness, and logistically and administratively it is impossible for these platoons to carry out small-scale clearance tasks on an as-needed basis. In the mid-1990s, it was perceived that smaller, mobile teams were required to carry out limited task clearance in high-risk, high-priority locations. Both MAG and the HALO Trust tend to work with smaller demining teams, which are designed to try to provide a more effective response to the problems confronting mine-affected communities. MAG's Mine Action Teams (MATs), for example, comprise a team of 15 people with seven metal detectors. Each MAT member is primarily deployed as a deminer, but is also trained in secondary skills, such as mine-risk education, EOD, surveying and marking, and basic trauma care (ICBL, 1999: 399). The idea is that the teams are relatively mobile in that they can be transported in one vehicle and can conduct smaller-scale clearance tasks.

In 1997, CMAC and Handicap International Belgium also set up smaller demining teams, known as Community Mine Marking Teams (CMMTs), with funding from UNICEF. Twelve of these teams are now operating in Cambodia. Each team consists of five members with two metal detectors, again allowing each team to be transported in one car. The stated mission of the CMMTs is to 'respond to the emergency needs in the community, especially to the movement of IDPs and returnees, and in support of community development projects' (Horwood & Crossland, 2000: 4). These teams are more responsive and decentralized than the larger platoons, and their priorities are defined mainly by commune and district authorities, rather than at the provincial and national levels. In 1999, the CMMTs began to work in close cooperation with NGOs and international organizations carrying out development projects in the target areas. The CMMTs have been able to clear small-scale community infrastructure such as roads, bridges and wells, as well as areas around pagodas, water sources, clinics and schools. However, to carry out these types of tasks, two or three CMMTs are often placed together to work, and so the ability of these teams to respond to emergency needs in the community has, over the years, been reduced. The priorities have become increasingly defined by the NGOs or international organizations operating in the area rather than by villagers themselves, and the central criterion appears to be where interventions can benefit as large a number of local people as possible (Horwood & Crossland, 2000:

[9] Smaller demining teams have also been piloted and deployed in other countries. In the late 1990s, Handicap International France initiated a small-scale demining operation in Inhambane, Mozambique. The idea was to develop a locally managed, small-scale capacity for 'proximity' demining in four districts in the province. Proximity demining is designed to offer a proactive response to the mine problem in the locality, to take care of small tasks and to complement larger-scale operations. The Mozambique operation consists of four small teams of eight deminers with one cook/guard. Clearance still aims to be as near to 100% as possible (Handicap International France, n.d.).

18). This suggests that there is still a gap to be filled in responding to isolated, spontaneous village requests for assistance to remove nuisance mines or bottlenecks that prevent villager access to resources.

The plan of CMAC to reduce the number of large platoons deployed in large demining site operations and to convert some of the platoons into individual mobile demining teams to clear medium-sized areas of up to three or four hectares emerged in 2000 (Horwood & Crossland, 2000: 10). This idea is now being put into practice, as four 17-member Mine Risk Reduction Teams (MRRTs) are deployed, with assistance from HIB and the European Commission Humanitarian Aid Office (ECHO). The MRRTs are attached to a CMAC Demining Unit, but are deployed on tasks that are smaller than those of mobile platoons and larger than those addressed by the CMMTs. The MRRTs will be able to open up paths and access routes for communities, or otherwise conduct clearance on medium-scale tasks that pose an immediate threat. In coordination with the CMAC CBMRR project, the MRRTs and the villagers will develop a community-protection plan, whereby hazardous areas are identified by communities and the MRRTs respond through clearance and marking. The criteria for selection of tasks are based on areas of highest risk in terms of accidents and/or access to resources, and the location and activities of the people most vulnerable to the risk of mines in the area. In this way, the MRRTs clear several high-risk sites or areas within a village, thus reducing the overall risk over a greater area. What is also important about the MRRT project is that, by taking on the medium-sized development tasks, it will be able to free-up the CMMTs so that they are able to fulfil their original mandate of responding to emergency tasks requested by villagers and limited marking. The MRRTs are currently operational in the provinces of Battambang and Banteay Mean Chey.

This redeployment of resources in CMAC is encouraging and demonstrates that the organization is considering seriously how it can better respond to the needs of mine-affected communities. Particularly important will be the redeployment of the CMMTs, which will be able to remove the odd 'nuisance' mine or clear small areas of contaminated land that cause problems for local inhabitants. The prioritization of tasks should not be based on the greatest number of beneficiaries, but rather on responding quickly to direct requests from villagers. The focus should be small-scale and punctual. This is a job that some village deminers are in fact carrying out themselves, by helping to remove the odd mine when a neighbour discovers one in their field or on their way to the forest.

