Reassessing the Impact of Humanitarian Mine Action

Illustrations from Mozambique

ANANDA S. MILLARD AND KRISTIAN BERG HARPVIKEN

PRIO Report 1/2000

GLOSSARY

Aldeia	House conglomerate; village
Bairro	Subsection of village or city
Cabo	Traditional administrative figure (responsibilities vary)
Capulana	Piece of cloth with multiple purposes, often employed by women as clothing (usually skirt, but also head dress)
Chapa	Private vehicle used for transport of people for a charge
Chefe	Traditional administrative figure (responsibilities vary)
Curandeiro	Traditional healer and/or spiritual guide
Machamba	Land used for agricultural production
Poblaçao	Population
Regulo	Traditional administrative figure (responsibilities vary)

ACRONYMS

ADP	Accelerated Demining Programme
AMAC	Assistance to Mine-Affected Communities
CCF	Cease-fire Commission
CIDC	Canadian International Demining Centre
CND	see NMCC
CMCM	Mozambican Campaign Against Landmines
DHA	Department of Humanitarian Affairs (UN)
DNEP	Direcção Nacional de Estradas e Pontes
DPKO	Department of Peacekeeping Operations (UN)
FRELIMO	Mozambique Liberation Front (Frente de Libertação de Mozambique)
FUNAD	National Demining Fund
GICHD	Geneva International Centre for Humanitarian Demining
GSG	Gurkha Security Guards
GTZ	German Agency for Technical Cooperation (Deutsche Gesellschaft für Technische Zusammenarbeit)
HALO Trust	Hazardous Area Life-Support Organisation Trust
HI	Handicap International
HMA	Humanitarian Mine Action
ICRC	International Committee of the Red Cross
IDP	Internally Displaced Person
IDRC	International Development Research Centre
IND	see NDI
MAP	Mine Action Programme (IDRC, Regional Office for Southern Africa)
MEDDS	Mechem Explosives and Drug Detection System
NDI	National Demining Institute (Instituto Nacional de Desminagem; IND)
NGO	Nongovernmental Organization
NMCC	National Mine Clearance Commission (Commissão Nacional de Desminagem; CND)
NPA	Norwegian People's Aid
ODA	Overseas Development Administration
ONUMOZ	United Nations Operation in Mozambique
RENAMO	Mozambique National Resistance (Resistência Nacional Moçambicana)
SAC	Survey Action Centre

SCS	Special Clearance Services
SOP	Standard Operating Procedure
UNDP	United Nations Development Program
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations Children's Fund
UNMAS	United Nations Mine Action Services
UNOHAC	United Nations Office for the Coordination of Humanitarian Assistance
UNOPS	United Nations Office for Project Services
UNSCERO	United Nations Special Coordinator of Emergency Relief Operations
QIP	Quick Impact Project

PREFACE

This work was carried out with the aid of a grant from the International Development Research Centre, Ottawa, Canada (IDRC). The AMAC project would also like to acknowledge financial support from the Norwegian Ministry of Foreign Affairs. This report is an extended version of report submitted to the Geneva International Centre for Humanitarian Demining (GICHD) as a contribution to the study on socio-economic indicators that has been commissioned by the United Nations Development Program (UNDP) and the United Nations Mine Action Services (UNMAS).

In Mozambique, the community case studies that form the foundations of this report were made possible by the generous assistance and welcome of agencies. We are grateful to Hazardous Area Life-Support Organisation (HALO Trust), to its country manager Gerhard Zank and to HALO field and regional office staff in Cabo Delgado and Nampula. Similarly, we thank Norwegian People's Aid (NPA), NPA programme manager Filipe Muzima, NPA staff at Tete Headquarters and staff working in Mememe, Songo and Bandua minefields. Our gratitude is also extended to the staff at HALO and NPA head offices in the UK and Norway respectively. We appreciate everyone's flexibility and cooperation both in facilitating our research in the field and in commenting on drafts during the process of writing this report.

We also wish to extend our gratitude to Louise Maule for her assistance in scheduling interviews, technical support and generally assisting the conduct of this project and of the AMAC research generally. Cora Harding has transcribed the interviews and the survey forms with great attention to detail. Marielle Rowan, from IDRC Maputo, assisted us in collecting documentation from different agencies.

Our gratitude is also extended to Geir Bjørsvik for all his insights into the Capirizanje operation and to Havaard Bach for allowing us to use his pictures of mines. Thanks also to John Carville at PRIO for language editing and layout, and to Ole Martin Stensli for his invaluable assistance with graphics. We are grateful for comments from Aldo Benini, Ivar Evensmo, Olaf Juergensen, Christian Ruge, Sven Gunnar Simonsen, Dan Smith and Arne Strand. Only the authors are responsible for content. Most importantly, we warmly thank all those people in mine-affected communities in Mozambique that spent time responding to our endless need for asking new questions, but

who will remain anonymous throughout this report. It is them that this work is to serve.

We would like to dedicate this report to Uffe Hansen, NPA's Residential Representative in Mozambique, who tragically passed away in a car accident in Zimbabwe on 12 April 2000. Uffe dedicated considerable time and effort to improving the way demining was conducted. We learnt to appreciate Uffe's insights, and we regarded him as a great supporter of our work.

EXECUTIVE SUMMARY

The purpose of this report is to contribute to a reorientation of the planning, execution and evaluation of Humanitarian Mine Action (HMA) projects. The principal instrument for reorientation must be a fundamental strengthening of the capacity to perform broad socio-economic impact assessments within HMA agencies. The analytical effort needs to be a component of project execution throughout the whole project cycle.

The primary material used in the report comes from Mozambique. The country is interesting as a case because it has been host to a long-term large-scale HMA effort, and because it has developed from being in an immediate post-conflict emergency situation to a state of relative peace and economic growth. At a national level, this study is based on interviews with key informants and on document studies. Most importantly, this report is based on three case studies of communities where demining is being, or has been, conducted.

The Context of Impact Assessments

- HMA operations can be situated along a continuum running from emergency to development, where the attention in the first phase tends to be on accident reduction and on reopening access routes. Emergency-phase operations tend to disregard the need for building a long-term capacity, but also fail to fully realize the potential impact of individual tasks. This relates to a tendency to neglect tasks that have community-level impact only, although the removal of a few mines blocking access to the waterhole in one village may offer as good value for money as reopening a major road. On the other hand, immediate impact is more difficult to identify in development-oriented projects. What we see is that HMA agencies, not unlike other organizations operating in war and post-war settings, continue to implement projects in an emergency-oriented fashion, well after the emergency tasks are over. This implies that there is little emphasis on socio-economic analysis and insufficient attention paid to the importance of solid agency–community relationships.

- HMA, and demining in particular, operates under difficult conditions, where action is subject to natural, organizational and political constraints. On the one hand, organizations need to remember that constraints are not fixed entities that cannot be

moved. On the other hand, sensible priorities can not be established without taking existing constraints into consideration. Current practice, however, is problematic, since it is often the case that priorities are set with primary attention to constraints, and less attention being paid to assessments of the potential impact of operations.

- With increasing realization that the number of devices lifted or the size of the area cleared says little or nothing about socio-economic impact, there is a demand for improved indicators in HMA. Indicators constitute a necessary tool, but there is a risk that all attention is turned towards issues of accountability and performance, whereas the need to build knowledge through continuous assessment of past experiences is disregarded. There is a fine line between indicators serving as constructive focusing lenses for action and indicators becoming a straitjacket that veils the variation between tasks.

- The use of indicators, as well as impact assessments more generally, rests on the assumption that the outcome of an operation is predictable. However, prediction is always problematic, and HMA operations take place under extraordinary circumstances. We must therefore be realistic as to our ability to forecast impact, but also factor in that operations which proved unsuccessful might have become so for reasons which the operator could not possibly have foreseen.