The redeployment of the CMMTs is one solution for CMAC to better respond to the needs of villagers as those are brought to the forefront through the work of village deminers. However, the setup of such small 'fire-brigade' teams could be flexible, depending on the prior activities of the mine action organization. The teams could easily be a part of regular demining teams, but with the mandate to respond to emergency or unforeseen requests during the day. Alternatively, they could be roving teams, working closely with mine-risk education teams as they regularly move from village to village. Such a service could be beneficial in that it would encourage villagers to be more specific about explaining which mines they urgently need removed if they knew that

direct action would result. It could greatly help to reduce village vulnerabilities by quickly removing obstacles preventing villagers from accessing their land or other resources, and it would help to reduce the risk of mines removed by villagers being stored in the village vicinity or reused for purposes such as fishing. These teams could help to bridge the gap between the 'don't touch' messages provided by mine-risk education and the inability of current mine clearance to provide a completely appropriate response. Smaller teams would perhaps also be able to provide a quality-assurance check on land that has been cleared by village deminers. At the present time, there is no official recognition of land cleared by villagers, although it is evident that when villagers do clear land they significantly reduce the mine threat in an area. There is a need to find a mechanism by which the contribution of village deminers to mine clearance becomes recognized by mine action organizations. Providing a quality-assurance check on land cleared by villagers can help to gauge the quality of the clearance and to officially open up more land as mine-free.[10]

Many lessons can be drawn from the success of Explosive Ordnance Disposal (EOD) teams, small mobile units deployed by all of the agencies working in Cambodia to remove UXO, ammunition and mine stockpiles. Although the teams are often similar in size to the CMMTs, they differ in their actual response, being able to respond directly to village requests to remove UXO.[11] In O'Chrou district in Banteay Mean Chey province, the HIB study team came across one village deminer who earlier that morning had found a UXO at the edge of his field. Although he had already cleared his land of mines, he would not touch the UXO, but had reported it to a clearance organization that was stationed at a nearby village. The following day, the EOD team came to remove the UXO and the farmer was able to carry on his cultivation. The work of the EOD teams appears to be greatly appreciated by villagers because it provides a fast response, which removes the obstacle and allows villagers to get on with their lives.[12]

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[10] Ideas for quality assurance to verify and check land that has been cleared by village deminers is a subject that has been tentatively raised at mine action meetings in Cambodia. Such checks could be performed by dog teams or by the smaller quick-response teams. In Psa Prum Dein village in Pailin, a CMMT was able to check the road cleared by the village deminers in Pailin within a couple of days. The use of Mine Detection Dog Teams would perhaps also be a good method to check land cleared by village deminers. As dogs locate mines by the smell of TNT, they are ideally suited to finding isolated, deeply-buried mines that are not located by manual clearance methods. Dogs would also be suitable for checking around housing areas cleared by villagers, where there may be a high number of metal fragments in the soil as a result of house construction and daily living.

[11] The size of EOD teams varies according to different country programmes and different organizations. In Cambodia, the CMAC EOD teams were originally demolition teams deployed within the demining platoons, but they were later reorganized into three-member mobile teams that were able to operate independently and respond to reports. There are currently 18 of these teams (CMAC, 2003: 18). In countries such as Lao PDR, EOD teams will also clear UXO by area because of the density of contamination, in addition to mobile teams conducting spot clearance.

[12] It appears that many villagers do leave UXO alone and report it to EOD teams for clearance. There are also cases where villagers have had UXO in their fields for years and have continued to farm around it, but the main problem here appears to be one of not knowing that there is an organization or a system in place for reporting such finds. It is important that the system of reporting for all mine/UXO-clearance interventions is improved through better liaison at the community level.

Limited clearance is not a substitute for full-scale clearance, but it can provide risk-reduction assistance in what would otherwise be a high-risk environment, while importantly helping to reduce livelihood vulnerabilities by facilitating access to resources. Quite rightly, it can be argued that, by clearing isolated mines, the standards of area clearance are not being met, thus placing both the demining team and the villagers at risk. However, it is possible that the safety of the demining teams could be ensured in the same way that it is ensured in any operation, and the deminers could clear a safe path to the trouble spot. In terms of the risk for the villagers, good communication between the clearance teams and the villagers is essential to ensure that there is an understanding that such spot clearance does not guarantee complete safety of the larger mine-suspected area. Marking or fencing may be an essential complement to indicate an area that has been cleared.

A problem which has been raised in relation to the work of the CMMTs and is also applicable to spot clearance is that, through the clearing of a specific bottleneck or a 'nuisance' mine, communities may then gain access to mined areas that they were previously unable to reach.[13] In most cases, however, the teams would only be making safer a process that is taking place anyway, and the positive outcomes would appear to outweigh the reservations. Spot clearance could open up access to resources that are not mined but are only accessible through mined areas. It could prevent villagers with little or no experience in clearing mines from lifting mines in their fields or along pathways. It can make limited clearance a reality in areas that might otherwise have to wait several years for larger clearance work.

Demining and Development

The analysis of perceptions of risk and the underlying vulnerabilities that place people in situations where exposure to risk is a factor of everyday life suggests that the value of mine clearance will be reduced if it exists in a vacuum. Simply clearing land of mines does not guarantee that risk will be mitigated, development opportunities seized and vulnerabilities reduced. It has become increasingly clear that mine clearance cannot work alone, but that it needs to become more closely integrated with broader development responses. The analysis so far suggests that mine clearance can only work successfully if it is both more sensitive and more responsive to the requirements of the communities where it is working. Mine action agencies are also required to coordinate better with other organizations and institutions involved in development initiatives, including land planning and titling, infrastructure or community-based micro-projects. The increasing variety of professionalism in the mine action sector has helped to promote this shift, as has the knowledge that, as funds for mine clearance are likely to

[13] Horwood & Crossland (2000: 11) provide an example of this in O'Beijoun commune in Banteay Mean Chey. Three CMMTs had opened up 5km of road up to the Thai border, immediately leading to an influx of families accessing the area and building houses on mined land.

start declining in the near future, mine action will have to become more reliant on working in partnership with development organizations.

A closer link between mine action agencies and other development organizations can be advantageous in several ways. First, it allows mine action to tap into the knowledge of other organizations, which often have far more experience of working closely with local communities and are aware of the opportunities and constraints inherent in such processes. Liaison with NGOs can offer a mine action approach that is less remote from the local populations, and NGOs can be in an excellent position to advocate on behalf of mine-affected communities. Second, increased integration with development projects can help to provide activities or services that can begin to provide for food-security and livelihood needs, and thus work in tandem with mine action to reduce vulnerabilities and susceptibility to risk. Third, increased collaboration between mine action, development organizations and appropriate state institutions can help to ensure that once land is demined it remains with the intended beneficiaries and is used for productive purposes.

In Cambodia, there has already been a relatively long history of collaboration between demining and development. Both MAG and the HALO Trust have worked closely with NGOs since their inception and have successfully cleared areas of land that are then utilized for community-development projects.[14] CMAC has also begun to collaborate more directly with NGOs through the small-scale work of the CMMTs, and also through collaboration on larger resettlement projects with organizations such as Norwegian People's Aid in Banteay Mean Chey province and CARE International in Battambang province. The establishment of Land Use Planning Units (LUPUs) in the north and northwest of the country has also helped to encourage collaboration between mine action, development organizations and local authorities in the task of land planning for mined areas. Both the more established collaborations and the more recent creations of LUPU and integrated demining and development projects demonstrate the potential for mine action to forge partnerships with other bodies and to provide a more integrated and holistic approach to tackling the mine problem. However, there are also indications that the process needs to be carefully monitored to ensure that the collaboration between mine action and development projects does not become too self-serving at the expense of the real needs of communities. Often, it seems that priority is given to clearance for organization development projects at the expense of neglecting villagers' own priorities or the clearance of areas where a lot of accidents have happened.[15]

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[14] MAG has always had a close relationship with Handicap International, and HI assisted in introducing MAG to UNHCR, which funded a MAG survey team in Battambang in 1992 (Davies, 1994: 87). MAG has since worked in partnership with several NGOs, including Action Nord Sud and Church World Service. The HALO Trust has termed its association with development projects a 'pathfinding role', explaining that its clearance efforts have either directly or indirectly benefited the work of many development organizations (HALO Trust, 1999: 120–121).

[15] Richard Boulter, the Cambodia Country Programme Manager of the HALO Trust, stated at a recent mine action seminar in Phnom Penh that mine clearance in Cambodia should move away from the current trend of demining areas for development because often this results in the clearance agencies not working in the most densely mined areas (see McDonald-Gibson, 2003).

The majority of projects that integrate demining and development in Cambodia have taken place in the context of relatively large numbers of returnees and IDPs being settled in areas that are believed to be mine-contaminated. The organizations CARE and Norwegian People's Aid have been two major players in recent years in facilitating large-scale integrated demining and development projects within this context. The programmes normally follow a process whereby a road and a stretch of land on either side of the road are cleared by demining platoons, followed by the division of the land into plots that are allocated to the beneficiaries, usually through a lottery system. However, often the slowness of the demining process and the sheer number of landless families results in people moving into the areas in advance of the clearance to claim land. The provision of food, shelter and water on these cleared plots of land can provide for the immediate relief of families in resettlement areas, but for a relatively limited time-span. Clearance for infrastructure such as bridges, wells and roads also greatly assists villagers settling in these mined areas, but, for the majority of households, economic stability can only be secured through access to productive land and common property resources. [16] Although land can be cleared for project activities or infrastructure construction, this does not necessarily provide communities with opportunities for a viable, independent livelihood.

These issues are illustrated by the story of Choeun and his family. They have been living in a resettlement area in the Thma Pouk district of Banteay Mean Chey for two years. They returned from the Site 2 refugee camp in 1992 and at first went back to their original home in a nearby district. They had no land to farm and so in 1996 returned to the Thailand–Cambodia border to find work as itinerant labourers in Thailand. At first they settled in a market area, but the owner reclaimed this land and the family had to move on. In 1997, the family moved to a resettlement area near to the border. The area was being set up by an international organization in cooperation with a demining agency. However, the family moved onto a pre-marked plot before it had been officially cleared. Choeun searched for mines himself, but did not find any, although the people in the neighbouring plot did. An organization came to clear the plot after Choeun and his family had already built their house. Choeun now goes to work in Thailand four days a week. Sometimes there is only one bus, which means that not everyone can go, and some days he can earn no money. Other days he manages to get labouring work, cutting grass or harvesting sugar palm or potatoes. In one day, he can earn 40 baht (just under US$ 1.00). Choeun says that his family would like to live in the area for a long time, but they need land to grow crops. The village leader warned them not to take more land: one plot per family, they were told. Choeun hopes that the

[16] 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.

organization may clear more land for farming in the future, but he is not sure if this will happen.