- There is always a large potential for HMA making an impact beyond what is immediately observable – that is, for what we have called maximizing impact. Such maximization presupposes both that operators have solid analytical capacity and that they emphasize strong agency–community relationships. From case studies, it is clear that where such relationships exist, we find that communities are better informed, feel greater ownership of operations, and are more likely to have confidence in clearance upon completion of tasks. Here, one must acknowledge that there is immense variation in the constitution of communities and that agencies need to be adaptable to this variation.

Mine Action in Mozambique

- The history of mine action in Mozambique is evidence of the potential harm that may have been caused by linking HMA closely to the peace process. In the Mozambican case, this severely delayed the start of demining, as well as the process of establishing a national capacity. At an early stage, parties to the conflict were hesitant to allow demining. This – together with problems in establishing a constructive dialogue with donors – severely delayed UN attempts to start demining. In the meantime, several NGOs established independent demining capacities. The repercussions of this early period continue today: the country is effectively divided into three zones with different agencies conducting demining in each – HALO Trust in

the north and northeast, Norwegian People's Aid (NPA) in the northwest and centre, and the Accelerated Demining Program (ADP) in the south. The NGOs and the UN were not commanding the arena alone. It is a particularity of the Mozambican case that commercial operators have had a large share of the overall demining budget. Although their role has diminished over the past few years, it is interesting to note that some development agencies now subcontract commercial companies to perform demining within what they call an integrated development framework.

- Efforts to build a strong national capacity in HMA have largely failed. The National Mine Clearance Commission (NMCC), established 1995, was supposed to take leadership over the program, including the development of a national strategy, as well as priority setting. NMCC never managed to fill that role, and in 1999 it was replaced by a new agency, the National Demining Commission (NDC). The mandate of NDC is similar to that of NMCC, but the former has more independence from the government and its establishment is linked to the existence of a new international demining fund. Whether NDC will be able to fill a role as the linchpin for Mozambican HMA remains to be seen. At the time of writing it suffers from shortfalls, financially and in terms of competence.

- There has been a striking lack of coordination between HMA and other assistance providers in Mozambique. While this is partly related to the failure to establish a national body, lack of coordination is also a problem at the local level. There is huge potential for increasing the impact of HMA operations through a closer coordination with other initiatives. The lack of coordination between HMA and other reconstruction agencies is, for the most part, parallelled with very little coordination between different components of HMA. One illustration is when mine awareness and demining goes on in the same community at the same time, but with no cooperation in implementation and at times even a total absence of information sharing.

- The mine problem in Mozambique is varied. It includes considerable mining of major infrastructure, but also random mines placed in order to terrorize the civilian population. This means that a variegated response is needed, but in practice there have been few efforts to establish small-scale, flexible units that can take on random mine occurrences. Such capacities have been needed since demining started, and are likely to be needed well into the future. Overall assessments of the mine problem in the country have been repeatedly downgraded, to the extent where some analysts now suggest that the most pressing mine problems will be solved sometime between 2005 and 2007.

Building Analytical Capacities

- The current system of collecting information in HMA operates with three levels of survey: Level One is a general nationwide survey (potentially including socio-economic information); Level Two a pre-project technical survey (minefield information); Level Three is the completion report (certifying clearance). It is here argued that socio-economic information needs to play an integral role throughout the whole project cycle. The Level One survey can only be a basis for narrowing down the options; a second round including socio-economic information is required before establishing final priorities. The Level Three survey is linked to a one-off handover event. It is problematic because it tends to draw attention away from the fact that confidence in cleared areas is dependent on good relations and information throughout the whole process. It is also problematic because there is no information gathering after the area is handed over. We argue that regular field visits for a considerable time period upon completion are necessary, not only to check upon impact but also to establish the necessary knowledge for a continued improvement of organizational responses.

- The Mozambican HMA effort does not share a common set of routines for establishing priorities: each operators has its own procedures. The National Mine Clearance Commission (NMCC) has established a simple but rough system by which they sort tasks into nine categories. The ongoing Level One survey will have a different system, where several factors concerning the community impact of mines form the basis for a ranking of tasks. Unlike the NMCC approach, the latter system does not make priorities from the overall character of the task (i.e. residential area *or* main road), but from a composite index of a variety of factors (i.e. accidents *and* blocked main road). The Canadian International Demining Centre (CIDC), which is currently implementing the Level One survey, has paid insufficient attention to the need to build support for the survey amongst all HMA actors in Mozambique. Hence, it remains to be seen to what extent the new prioritization system will gain precedence.

- One finding which may serve to illustrate much of what is said in this report is that it often takes a long time before people begin to use demined areas. This may be partly because the areas are not key to survival – people may have developed alternatives and may not depend upon immediate return to former sources. However, it is also the case that poor information strategies from operators, as reflected in the reliance on one-off handover events, result in a lack of local confidence in clearances.

In conclusion, any set of indicator – and any system of prioritization – is no better than the quality of the data that goes into it. At the moment, the debate about impact assessments focuses on the mechanisms of weighting factors and ranking tasks, to the

neglect of basic methodological considerations. HMA agencies need to build a much stronger analytical competence. This must be complemented by the development of a thorough understanding, at all levels of the operation, of the socio-economic impact of HMA generally and of the importance of building strong agency–community relationships specifically.

Chapter 1

INTRODUCTION

The growing attention to socio-economic impact represents a quiet revolution in Humanitarian Mine Action (HMA). Traditionally, progress reports from demining projects have focused on number of mines removed, or on the size of area verified for use. The underlying philosophy has been that the physical removal of landmines constitutes the end product, with less attention paid to the way in which the presence, or absence, of landmines is intertwined with larger societal issues. An example of this is when agencies fail to analyse ownership of land to be freed up by demining, in spite of the obvious point that demining in itself constitutes a scarce resource. The land that the demining frees up, as well as the process used to do this, may have major implications for the communities within which demining takes place.

The HMA community is gradually acknowledging the importance of understanding the socio-economic context of HMA. This, however, has yet to translate into a thorough reorientation of practice, which presupposes the development of new tools as well as the building of new competences. HMA may be undergoing a quiet revolution, but the extent to which it will be a successful one will only be known a few years into the future, when the wisdom of hindsight may be enjoyed. This report is but one contribution to this process.

The main basis of the report is fieldwork conducted by Ananda S. Millard in Mozambique in the period 16 February to 21 April 2000. In this period, Millard conducted three case-studies of mine-affected communities, spending approximately two weeks in the field for each case. In addition to the community case-studies, the report also draws on document studies, interviews with key individuals in Mozambican mine action and on earlier field research conducted by Millard for the AMAC project. The earlier field research was conducted in October 1999 and was facilitated by NPA Mozambique. Kristian Berg Harpviken has been responsible for the document studies. Analysis of data and writing up the report have been the joint effort of Millard and Harpviken.

With regard to the fieldwork carried out this year, there were some deviations from the original plan due to the flood that struck Southern Mozambique in February and March. The original intention had been to conduct one case-study with each of the three major operators in Mozambique: HALO, NPA and the Accelerated Demining

Program (ADP). However, since ADP works only in areas which were severely affected by the floods, we had to cancel a planned community study with them. Conducting a study under these circumstances would have been both ethically unwise and methodologically problematic. Also, part of the original intention had been to study one community prior to demining, one currently hosting an operation and one in which demining had been concluded. With less cases to choose from, we had to use two community studies where demining was ongoing (Nairoto and Nacala, both with HALO) and one where demining had concluded (Capirizanje, with NPA).

We see the primary strength of this report as emerging from its focus on community case-studies. Most other contributions in the field have either been based on document studies, on interviews with key individuals or on a combination of these two methodologies. Through conducting community case-studies, we have been able to achieve two things. First, it has allowed us to integrate into the report the perceptions of the people that live with the problem. Secondly, whereas earlier studies have tended to focus either on the household level or on the national level, our focus on the community level has allowed us to look at the complex interplay of factors that affect the planning, execution and eventual outcome of mine action projects.

The primary focus of this report is on impact assessments as applicable to demining. A major theme is information gathering, including the current repertoire of HMA surveys. The report pays less attention to mine awareness, victim assistance and advocacy work, although these are also integral components of HMA. We believe that a strong integration of the various components of HMA constitutes one important avenue to the strengthening of HMA programs. An example of the need for this would be when demining agencies and mine-awareness practitioners perform their duties in the same area with little or no coordination between them. A linking of the two would permit mine-awareness practitioners to benefit from the attention generated by demining, and enable demining agencies to build on communication in mine-awareness forums to develop understanding of the local impact of landmines. Opportunities for synergies are overlooked far too often in the HMA arena.

This report does not conclude with a finite checklist of the factors that should constitute indicators. We will however provide examples of the types of issues that were of importance in different scenarios. Exactly how it is that a specific issue may influence any given operation might vary from one case to another. For example, let us take the impact of landmines on agriculture. In one case, land for cultivation might be a scarce good, and opening up a mined area might fundamentally change the economic conditions for the local population. In another case, land might be plentiful, and demining crop production areas does little but shorten the distance between people's houses and their fields. Community studies provide a wholesome amount of information. Indeed not all the information gathered leads to a bettering of the HMA program or to socio-economic impact indicators. Yet we cannot disregard the importance of conducting ac-

tive investigation on the ground. We do see that indicators need to play a role in a preliminary filtering of tasks that deserve broader investigation, and that the current reorientation to integrate socio-economic indicators in Survey Level One is a positive step in this regard. Yet we believe that in-depth understanding of the communities inhabiting relevant areas is necessary as a complement to the socio-economic indicators identified in Survey Level One.

This report, and the AMAC project as a whole, is based on the conviction that an improvement of HMA practices must root itself in a thorough analysis of current practice. We realise that there exists a wide range of practical experience in HMA which has not been systematically documented, analysed or fed back to end users and key stakeholders. For this resource to be tapped, researchers need to go to the field and spend time with practitioners, in order to document how they work and to learn from their experiences. As regards the report at hand, we are convinced that there are many organizations and individuals that possess knowledge which would have contributed to its improvement. Our main priority has been to devote sufficient time to the community case-studies. However, since we will continue to examine the issues discussed in the report, we would also encourage comments on this work.

In addition to the present introduction, the report is composed of eight further chapters. Chapter 2 addresses the theme of indicator development in HMA from a broad perspective, seeking to establish objectives and difficulties, as well as contexts of indicator definition and use. Chapter 3 takes a broader look at the history of HMA in Mozambique, still with a primary focus on 'indicators' as these can be derived from the priorities that have been made. Chapter 4 gives a brief presentation of an analytical framework for community studies, and Chapters 5 to 7 contain the reports from the three community studies: Capirizanje, Nairoto and Nacala. Chapter 8, building heavily on the case-study material, attempts to identify the shortcomings of current operational responses. In the ninth, and final, chapter we suggest a set of measures that could be adopted in the effort to strengthen the abilities of mine action operators to address socio-economic impact issues.

Chapter 2

REASSESSING IMPACT: CONCEPTUAL FOUNDATIONS

Demining is a part of the larger postwar reconstruction process. Therefore its primary aim must be to contribute constructively to this process in partnership with war-affected populations, functioning authorities and other humanitarian assistance agencies. However, we will here argue that the concept of 'reconstruction' alone is flawed – directing the attention to an unvisionary re-establishment of the pre-war state – and we therefore suggest 'transformative reconstruction' as an alternative concept. The idea of 'transformative reconstruction' rests on a critical re-examination of current practices in reconstruction. We find that there is an almost exclusive focus on impact as something that is granted by the operator, whereas we argue that all operations have a much larger potential impact than the automatic, and that it is only through strong relationships with the people affected by mines that HMA can maximize its impact. We pose that in order to maximize impact in HMA operations we must redefine the goals and role of indicators.

In this chapter, we establish the conceptual tools needed to discuss the context and content of indicators in HMA. First, we will address the constraints under which priority setting takes place, examine the purposes of indicators and seek to distinguish the use of indicators from a more open impact-assessment perspective. Next, we address the emergency- and development-related aspects of postwar reconstruction, before distinguishing between impacts at various societal levels ranging from local community to the national. Finally, we establish the larger context of 'transformative reconstruction', and the inherent potential for maximizing impact. An underlying theme throughout this chapter is the need to strengthen the analytical capacities of agencies.

Constraints and Prioritization

Any priority-setting process needs to acknowledge the constraints under which it operates. HMA is clearly an integral part of the larger post-conflict reconstruction effort. Yet because of the immediate risk that landmines pose both to operators and to people living with mines, HMA is particular in terms of its demands for specialized technical equipment and competence, and in terms of the funding levels involved. All of these factors influence the ways in which HMA priorities are set. In reality it is often the

case that constraints are given more weight than actual impact assessments when deciding upon which tasks to take on. We suggest that there are three principal types of constraints that need to be considered: *organizational*, *natural* and *political*.

Organizational constraints include capacity, equipment and funds. In terms of capacity, there needs to be a match between the scope of the task and available organizational resources. Organizations need to be able to adapt to the challenges of both large and small tasks.[1] Moreover, available equipment needs to match the scope and type of task; for example, a manual demining team may not be the best response to a vast road clearance task. Availability of funding is also a constraint. Not only is the overall amount of available funding an issue, but it has often been the case that donors effectively block priority-setting discussions by tying funding opportunities to specific programmes or geographic areas.

Natural constraints are simpler, yet key in almost any demining operation. We refer mainly to access to mined areas, in which both distance and the quality of road facilities play a role. Additional considerations might be facilities for medical evacuation in case of an accident. Operations, which are more equipment intensive, might also be less adaptable to varied natural conditions. The relevance of natural constraints is almost always contingent on seasonal and climatic shifts.

Political constraints have to do with the attitudes of national and local authorities in relation to the demining tasks. In postwar settings, peace is fragile and parties to the conflict often have reservations about the clearing of mined areas. The very task of gathering information on the mine problem can in itself be very sensitive. Some tasks, regardless of their socio-economic impact, simply have to wait for political stabilization. The issue of security for operators is also related to this – HMA agencies need to have confidence that their personnel will be secure in the area while at the same time granted autonomy from armed parties.

It is important to note that constraints are not fixed entities but factors that agencies can attempt to modify or adapt to. The extent to which it is possible to adapt to specific constraints varies, but in principle it is the responsibility of the operator to meet the challenges posed by constraints. Constraints can also be worked on, as when an agency seeks to remove political constraints on demining through confidence building with parties. In conclusion, analysing constraints and necessary measures to tackle them is crucial, but constraints should not be confused with the objective of establishing priorities, which must always be based in assessments of socio-economic impact.

[1] A specific argument concerns the need to expose demining personnel to specific tasks (such as clearing an area with particularly difficult types of mines or with a lot of Explosive Ordnance Disposal (EOD) work, or to have deminers regularly work in mine-dense areas (seen as a precondition for not becoming lax on security).

Similarly, it is important to remain aware that constraints change. Therefore agencies need to monitor this change. Even where existing constraints were well analysed and factored in at the onset of an operation, there is a need for continued monitoring. This is one of the reasons why any debate on HMA impact and indicators needs to pay due respect to uncertainty: a less than successful operation is not necessarily a testimony of operational failure; the cause might have been both unpredictable and beyond the control of the operator.