For Choeun and his family, although they now have a plot of land and a house, the struggle to find enough food on a daily basis is ongoing and hampered by the difficulties involved in accessing resources or finding work in Thailand. In recognition of the livelihood difficulties faced by many families living in resettlement sites in mined areas, integrated demining and development projects in Cambodia have experimented with providing different income-generation initiatives to help these people become more self-sufficient (NPA, 1998; Harding, 2001). Vocational training, micro-enterprise, food-for-work activities and the supply of seeds, farming implements and household appliances have been experimented with in such areas and have met with mixed success. Some of the most vulnerable families are unable to invest the time in working on a home garden or small enterprise scheme because they need to meet immediate needs. Marketing enterprises sometimes hit difficulties if villagers lack marketing skills or a market for their products. Food-for-work activities often tend to be more successful, as they provide immediate returns for the work done, although the time-frame and direct benefits from such activities are usually relatively short-term.[17]

Working in collaboration with development projects has seen a surge of activity in recent years in Cambodia as mine action has realized the benefits of this approach. However, programme demining is ultimately determined by and limited to the needs of specific programmes and is responsive to the needs of individual communities or persons only in the sense that the programmes are theoretically developed on the basis of expressed community needs. Although the land cleared and developed in this way is obviously useful to the community as a whole, it does not necessarily address the pressing livelihood needs of community members. The HIB study found, for example, that in villages where schoolyards had been cleared, children were often accompanying their parents to suspect forest areas to collect resources such as thatch, firewood, or forest vegetables. As a villager explained, 'the organization cleared the school, but my children still have to cross mined areas to get to school. I would like the organization to clear these areas too.' In one village in Battambang province, a clearance organization was hard at work clearing an area for a schoolyard in the village. The village chief was unsure which organization was going to build the school, and he said that, although he had made a request for a village school to several organizations, he

[17] Food-for-work activities may be particularly beneficial for communities living in mine/UXO-contaminated areas. It seems that food-for-work activities are often popular, particularly with poorer families with labour resources, for the simple reason that they provide daily food in return for labour while the project is being implemented (see Simmons & Bottomley, 2001: 56–58). This could also have particular benefits in terms of reducing the risk for some villagers. For example, by working on a village food-for-work project during the dry season, villagers may feel less need to venture further afield into suspect areas to collect forest products on a short-term basis. Admittedly, this work would only reduce the risk on a short-term basis, but if targeted at the right people and at the right time of year, it could have quite a big impact in terms of casualty rates. The actual outcome of the project may also help to reduce risk: for example, the construction of wells or ponds could help villagers whose access to water is affected by mines.

had not requested mine clearance of the schoolyard. His main concern was that villagers had cleared mines from their farming land and stored them by an irrigation channel, but despite having reported these mines to a clearance organization, they had not yet been disposed of. This was hopefully an isolated case, but it does highlight a dilemma inherent in demining and development projects when the priorities for clearance are often set by the development organizations rather than by the villagers themselves.

Mine action and community-development practitioners need to consider the way in which an overemphasis on demining specifically for development projects may direct attention away from other more pressing needs in the community, or may benefit the majority while neglecting those most vulnerable to the risk of mines. Development projects and the resultant provision of material resources or infrastructure are one intervention in the continuous range of activities undertaken by rural households to maintain food security on a daily basis. Villagers living in mined areas, although appreciative of development projects, will continue to forge a life for themselves in their mined environment, and although project outcomes may benefit these communities, they do not form the focus around which village life will revolve. The clearance and building of a community well, for instance, may be an extremely important intervention in terms of providing clean water for inhabitants in a mine-free area, but the collection of water is only one part of a multitude of daily needs that villagers must meet. This suggests that, rather than putting all eggs in the development 'project' basket, mine action and development need to provide a range of services that will help to meet the variety of needs at the village level. For mine action, this could include responding to requests for the removal of 'nuisance' mines, providing information on safer practice in mine clearance for village deminers or clearing access routes other than those directly related to the development project. It may also require mechanical clearance of relatively large areas of land for agriculture, accepting a higher level of residual risk. In the same way, development organizations working in mined areas should consider ways in which assistance can be provided both before and during clearance, rather than just limiting intervention to following behind the demining teams. It perhaps also requires development practitioners to think beyond the immediate project and the services they can typically provide, and to respond to needs in the community by drawing on local-level capacities and initiatives.

It seems unlikely that formal demining will ever be able to fully meet the needs of all of the villagers living in mine-contaminated areas in Cambodia. At the same time, it appears likely that the number of families settling in mined areas will continue to increase over the next few years as land privatization escalates and the landless poor are forced to settle and to eke out a living in these areas. In more established villages situated in former battle-zones, villagers will continue to struggle with daily survival in terms of finding food and water from land and resources contaminated by mines. As long as families continue to live in poverty, they will continue to accept the risk of living in mined areas or be forced through economic necessity to perform demining themselves. As access to essential resources cannot be provided solely through profes-

sional demining, village demining also has to be recognized as an essential strategy adopted by some villagers to secure food security in mined areas.