The Use of Indicators

Before turning more specifically to indicators, it is worth looking at what the main purposes of developing indicators are. We would argue that indicators are seen to serve three basic purposes: *strengthening accountability, improving performance* and *knowledge building*. The primary attention tends to be on accountability, with less emphasis on performance and at times a total neglect of knowledge building. This is the case not only in the debate within HMA, but in indicator development in general (Chelimsky, 1997).

The strengthening of accountability rests upon the development of a common language. In one sense, developing indicators means that one establishes a consensual model of what is important. This is what makes standardized indicators so attractive to donors, who seek a simple instrument for holding operators accountable at minimum cost.[2] While it may be true, we suggest, that indicators can be used to facilitate communication amongst all stakeholders – including operators, other agencies, authorities and local populations – the development of standardized indicators implies a risk of oversimplifying impact by not being sensitive to local realities. At the so-called Bad Honnef II conference on development-oriented HMA, it was suggested – for exactly the reasons outlined above – that indicators should always be developed locally, in close dialogue with local authorities and populations.[3]

Performance improvement rests upon the assumption that a common language facilitates communication between agencies and helps give focus to their activities. However, there are potential problems in the use of such indicators, in that they can take on a life of their own. For example, indicators can direct attention away from the diversity that characterizes tasks, towards meeting certain predefined and general criteria.

---

2 It is frequently asserted within the HMA community that indicators need to be developed so as to convince donors of the importance of the work. There is a risk that the ongoing discussion about socio-economic indicators results in a package with the primary purpose of strengthening donor commitment, but with little thought as to the implications for the operations at other levels, or for relations with other stakeholders.

3 'Second Expert Conference on Development-Oriented Mine Action Programs (Bad Honnef II)', Berlin-Kladow, 21–23 June 1999.

That being said, though, it would be naive to believe that most organizations do not operate with some kind of indicators, whatever informal character these may have.

Knowledge building is a major purpose of indicator development. The existence of clear specifications helps us focus and ideally contributes to the collection of data that is both more reliable and more easily compared. For this ideal to be accomplished, the development of indicators needs to be a process rather than a one-off event. At the outset, developing indicators needs to take into account the perspectives of various stakeholders and be based on varied sources of information. After indicators are established there needs to be a feedback loop, so that new lessons lead to the refinement of indicators.

Hence, indicators might facilitate communication within the organization, as well as amongst various stakeholders. However, the risk lies in the failure to critically evaluate indicators. A constructive use of indicators presupposes a dynamic system in which new insights feed back into the revision of existing measures.

Impact and Indicators

Indicators are rough measures of change. In the current context they address change due to the intervention of an HMA operator. The formulation of indicators needs to be rooted in empirical studies of the types of situations to which we want to apply them. This is where we need to move beyond the conception that the removal of landmines is the ultimate objective of HMA, and realize that how demining improves people's lives includes issues that go beyond the technical task of mine removal. Both the formulation of indicators and broader assessments of impact must pay due respect to the difficulty encountered when establishing the relationship between one particular cause (mine removal) and its outcome (a given socio-economic improvement). We will here look at three principal problems for establishing such relationships: *multiple causes, necessary versus sufficient causes* and *prediction*.

In cases where people have lived through years of armed conflict, the factors that have led to their current situation are multiple and have complex interactions. Let us use landmines and displacement as a case in point. There are cases where extensive mining of an area has been the chief cause of people's displacement. However, it is far more common that landmines are just one of many existing causal factors leading to displacement; other factors might include direct threat from parties to the war, conflicts within the community or economic degradation. In such complex cases, it is unlikely that the removal of one causal agent – such as landmines – will allow people to return to an area. Causes interact in complex ways, and even if landmines were a primary cause for a negative effect at an earlier stage, their removal today does not

necessarily mean people will return to their former ways of life. Indeed, in some cases mine removal may even have negative effects.

A more common scenario is where removing the landmines is necessary, but insufficient for triggering change. Let us stay with displacement and repatriation as our illustration. The presence of landmines may have been a major reason why people did not return; nonetheless they may still be unlikely to do so even after demining unless they believe that they will be able to sustain a reasonable life. Important considerations could be economic opportunities, access to education for children or access to medical care. Immediately after the settlement of a conflict, displaced people tend to delay their return until they can establish some level of confidence in a durable peace. The broader point here is not that a demining task which does not trigger an immediate effect is necessarily wrong, but that unless we realize that the removal of landmines is often not a sufficient factor, we can easily focus on the wrong priorities.

This leads us to the general problem of predicting impact. We know that there are numerous constraints beyond the control of any HMA agency that affect the impact of an operation. At a more general level, predicting outcome in social processes is a risky exercise. Nonetheless, making impact assessments in order to set priorities for mine action places us in the vulnerable position of having to predict outcome. Even if landmines were the sole cause behind people's displacement, their removal need not lead to people's return. Displaced populations, for example, might have learnt to appreciate certain welfare services to which they were not accustomed previously but which are available in the host area. In short, we need to take note of the fact that establishing the impact of landmines is not the same as establishing the impact of their removal.

In conclusion, it needs to be established that operators can deal constructively with some of these complications. Once we agree that the physical removal of landmines is not the best way to describe whether we have achieved the ultimate objective of demininig, there is room for re-evaluating current practice. Agencies that systematically build an understanding of the communities within which they work, and who build strong relationships with those communities, are capable of triggering change. Examples of this are when a demining agency facilitates the work of other aid providers or contributes to the local self-assertion needed for people themselves to take new initiatives. In other words, the extent to which an intervention will have an impact is not only a reflection of the inherent impact of landmine removal (i.e. accident reduction), but is also dependent on the manner in which the intervention is conducted.

The Emergency–Development Continuum

A basic assumption in most postwar reconstruction debates is that there is first a short stage of emergency; then, if this phase is tackled successfully, one moves towards a

developmental stage, where not only the priorities are different but also the means for fulfilling them.

In this report, whereas we continue to talk about stages from emergency to development, we think it is important to emphasize that these are not mutually exclusive alternatives but rather extremes on a continuous scale; most priorities fall somewhere between the two extremes. There are several reasons for this. First, and perhaps most importantly, experience has taught us that those emergency initiatives that do not look beyond the most immediate time-frame are rarely successful. Not only do they often fail to solve the problem they were supposed to solve, but they often also have immense negative side effects, such as the creation of aid dependency associated with enduring emergency operations. Secondly, it is very likely that situations vary greatly between localities, and the designation of a country as being in a specific stage might be counterproductive for organizational adaptation to individual tasks. Thirdly, an area that we believe has overcome the most immediate signs of emergency might suddenly be plunged into emergency again, as has recently happened in parts of Mozambique as a result of floods.

This logic of stages seems to have informed priority setting – in HMA in general and in Mozambique in particular. In elaborating on current practice, we have chosen to assume three stages as reference points for discussion, with *emergency* and *development* at the extremes and a *transition* stage in the middle.

Stage 1 priority setting (see Figure 2.1 below) is first and foremost a response to high accident potential. An example would be the case of an area used by displaced people unfamiliar with the mine history of that area. Such tasks may have high impact at the national level (macro-level impact), as when reopening a power or water line that serves a large portion of the population or a road which provides large general benefit to the country in question. From a national perspective these areas are key. In stage 1, demining prioritization often appears most straightforward and its immediate impact is easily visible. In other words, stage 1 priority setting is characterized by the fact that it requires little or no understanding of the local dynamics in order to see the potential impact of demining.

Stage 2 priority setting identifies short-term developmental capacity as the primary benefit of demining an area. The accident potential is significantly lower than at the emergency stage. For example, people know roughly where the mines are and will try to abstain from using a mined area, but accidents may occur. In stage 2 demining, the primary impact tends to be at the regional level. Usually demining is linked to other developmental projects that are being supported by other organizations or institutions – for example, a school or hospital that will be built in the area being demined. Here the identification of the area as a priority is often contingent on work conducted by other actors.

	Stage 1	**Stage 2**	**Stage 3**
Overall objective	Emergency	Short-term developmental	Long-term developmental
Main impact by level	National level (Macro-level impact)	Regional level (often coordination with other aid initiatives)	Community level (Micro-level impact)
Accident potential	High	Low	Minimum
Impact identification	Low difficulty	Moderate difficulty	High difficulty

Fig. 2.1. Priority setting by stage of postwar reconstruction

Stage 3 priority setting is oriented towards long-term development. Selected tasks have minimal or no accident potential because the people in the area know where the mines are and have developed ways to cope without using mined areas. These tasks have a micro-level impact only: the impact of the operation is basically limited to people in the immediate vicinity of the mined area. Moreover, the degree of difficulty in identifying the impact of operations in stage 3 tasks can be high. In some cases this can lead to operations being typified as low impact when operators are unable to envisage the potential impact due to lack of information on local dynamics.

This implies that stage 1 priority setting requires the least understanding of the local community, whilst stage 3 priority setting is dependent on a broader understanding of communities. However, difficulty in identifying socio-economic impact does not preclude its existence. Here one is confronted directly by the insufficiency of relying on technical surveying of the minefield and compelled to establish a larger understanding of the dynamics of the area. Most importantly however, stage 1 priorities have the potential to have stage 2 and stage 3 impact. In any operation, the impact will be increased if the operation works with the community. Additionally, the potential for a negative impact, relative to the overall impact, is minimal at stage 1, increases at stage 2 and is large at stage 3. Whilst priorities at stage 1 will always take precedence over priorities at stage 3, and indeed so they should, the potential for impact of a stage 1 priority is always higher than the obviously visible impact.

From Community to the National Level

Clearly, with the exception of unpopulated areas, the micro-level potential for impact is always existent. In other words, the distinction between micro and macro levels can also be misleading. Not only is it the case that most national-level tasks have a local impact, but it is also the case that all minor tasks add up to development at the national scale. In the following pages the distinction between the community level and the national level will be maintained – not because we think any operation is best explained

by an either–or, but because it helps us distinguish between different types of impact of the same operation.

The distinction also reveals what may be a major shortcoming in current mine action practice: an implicit assumption seems to be that emergency tasks tend to be tasks with potential national-scale impacts, such as the re-opening of major roads. Similarly, there seems to be an emphasis on community-level tasks as one moves towards the development end of the scale. The neglect of community-level tasks at the emergency stage might partly be a reflection of the way demining units have traditionally been organized. Large units with fixed command structures and lacking extra capacity in transport and medical back-up have had difficulty in taking on strategically important spot tasks at the community level, even when those have had a huge accident-reduction potential. A similar, but less strong tendency is to think of longer-term developmental tasks as being mainly at the community level. This is one reason that commercial actors have taken on tasks that might otherwise have been addressed by humanitarian mine action agencies.

Maximizing Impact

The dominant concept used to address the challenge of building infrastructure, institutions and communities after war is 'reconstruction'. The term 'reconstruction' indicates that there is a wish to rebuild the past. Rebuilding the past is anything but a sensible objective, and hence there is a need for a different vision. Not only is it a fact that the past contains the dynamics that led to the war, but it is also true that people and contexts change during war, and therefore a return to the prewar state is neither realistic nor wished for. We would like to suggest that what is required is 'transformative reconstruction', the post-conflict building of a country in a way which aims at maximizing that country's potential for growth. In other words, what is required is an alternative vision to move the country forward in a new developmental direction, socially, politically and economically.

As far as HMA operations are concerned, the idea of 'transformative reconstruction' requires that HMA operators go beyond mine removal towards being part of the larger effort of rebuilding the country. HMA must not only identify tasks, but also examine these tasks with a view to maximizing impact. The basic point, however, is that HMA can achieve much more than re-establishing the prewar situation. If implemented in the right manner, it can contribute significantly to a broader positive development. Unfortunately, the possibility that the identification of socio-economic indicators and the ensuring of socio-economic impact is directly contingent on the way the operator works has been largely overlooked. One simple example is when an operator has failed to foster people's confidence in cleared areas, in which case there is no impact

beyond accident reduction, whereas the potential impact includes the reopening of areas for cultivation and settlement.

A part of the problem is that we regard communities affected by mines as being homogeneous, solely on the basis that they all have mines. In reality, however, communities differ enormously in the constitution of their needs and capacities, hence also in their responses to the mine problem as well as in their potential mode of interaction with an HMA agency. We are faced not only with the question of how HMA agencies interact with host communities, but also with how these agencies can ensure that they have the analytical capacity required to be able to maximize the impact of their work.

Henceforth indicators should not be limited to serving as a baseline for making priorities: they should also serve as orienting principles for HMA conduct. At the extreme, one might have a case where the removal of landmines is potentially positive but unless one conducts the operation in the right manner the harm might outweigh the good. More generally, any operation can be significantly strengthened by integrating socio-economic aspects into the process, not only at the planning and prioritization stage, but throughout the process. In this sense, indicators are not static measures that can either be met or not through prioritization; rather, indicators are flexible ideas that one fulfils to different degrees through the way one conducts an operation.

Concluding Remarks

Measuring impact is in itself a difficult exercise. This problems are exacerbated by assumed causal relationships that are not easy to substantiate. This problem is further aggravated by the difficult context in which HMA operators often work, where they are subject to a variety of constraints that increase uncertainty when seeking to convert plans and priorities into impact. This means that even operations that are well thought through might have a limited impact, owing to factors beyond the control of the operator. We argue that the best way to cope with this uncertainty is to have a clear vision for the work, and that there is always further potential for maximizing impact. This rests upon a redefinition of the objectives of demining, moving from focusing on physical landmines removal to focusing on people's use of demined areas. Such a redefinition presupposes that operators invest in community relationships at all stages of an operation, and that they develop the analytical capacity required to form a credible opinion about the impact of landmines and HMA.

Chapter 3

MINE ACTION IN MOZAMBIQUE: AN OVERVIEW

Humanitarian Mine Action programmes have operated parallel to development and aid programmes contributing to the Mozambican reconstructive process. Yet there has been little coordination between these different efforts. As the Mozambican reconstruction process gradually changed, becoming less emergency and more development oriented, HMA actors have proved slow in rethinking their strategies and redesigning their organizational responses. There has not been an effective coordination mechanism to set priorities for HMA agencies. In practice, the three largest operators have split the country amongst themselves, with a range of other operators taking on more specialized tasks. There is a wide range of organizations, but – with some exceptions – there have been few initiatives exploring new approaches to tackle the mine problem.

In this chapter, we first give a brief historical introduction to the landmine problem in Mozambique, with a focus on what challenges it poses for present-day HMA. We then outline the history of mine action and introduce the main actors, whilst focusing on prioritization and operational mode. Finally, we place the HMA programme within the larger context of reconstruction in Mozambique.

The Landmine Problem

The Mozambican landmine problem dates back to the mid-1960s. The Portuguese were the first to use landmines in Mozambique, in their war against the liberation movement FRELIMO (1964–74). In 1975, Mozambique became independent; FRELIMO oriented itself towards the Marxist camp in world politics and soon after was challenged by RENAMO during a brutal war (1977–92). Although the origin of RENAMO is not well documented, one of the chief historical accounts poses that RENAMO was set up by the white minority regime in Rhodesia and was backed by South Africa after Rhodesia became Zimbabwe and established majority rule.