What has been suggested here is that there are no straightforward answers or solutions to the perceived problem of villagers undertaking such a high-risk activity as mine clearance. However, the challenge is to up-end the current thinking about *absolute risk* and to turn the spotlight on the *vulnerabilities* and *relative risk* of these villagers. This involves consideration not only of the vulnerabilities already existing for individuals and households at village level, but also of the way in which mine action, as an outside intervention, may actually add to these vulnerabilities. Much of what has been suggested in terms of activities builds on initiatives and ideas that are already being tentatively experimented with or piloted in Cambodia or elsewhere, and it is clear that mine action interventions are moving towards a more responsive approach in collaboration with local communities. However, by changing the approach towards looking at vulnerabilities, mine action can become more receptive to the perceptions and requirements of communities, and more understanding as to why certain individuals take the risks that they do. Rather than approaching communities as victims or objects of charity and castigating individuals for supposedly irresponsible behaviour, mine action practitioners should begin to think in terms of building on the capabilities already existing at the local level.

CONCLUSION

THIS REPORT HAS ANALYSED the activities and motivations of village deminers in rural Cambodia, and has compared and contrasted these with professional mine action as it has developed since its arrival in the country in the early 1990s. The critique of mine action interventions arose from information obtained during the detailed study of village demining in Cambodia carried out by Handicap International Belgium. The study was not an evaluation of mine action, but was intended to provide a more comprehensive insight into the difficulties and problems faced by villagers living and working in mine-affected areas and the nature of their mine-clearance activities. However, through talking to village deminers about their activities, their problems and the ways in which mine action has impacted on their lives, it became clear to the research team that there were weaknesses in the current mine action approach in Cambodia. Villagers' expectations about mine action and their perceptions on contact with the organizations revealed some interesting issues and dilemmas, which warranted a closer look at the mine action sector. The original terms of reference for the study required that recommendations be developed as to how to address the different motivations that lead villagers to undertake mine-clearance activities. The complexity of the situation at the village level persuaded the research team that there are no template answers or simple solutions for addressing the issue of village demining. However, it also became clear that the focus of the 'solutions' should not only be on how mine action could address the motivations of village deminers; rather, what was required was reflection on the mine action intervention itself, drawing on the local-level activities to inform the process of self-examination. That is what the present report set out to do.

It is very clear that the current activities of village deminers in Cambodia have to be examined in the light of the social, political and economic upheavals that have taken place in the years following Cambodia's transition from war to peace. The legacy of conflict in Cambodia has introduced many changes within the country, and the work of village deminers has to be seen against this backdrop of war-related change. Large numbers of people were displaced as a result of the war and have returned home to find their villages occupied by others, forcing them to resettle in vacant areas, many of which are mined. Others have returned to their villages in former war-zones to find that their previously productive land has been mined in their absence. Increasing land privatization and expropriation and the lack of a clear land-titling system have exacerbated these problems. The capabilities of village deminers to undertake mine-clearance

activities must also be considered with reference to the recent history of the civil war. The ability of many of the villagers to clear mines is directly related to the former involvement of large sectors of the population in the military. The skills that were learned during this period have been carried over into civilian life in an attempt to forge a living out of the land that retains remnants of these years of warfare in the form of landmines and UXO. The case was presented that the villagers who undertake mine-clearance activities do have some degree of knowledge both of the former battlefield terrain and of the ordnance with which they are dealing.

Mine clearance is one strategy among many drawn on by rural Cambodian villagers to maintain basic access to food within their households. Generally, it is a strategy employed by particularly vulnerable families who have few existing resources or support systems. This tends to be a typical scenario in the north and northwest of Cambodia, where years of fighting have ensured that the ongoing transience and instability of the population have left many families with few buffers against difficult situations. The ability of a family member to be able to conduct mine clearance does open up new opportunities for households living in mine-contaminated areas, allowing access to previously inaccessible resources, sometimes to land. Although it is true that some villagers do take what could be described as unnecessary risks with mines and UXO, most village deminers tend to be much more considered in their actions. Mine clearance is an activity that is carried out only when required, and as dictated by livelihood needs. Usually, there is a very clear understanding of the risks involved in the activity, both to the deminers themselves and to others, and it is this awareness of the inherent danger of the activity that often dissuades villagers from undertaking mine-clearance work for other people.

In terms of clearance, professional demining agencies deem village mine clearance hazardous and high-risk, not only because of the risks taken by the village deminers themselves, but also in terms of the higher level of residual risk of the cleared land. However, this has to be seen in the light of the fact that professional mine clearance, because of its insistence on clearance to as close to 100% as possible, is ultimately slow and lacks the capacity and resources to clear for many of the villagers living in mine-contaminated areas. Through such an approach, the mine action sector is providing a top-quality service, but for a very limited number of beneficiaries, while the majority of affected communities continue to cope alone with their mine-affected environment. This is perhaps one of the major reasons why village demining still exists in Cambodia today. The mine action sector is simply not meeting the needs of the people for access to land and resources in mine-contaminated areas. For many villagers, the risk of not being able to provide for a family is greater than taking the risk of clearing mines by themselves and reducing the overall risk in contaminated land to a tolerable level. This implies that, to be able to better understand and therefore begin to address village demining, there is also a need for a closer analysis of the mine action sector.