The majority of landmines in Mozambique were laid either by FRELIMO or RENAMO in the period between 1978 and 1990. The government party mainly used landmines defensively – to protect important infrastructure and strategic sites from the

RENAMO forces. Minefields were also laid along the borders with South Africa and Malawi. RENAMO aimed at weakening the government by targeting the economy. One of RENAMO's strategies was to attack important infrastructure, particularly the road system, and here landmines played an important role. Like the FRELIMO government, it also used mines to protect its military bases, as well as villages under its control.

Both FRELIMO and RENAMO used mines randomly, and both have been accused of using mines to terrorize civilians. Human Rights Watch has encountered instances were the fear of landmines was exploited to terrorize civilians – where people were told about the presence of landmines where there were none. Landmines were used to cut off access to food – through the mining of paths to fields, water sources and fishing points, or through hindering the delivery of food aid (Roberts & Williams, 1995: 211–212). RENAMO also used mines to prevent displaced people from returning to their homes.

Mozambique's landmines were mainly supplied by the Soviet Union, but also by Rhodesia/Zimbabwe and South Africa. The insurgency forces in Mozambique developed expertise in lifting and re-deploying mines from government minefields, a practice that was popularly called 'fishing'. The war ended with the Rome Peace Agreement of October 1992, leading to multiparty elections two years later. The United Nations Operation in Mozambique (UNOMOZ) was set up to oversee the two-year transition period. By and large, after the end of the war there have been few reports of new mines being laid in Mozambique (Human Rights Watch, 1997: 72). However, in the first years after the Rome Agreement, both parties to the conflict were accused of limited planting of new mines, at times with the purpose of slowing down the ongoing humanitarian demining process.

Early estimates of the landmine issue in Mozambique pointed to a massive landmine problem. In relation to these data the country was categorized – together with Afghanistan, Angola and Cambodia – as one of most severely mine-affected countries in the world. Estimates of the scope of the problem have since been continuously modified, and currently there is a wide consensus that the mine problem in Mozambique is far more manageable than what was predicted in the first half of the 1990s. Landmines today no longer figure at the top of the list of obstacles to the country's reconstruction.

The problem with accurate data gathering has served to illuminate how difficult it can be to find representative ways to describe the mine problem. The most frequently used indicator of the mine problem has been number of mines. Whereas early estimates were in the range of 2 to 3 million mines, these were soon modified to a few hundred

thousand at the most (Human Rights Watch Arms Project, 1994).[1] Overall, estimates of the number of mines are useless as an indicator of the problem. Given currently applied demining techniques, such estimates say very little about the effort needed to tackle the problem. Even more importantly, numbers of mines say nothing about the impact that landmines have upon populations: 100 mines placed to instigate fear amongst civilians could be much more of a problem than 10,000,000 mines placed inside a fenced area which does not have an important value for the local population.

A frequently used indicator of the impact of landmines at the national level has been accident statistics, which capture one central component of the costs to the population. As discussed earlier, accident rates are one central issue at the 'emergency stage' of reconstruction, but are less helpful in the establishment of mid- and long-term priorities. Reports of mine accidents from Handicap International (HI) and the national mine-awareness programme that it coordinated suggest significant reductions in accidents from 1995 to 1998 (International Campaign to Ban Landmines, 1999: 61). The figures are highly inaccurate, and victim rate is too narrow an indicator of the socio-economic impact of mines. Yet, these figures illustrate that the impact of landmines has been significantly reduced, if one uses the number of accidents as the sole indicator.[2]

1995	600–720 (rough estimate)
1996	126 (reports from 6 provinces)
1997	69 (from 7 provinces)
1998	83 (all 10 provinces)

Fig. 3.1. Estimated numbers of mine victims in Mozambique, 1995–98

The accident data – as well as other more loosely founded assessments of the mine problem in Mozambique – has led some analysts to conclude that the most pressing mine problems in Mozambique will be effectively dealt with by year 2005 to 2007 (Agenda, 1999: 74). Such a conclusion might appear overly optimistic, given the number of mined areas that remain in Mozambique. However, this does indicate how the landmines issue is undergoing redefinition, which will lead to its ranking lower amongst the country's reconstruction challenges than was previously the case. This places current operators in a delicate position: until now funding for mine action has

1 A recent report by the Geneva-based Pro Victimis accuses operators and advocacy groups of having maintained artificially high figures of landmines until the present day (Bottigliero, 2000). While this is true for some groups, the report fails to suggest alternative measures that would give a more representative picture of the impact of landmines in Mozambique.

2 It appears disputable whether demining should be credited for the reduction in accident rates. A 1998 IDRC consultant suggested that the main reasons were that 'there are no longer large population movements, there is better knowledge of mined sites, and the mine-awareness programmes are paying off' (Rebelo, 1998).

been relatively generous; however, as the landmines problem is redefined, operators may run into severe funding problems given that operational costs will remain high. Landmines continue to pose a serious problem for many communities across Mozambique and remain a problem for rebuilding or maintaining important infrastructure. There will therefore be a need for substantial demining capacity in many years to come. However, the priorities will appear to be less pressing, and it will be necessary to restructure organizational responses.

Mine Action

The 1992 Rome Peace Agreement made reference to the importance of humanitarian assistance as an integral part of peace building, but made no specific reference to mine action as such. However, there was already a certain awareness that there was a mine problem in the country, although it proved difficult to qualify this assumption any further at that stage.[3] The UN Secretary-General emphasized the integration of all components of the Mozambican programme. This indirectly led to the politicization of demining decisions and to delays in getting the programme of the ground. At this early stage, demining was dealt with by the Cease-fire Commission (CCF), which included representatives of both parties to the conflict – FRELIMO and RENAMO (Eaton, 1997: 11-12). This proved to be a major constraint to demining efforts, since both parties were hesitant to the idea of humanitarian demining.

A preliminary plan of action was developed as early as January 1993, although the parties to the conflict did not approve it until November of the same year. The priorities outlined in the first plan were to open roads – in order to facilitate the repatriation of refugees and Internally Displaced Persons (IDPs) as well as to make possible humanitarian aid delivery (International Campaign to Ban Landmines, 1999: 47). Due to its primary emphasis on supporting the UNOMOZ peace mission, the plan has later been criticized for focusing on emergency-oriented objectives (Eaton, 1997: 14). Such a focus led to a failure in realizing that demining would be an enduring undertaking in the country. In addition, little attention was placed on the needs for comprehensive data gathering and the establishing of sustainable indigenous capacities.

Having addressed the most immediate problems with the political parties, the UN faced another constraint from the donors' side. The UN wanted to establish an implementing unit of its own, to be converted into a national capacity at the termination of the UNOMOZ mission. The UN proved unable to build donors' support for their plan, but was unwilling to compromise as regarded its initial idea that the national body

[3] DHA asked UNSCERO in Mozambique for information about the landmines problem in July 1992, the response was that precise information was impossible to gather before the ceasefire had taken effect (Eaton, 1997: 11)

should have not only planning, but also operational capacity. On the other hand, it was also a problem that several donors were working to secure demining contracts for specific NGOs or commercial operators. The 1997 DHA report (*Mozambique: The Development of Indigenous Mine Action Capacities*) suggests that the lack of ability on the part of the UN and donors to reach a consensus was the major reason for the failure to establish a functioning central coordination mechanism (Eaton, 1997 18–21).

The first agency to establish a demining capacity was Norwegian People's Aid (NPA). The first NPA team arrived in March 1993. NPA established itself in Tete province, from where NPA was already running a development programme. The first NPA team started demining in August 1993. Operating in what was seen to be an emergency context, priorities were set by UNHCR, which was co-financing NPA's work during this first year of operations. Areas for clearance were selected on the basis of expected refugee return, but with insufficient attention to the constraints posed by NPA's limited capacity (Hallam, 1997: 80). NPA has later developed into one of the main mine action operators in the country, being responsible for most of the demining in the central and northwestern provinces of Manica, Sofala and Tete.

HALO Trust, a British agency, started to establish its base in mid-1993, at first to implement a national survey of the mines situation under subcontract for UNOHAC. HALO also started to establish a demining capacity, carrying out – with funding from the British Overseas Development Administration (ODA) – clearance linked to the activities of three British NGOs. HALO is the dominant operator in the north, where it covers Niassa, Nampula, Cabo Delgado and Zambezia provinces. The HALO survey, commissioned by UNOHAC, did not cover the whole country. In fact it only registered 981 mined areas of the 1761 registered in the CND database by early 1999 (International Campaign to Ban Landmines, 1999: 53). The survey was completed late 1994, and has been – in spite of major criticisms – the only national level minefield registration until present. Perhaps its most interesting shortcoming is that the survey did not in any way address the socio-economic impact of landmines in Mozambique.

While NPA and HALO became operational, the UN was still unable to get started. By mid-1993, it had effectively been decided to invite tenders for a USD 12 million road clearance contract as a first step in the UN-facilitated national plan. An international consortium consisting of Royal Ordnance (UK), Mechem (South Africa) and Lonrho (Mozambique) was given the task in July 1994, after a lengthy fine tuning of the formalities within the UN system (Eaton, 1997: 20). This initiative was met with substantial criticism, not least due to the involvement of the South African company Mechem, which was accused of 'double dipping' on account of its involvement in landmines development (Human Rights Watch, 1997: 85). However, thanks to Mechem's unique vapour detection technology, the project succeeded in clearing 2051 kilometres of road by December 1994 (Harpviken, 1997: 92–93).

In addition, the UN effort to build an implementing demining capacity had lagged behind. Towards the end of 1994 the Accelerated Demining Programme (ADP) commenced its activities in the southern provinces. Through ADP a demining school was established, although by then the other agencies had already established their own training facilities in the absence of a UN capacity. ADP was originally criticized for concentrating on mine-dense fields at the exclusion of examining socio-economic impact (Human Rights Watch, 1997: 88). Moreover, early tasks were in logistically favourable areas, in towns or close to Maputo itself. The future status of ADP came up for discussion in 1996, with alternatives being conversion either into an NGO or into a government agency (Eaton, 1997 31-32). This controversy – with donors and the government on opposite sides – was not resolved; as things stand, ADP retains a somewhat ambiguous status as a para-statal organization – with substantial UNDP support and effectively under UN management. Recently the new government-based coordination body, the National Demining Institute (NDI), has suggested that ADP should become the basis for a long-term national mine action capacity, and that therefore it should expand its area of work beyond the Southern region (National Demining Institute, 2000: 5)

When ONUMOZ withdrew in December 1994, there was no authority in place to take over the coordination of the national mine action effort. Hence the National Mine Clearance Commission (NMCC)[4] was established in May 1995. The mandate of the NMCC was, amongst other things, to coordinate operations, maintain the national database, develop strategic plans, as well as to set procedures for prioritization. The new body included the representatives of seven ministries, with the Minister of Foreign Affairs and Co-operation as its President. In the long term NMCC proved unable to develop the capacity to set national priorities (Hallam, 1997: 81).

More generally, the UN has been heavily criticized for its slow progress in building up an effective demining capacity in Mozambique. It has been suggested that the highly centralized decisionmaking of the UN was a key obstacle to getting operations off the ground (Hallam, 1997: 82). The establishment of relatively independent NGO capacities in Mozambique, which persists until today, can largely be seen as a response to this slow UN response. The DHA report from 1997 is devastating in its critique:

> The absence of reliable data on high priority minefields, compounded by the absence of a central coordination mechanism, is likely to result in many high-priority minefields not being addressed in a timely manner and effort and resources being expended on areas that are not mined (Eaton, 1997: 23)

[4] NMCC is also known under its Portuguese acronym: CND.

Operator	Type	Main tasks	Start	End	Funds 1994–2001
Gurkha Security Guards (GSG)	Commercial (British)	Road Clearance	Jan 93	Feb 94	n.a.
Handicap International (HI)	NGO (French)	Mine awareness "Proximity demining" (from Feb 98)	Jun 93		$5,134,000 (5.5%)
Norwegian People's Aid (NPA)	NGO (Norwegian)	Training Area clearance Road clearance	Jul 93		$20,100,000 (21.5%)
Mine-Tech	Commercial (Zimbabwean)	Road clearance Power lines/Railway lines Area clearance (with GTZ development programme)	Dec 93		$1,952,000 (2%)
HALO Trust	NGO (British)	Survey (The 1994 Level One Survey) Area clearance Road clearance	Jan 94		$3,791,000 (4 %)
RONCO	Commercial (USA)	Road clearance with dogs (transferred dogs, equipment and personnel to NPA upon completion)	Jan 94	Jun 95	$10,000,000 (10.5%)
Mechem	Commercial (South African)	Road clearance Area clearance	Feb 94		$4,200,000 (4.5%)
National Mine Clearance Commission (NMCC)	Government	Data-collection & analysis Priority procedures Monitoring Coordination Standards Oversee mine-awareness programme	May 95	Jun 99	$10,207,000 (11%)
Accelerated Demining Program (ADP)	UNDP with Government	Road clearance Area clearance	Oct 95		$20,030,000 (21.5%)
Special Clearance Services (SCS)	Commercial (Zimbabwean)	Area clearance	mid 96		$4,813,000 (5%)
Carlos Glassman Technologias de Vanguarda Aplicadas Lda. (CGTVA)	Commercial (Portuguese)	Quality Assurance for NMCC	97		n.a.
CIDEV (French)	Commercial (French)	Power lines clearance	Jun 98	Dec 98	$3,158,000 (3.5%)
Canadian International Demining Center (CIDC)	NGO (Canadian)	Survey Level One (within the Survey Action Centre framework)	99		n.a.
National Demining Institute (NDI)	Government	Replaced NMCC, but with more autonomous position, and linked to the establishment of FUNAD, the National Demining Fund	Jun 99		n.a.
Afrovita	Commercial (Mozambican)	Road clearance	99		n.a.

Fig. 3.2. Main operators within Humanitarian Mine Action in Mozambique[5]

[5] The table draws upon information from the following sources: Human Rights Watch, 1997; International Campaign to Ban Landmines, 1999; Roberts & Williams, 1995, in addition to data gathered by AMAC.

The 'National Mine Clearance Strategy Approach' of November 1998 suggested that the National Demining Institute (NDI), a new para-statal institute, replace NMCC (Republica de Mocambique, 1998). NDI was to enjoy larger autonomy from ministerial control and is closely linked with the establishment of a national demining fund, FUNAD. In a recent paper, the mission of NDI is formulated as follows:

> IND's [NDI's] mission is to fulfil the Government of Mozambique's mandate in coordinating and focusing Mine Action by setting national priorities, developing a functional information management system, monitoring quality assurance and ensuring cost effective use of Mine Action funding. (National Demining Institute, 2000: 6)

Again, donors have proved sceptical, not only because they have been hesitant to lose control over funds but also because NDI's ability to establish authority over the mine action domain is seen as doubtful. These obstacles are identified by NDI, which also speaks openly about how the institution in the past has 'been plagued by a lack of credibility and transparency' (National Demining Institute, 2000: 4). While the Mozambican concern for establishing national control over mine action is highly legitimate, it remains an open question whether NDI will be able to overcome the existing scepticism of both donors and operators and establish the capacity for effective coordination and quality control.