Mine action in Cambodia has derived largely from an international perspective on the landmine crisis, but over the past few years it has striven to become more accountable to its 'beneficiaries', the people living in mine-contaminated areas. The humani-

tarian focus of mine action as promoted by NGOs has attempted to move the sector away from emphasis on the numbers of mines destroyed or the area of land cleared to emphasis on the human aspects of the mine problem. However, although its humanitarian mandate has been to reduce the number of mine casualties and to help return contaminated land to communities, the sector has tended to maintain a technically oriented bias rather than becoming more developmental and holistic in its approach. This emphasis on the technical aspects of mine action has led the intervention to be rather inflexible and staid. The focus on the technicalities of mine clearance and the emphasis on safety has to some extent limited the ability of mine action to increase its capacity to deal with the problem as it is faced by the villagers living in mine-contaminated areas. Mine clearance is both slow and cumbersome in its approach and practice, and mine-risk education has often been limited to the provision of informative, technical information that bears little relation to the everyday lives of the villagers living in mine-contaminated areas. The rigorous technical approach has also prevented mine action practitioners from acknowledging or utilizing local-level capacities. This has led to mine action having a somewhat uneasy relationship with village deminers.

The analysis of mine action outlined in this report draws on critiques of the development intervention. Like development (as a concept and a theory), mine action has its origins in the West, and the placing of Western values and ideas into a culturally different locality is fraught with misunderstandings and contradictions that can often serve to alienate the very people an intervention is designed to assist. Mine action interventions tend to be justified through simplified narratives that explain the problem and present the perceived appropriate solution. The beneficiaries are portrayed as victims who are to be assisted, an assumption that local-level capabilities such as those demonstrated through village demining directly contest. The narratives tend to be situated in a largely technical, and hence authoritarian, context, which again imposes outside values and skills and denies local capabilities. At the village level, the view is more diverse and pragmatic. Mine action offers an alternative to existing village strategies for dealing with the mine problem, and the arrival of a mine action organization in a village can raise high expectations as to what the organization can offer in terms of land cleared. However, it appears that mine action, in the eyes of the villagers, frequently fails to deliver. The land cleared is often community land rather than land for individuals, and the messages presented through mine-risk education are often inappropriate for the situation in which the villagers are living. To mark off an area of land as mined does not help villagers who need access to it but who may have to wait several more years for the mine-clearance teams to arrive. The different sectors of mine action appear to give conflicting messages, and villagers often feel that they are on the periphery, away from the decisionmaking centres, and thus unable to request the assistance they require. Although the intentions of the mine action sector are well-meant and understandable, the inflexibility of its approach has limited the sector's capacity to respond effectively at the local level. This situation can actually be seen to be perpetuating vulnerability in some instances, and perhaps unintentionally encourages

certain sectors of village populations to continue to undertake high-risk activities in mined areas.

The paradigm of safety and risk at the heart of mine action is currently very 'culture bound' (Bracken & Petty, 1998: 189), and as a result the application of this discourse in a non-Western setting is perhaps misguided. It not only limits the scope of the work of mine action, but it also has the potential to increase vulnerabilities for certain sections of the population, including village deminers. Because mine action tends to focus on the *absolute risk* of mines as a hazard, it neglects to consider the other *relative risks* that villagers face on a daily basis and that influence their decisions to enter a mined area in the first place. The susceptibility of individuals or households to the danger of mines is often not only a function of their proximity to mined areas, but also a function of the other risks they face. These may include a lack of security over land, the fear of not being able to meet household food-security needs or susceptibility to the whims of more powerful members of society. The susceptibility of families to these risks is a consequence of the vulnerability of an individual or household, or the lack of buffers to guard against misfortune. Vulnerability can vary between households and individuals, and any one individual may be more vulnerable at one time than another. Villagers can use their own capabilities to reduce their overall vulnerability, but often this means that they undertake high-risk activities.

Examinations of risk and vulnerability imply that a paradigm shift is required in mine action, which will open up new avenues for exploration while building on what has already been achieved to date. By shifting the focus of attention away from the immediate risk of landmines, a more pragmatic approach could be taken, whereby underlying vulnerabilities and relative risk factors could be addressed on the basis that this in turn would reduce the exposure of individuals to harm. The analysis in this report suggests that the mine action sector is required to move away from its emphasis on the technicalities of mine action towards an approach that is more community-oriented and responsive to needs expressed at the local level. Although training village deminers could be a solution in some situations, a far more practical and productive approach would be to involve them as key resource people in villages and to tap their local knowledge and experience of ordnance for the benefit of the wider community. Such an approach would avoid taking villagers out of their local contexts, which can also tend to create dependency on outside agents. The work of village deminers also suggests that generally there needs to be better interaction between the different components of mine action, and also between mine action practitioners and the communities in which they work.

In terms of the actual practice of mine clearance, a reconsideration of the 'risk factor' could lead to the development of more inventive and flexible approaches that can help to speed up the clearance process and better respond to villager requests. This may require a change in standards of clearance according to land use, or in the way the clearance of the land is approached, but ultimately it would help to free up more resources for use by the villagers. The increasing collaboration between demining and development is proving to be relatively successful in Cambodia, and has certainly

helped to ensure that demined land is utilized for the correct purposes and by the identified beneficiaries. However, it is also important to acknowledge the limitations of such an approach. 'Project-oriented' demining and development tends to neglect the ongoing process of development and daily survival within communities. It is important to be aware that such work, although reducing risk in the project area, does not necessarily deal with the vulnerabilities and other risk factors faced by individuals and communities living in contaminated areas. It can also lead to too many demining resources being channelled towards development projects at the expense of villagers' own demining priorities or the clearance of high-accident areas.

In view of the fact that mine action is an intervention with a limited time-span, a review of existing practice is perhaps fortuitous. As funding for mine action declines, it is going to be imperative that the sector becomes more accountable to its recipients and more developmental in its approach. Village demining is occurring largely because villagers still need access to land and resources, and the current approach of mine action is not meeting these needs. It appears that what is required is a balancing of the expediency to incorporate safety standards throughout the work of mine action with the need for innovation and a more participatory and flexible response.

Although mine action practitioners in Cambodia have long known about the existence of mine-clearance activities by villagers, this has been a somewhat controversial subject with no clear solution. The debates about village demining within mine action circles have largely centred on the issue of whether village deminers should be trained to improve the safety of their work, or whether training village deminers would put them and their fellow villagers in more danger. The scenario has very much highlighted one of the central themes running throughout this report, that of the meeting of outside interventions with the 'insiders' in the village, a theme of cross-cultural interaction that in recent years has served to critique many other types of development and humanitarian interventions. When universal standards and perceptions are transferred to the local, it is apparent that the fit is often not exact. Disparities and contradictions arise, choices are made, exclusions afforded and the gaps are papered over. The village deminers in Cambodia have demonstrated that there are local-level capabilities that are being utilized by people at the village level to deal with the environment in which they live. These capabilities should not be ignored because they contradict the dominant justification for mine action. Instead, they should serve to inform mine action practitioners of the strengths and weaknesses of the recipient communities, and of the strengths and weaknesses of the intervention itself. This suggests that there is a need to challenge the superiority of the 'West knows best' mentality. Although technical knowledge of mines and clearance procedures is important for the professionals who are clearing mines, it is not necessarily the right approach for the mine-affected communities themselves, who are usually more interested in knowing how they can continue living in mine-contaminated areas. This requires more of a community-development approach to working within villages. In the same way, although village demining is happening, mine action is not required to address it specifically as a problem in itself. Rather, the issue requires digging below the surface and discovering

what village demining tells us about the local-level situation and the impact of the mine action intervention that is important. Once mine action begins to acknowledge and understand these issues and to work towards addressing them, it is likely that village demining, and other high-risk activities, will gradually decrease as a result.

ABBREVIATIONS

AMAC	Assistance to Mine-Affected Communities project (at PRIO)
ANS	*Armée Nationale Sihanoukiste* (Sihanouk National Army); founded in 1981 as the armed wing of FUNCINPEC, loyal to Sihanouk
APM	Anti-Personnel Mine
CBMRR	Community Based Mine/UXO Risk Reduction
CGDK	Coalition Government of Democratic Kampuchea
CIDA	Canadian International Development Agency
CMAA	Cambodian Mine Action and Victim Assistance Authority
CMAC	Cambodian Mine Action Centre
CMMT	Community Mine Marking Teams
CMVIS	Cambodia Mine/UXO Victim Information System
COFRAS	*Compagnie Française d'Assistance Spécialisée*
CPP	Cambodian People's Party
CRC	Cambodian Red Cross
DK	Democratic Kampuchea; the official term for the Khmer Rouge state, 1975–78
ECHO	European Commission Humanitarian Aid Office
EO	Explosive Ordnance; includes all munitions that are explosive in nature
EOD	Explosive Ordnance Disposal
FUNCINPEC	National United Front for an Independent, Peaceful, Neutral and Cooperative Cambodia; the royalist party of Prince Ranariddh
GICHD	Geneva International Centre for Humanitarian Demining
HALO	Hazardous Area Life Support Organisation (Halo Trust)
HIB	Handicap International Belgium
ICBL	International Campaign to Ban Landmines
ICRC	International Committee of the Red Cross
IDP	Internally Displaced Person
IED	Improvised Explosive Device
IRC	International Rescue Committee
KPNLF	Khmer People's National Liberation Front; led by Son Sann; one of the anti-Vietnamese, anti-PRK factions of the 1980s based on the Thailand–Cambodia border

K5	*Kor Pram*; extensive defensive barrier of mines, anti-tank ditches and bamboo fencing constructed along the northwest Thailand–Cambodia border by the PRK government with conscripted Cambodian labour
LMAP	Land Mine Awareness Programme; programme that operated for two years on the Thailand–Cambodia border
LUPU	Land Use Planning Unit
MACA	Mine Action Centre for Afghanistan
MAG	Mines Advisory Group
MAT	Mine Action and Awareness Team (World Vision) Mine Action Team (MAG) Mine Awareness Team (CMAC)
MATT	Mine Awareness Training Team
MCTU	Mine Clearance Training Unit
MRE	Mine-Risk Education (formerly referred to as mine awareness)
MRRT	Mine Risk Reduction Team
NGO	Nongovernmental Organization
NPA	Norwegian People's Aid
PDR	People's Democratic Republic (Lao)
PRA	Participatory Rural Appraisal
PRIO	International Peace Research Institute, Oslo
PRK	People's Republic of Kampuchea; the Vietnamese-backed government 1979–89
PSC	Provincial Sub-Committee
RCAF	Royal Cambodian Armed Forces
RGC	Royal Government of Cambodia
SAS	Special Air Service
SOP	Standing Operating Procedure
TNT	Trinitrotoluene (explosive content of mines and UXO)
UNAMIC	United Nations Advance Mission in Cambodia
UNBRO	United Nations Border Relief Operation
UNDP	United Nations Development Programme
UNDPKO	United Nations Department of Peacekeeping Operations
UNHCR	United Nations High Commission for Refugees
UNICEF	United Nations Children's Fund
UNMAS	United Nations Mine Action Service
UNTAC	United Nations Transitional Authority in Cambodia
USAID	United States Agency for International Development
UXO	Unexploded Ordnance
VDC	Village Development Committee

GLOSSARY

Khmer Terms

Chamkar	Garden farming, or the cultivation of land other than paddy rice. The term may also refer to plantations. In upland areas of Cambodia, it more specifically refers to swidden cultivation, whereby fields are cultivated in a rotational fashion, and a variety of vegetables and upland rice is grown.
Doh Min	To clear mines.
Khmer Rouge	Red Khmer; the term Sihanouk used to describe the left-wing rebel forces.
Khum	Commune.
Krama	Checked scarf used for a multitude of purposes by Cambodians.
Krom Samakii	Solidarity group; refers to the system of collective farming introduced by the Vietnamese-supported PRK government.
Krong	Town or city; the municipality of Pailin is referred to in Khmer as *Krong Pailin.*.
Kru	Prefix in the Khmer words for doctor and teacher; it can be translated as 'master' and may refer to the mediation of spirits as well as corporeal beings.
Min Hub	PMD-6; box mine.
Min Pka Chan	PMN-2; the Khmer name refers to the cross on the top of the mine that resembles the cross on a particular species of flower.
Min Snoul Pot	POMZ-2M; the Khmer name refers to the resemblance of the mine to a corncob.
Para	Resistance forces of the KPNLF, led by Son San in the northwest of Cambodia; opposed to the Vietnamese-installed PRK government of the 1980s.
Phum	Village.
Rai	Thai land measurement used in the northwest of Cambodia; there are 6.25 *rai* to one hectare. Generally, Cambodians use an *are* to measure land: one *are* is 100m², and 100 *are* equals one hectare.
Riel	Unit of Cambodian currency; the exchange rate as of July 2003 was 3,995 Riel to one US dollar.

Sen	Traditional spirit ceremony, often involving a small sacrifice.
Srok	District.
Terk	Unit of measurement; one *terk* is measured from the tips of one's fingers to the middle of the palm; it is equivalent to 10cm.
Thanang Dai	Unit of measurement, approximately the length from the tip of one's fingers to the middle of the palm, about 2–3cm.
Trei Phearky	Three forces: a term used for the three resistance forces of the ANS, the Khmer Rouge and the KPNLF.
Tumnup Kor Pram	The K5 mine belt.
Yuon	A slang term for Vietnamese people, often thought to be derogatory.

General Glossary

Baht	Unit of Thai currency; the exchange rate as of July 2003 was Thai Baht 41.40 to one US dollar. The Thai Baht is used as the main currency in the northwest border regions of Cambodia.
Blast Mine	See *Pressure Mine.*
Bounding Mine	May combine blast and fragmentation explosion; usually buried or concealed, with only a small mechanism protruding above the ground; activated by a tripwire or by stepping on the mechanism; the mine body is projected upwards, and the main charge detonates, scattering fragments over a wide area.
Detonator	A sensitive explosive item used to initiate the main or booster charge.
Disarming	Refers to the act of making a mine safe by removing the fuse or detonator.
Fragmentation Mine	Usually above ground, supported on a stake and activated by a trip wire; once detonated, the mine scatters fragments over a wide area.
Khmer	Dominant ethnic group in Cambodia, comprising 85% of the population; in addition to Khmer, Cambodia is also home to Chinese, Vietnamese, Cham and highland ethnic groups.
Neutralize	To place pins and rods into an explosive item to prevent the fuse or detonator from functioning; removal of these devices would immediately make the item active again.
Pressure Mine	Also known as a blast mine; designed to activate when the victim steps directly on the pressure point at the top of the mine; usually laid directly on the ground or buried just below the surface.

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