One distinctive aspect of the Mozambican case has been the extent to which commercial operators have taken part. By 1997 as much as 45% of the total funding had been going to commercial companies (Eaton, 1997: 30). The percentage of commercial companies appears to have fallen substantially since, with their receiving between 26% and 30% of the funding for the whole period 1994–2001 (International Campaign to Ban Landmines, 1999: 51). Beyond the UN-funded 1994 road clearance described above, South African Mechem and Zimbabwean Mine-Tech jointly took on a large commercial contract to clear parts of the Cahora Bassa power line. Humanitarian agencies also continue to subcontract commercial companies for demining. The German development agency GTZ has hired Mine-Tech for the demining component of its integrated development projects in Manica province. UNICEF and UNHCR have also contracted Mine-Tech. Another Zimbabwean Company, Special Clearance Services (SCS), has been contracted by humanitarian funders, including UNICEF, the European Union and the World Bank. There has been less and less criticism of the technical quality of the commercial demining. However, the more interesting question in the current context is how it is that the commercial companies execute humanitarian priorities, particularly what measures they, as well as their funders, take in order to ensure strong community relationships, or more broadly what we have here termed maximization of impact.

We know little about the extent to which the armed forces, or other government institutions, have conducted mine clearance in Mozambique. The government started mine

clearance during 1993, and in 1994 the new joint defence forces received some demining training from the French military (Human Rights Watch, 1997: 84). Also the Direcção Nacional de Estradas e Pontes (DNEP) has been active in clearance, hiring demobilized soldiers as deminers.

From early 1998, Canada started to explore responses to the need for a more comprehensive Level One Survey in Mozambique. Canada established a dialogue with the Survey Action Centre (SAC), a consortium set up by some of the world's key HMA agencies in order to implement socio-economic Level One Surveys across the globe. With Canadian funding, it eventually became clear that the Canadian International Demining Centre (CIDC) would be the implementing agency in Mozambique for the Survey Action Centre (SAC). CIDC personnel had little experience with either landmines or Mozambique, and at first CIDC failed to build confidence among established demining organizations, while suffering huge delays largely due to its underestimation of the bureaucracy involved in importing equipment into Mozambique.

In several mine-affected countries there has been considerable 'self-help demining' – in the sense that people have cleared on private initiative, with no institutional backup. This is definitely a high-risk activity: a 1995 cross-national study concludes that the risk of falling victim to a mine increases about fourfold if you 'tamper with mines' (Andersson, da Sousa & Paredes, 1995). Interestingly, the same study finds that this is almost a non-existent problem in Mozambique, as opposed to other countries in the study. The finding is consistent with observations from HMA personnel with experience from different countries. It seem that people are less inclined in Mozambique to take on 'self-help demining', and in general have higher respect for the risks associated with mines.

Handicap International (HI) started mine awareness in 1993, both for rural populations and for returning refugees. HI was in charge of mine-awareness education in the country until January 2000. Whilst in charge of mine awareness, HI coordinated the so-called National Co-ordination Program of Education Activities to Prevent Mine and UXO Accidents (International Campaign to Ban Landmines, 1999: 60). Partners to the programme were the national Red Cross and the Ministry of Education, in addition to a range of other agencies at different levels. The programme was based on district level mine-awareness committees with one HI coordinator at the provincial level. Notably, there has been a low level of integration between mine awareness and demining in Mozambique. The 1997 DHA study accuses demining NGOs of having marginalized mine awareness, which it recognizes as 'a continued illustration of programme managers and policy makers military tendencies that focus on the technical response to the mines threat while resisting the concept of integrated mine action' (Eaton, 1997: 37). In several other places in the world, demining units also perform mine awareness, as a means to conduct an ongoing dialogue with locals about the local mine problem and about the operation. As from 1 January 2000, the National Co-ordination Program

has closed. A new Mozambican mine-awareness programme will include the old parties to the programme, but the responsibility will rest with NDI.

More recently, HI has engaged in demining. It works in Inhambane province and has developed a concept called 'proximity demining'. The basic idea is that there is a need for a different organizational response in an area where most of the mine problem consists of scattered mines that were originally aimed at the local population. HI teams are small and flexible and clear areas that they perceive as being of great importance locally but which would nonetheless be ranked low amongst national priorities. This approach fundamentally exposes the irrelevance of conventional efficiency measures, such as cost by area – a measure on which 'proximity demining' would lose out. The key question, however, is why other operators have not developed such a capacity, given that this seems to be a more suitable response to parts of Mozambique's mine problem than the conventional use of platoons with 30 to 45 deminers each.

HALO Trust – which envisages that it will withdraw within the next couple of years – has also started to think about how parts of the capacity it has developed can be restructured to be functional in a new situation. It is considering establishing 'demining fire brigades' at the provincial level, which will work on low-priority tasks. Similar thinking about 'fire brigades' is also expressed in government documents (Republica de Mocambique, 1998: 9).

With the exception of the HI and the HALO initiatives, there seems to be little in terms of different modes of implementation and organizational set-ups.[6] It still seems that conventional capacities and modes of organization seems to be promoted, even in the establishment of the NDI. Given what seems to be an imminent reorientation of the whole Mozambican mine action programme, this is particularly surprising. Linked to this is the question about whether organizations work to develop analytical capacities, and more broadly, have the capacity to achieve what we have termed 'maximisation of impact'.

HMA within Reconstruction: Room for Cooperation

The reconstruction effort that was initiated by the 1992 peace settlement linked closely in with the World Bank structural adjustment package initiated in 1987. Mozambique has, in this period, had to counter the dual challenges of postwar reconstruction and the reorientation of its political economy from centralized planning to market econ-

[6] A similar question can be raised regarding alternatives to clearance, such as fencing, building trenches around a minefield or constructing a bypass instead of clearing a road (Hallam, 1997: 77). Those means may in many instances be more cost effective than demining, not the least as an avenue to free up deminers for work in high-priority areas, but their application is still very limited.

omy. Mozambique's economy has seen considerable improvements since 1992, although it is also the case that a large share of the country's population is amongst the most poverty stricken in the world. Broader overviews of Mozambique's economy are not particularly concerned with landmines. In fact, a 1998 Country Assistance Review by the World Bank seems to make no reference to landmines whatsoever (Landau, 1998). One of the country's key challenges is its massive dependency on foreign aid, with as much as two thirds of imports being financed by aid in 1996. One central implication of this aid dependency is that government capacities are stretched to the limit in dealing with the special concerns of the variety of aid providers, in itself a major obstacle to developing independence in the longer term.

Returning to mine action more specifically, lack of coordination with other kinds of relief and development programmes appears to have been a persistent flaw of the effort in Mozambique. One example is when an NPA team spent three and a half months clearing 41.5 km of road in Doca in 1994, but where the road remained out of use due to lack of rehabilitation (Hallam, 1997: 80). This is but one of many examples where the failure to follow up demining with other activities has prevented any short-term impact of the investments. However, the conclusion that HMA reconstruction coordination has been poor in general – and nearly absent at the national level – must not prevent us from identifying positive steps taken at local levels.

From 1998, NPA started to include community services – in the form of so-called Quick Impact Projects (QIPs) – in the demining sites where it was working. The idea is to take advantage of the presence of the mine action operation in a community to provide limited services, such as securing access to water, repairing a bridge or providing basic medical assistance (Agenda, 1999: 62). An additional motivation was that this contributed to improving relations between demining personnel and the local population. The 1999 Agenda evaluation of NPA raises the concern that an additional project component might take the focus away from the basic task of communicating about the demining process itself. The report fails to reflect upon the potential benefits that the arrangement could have for the impact of demining. In the same report, the very sustainability of the QIPs is questioned – many of the projects seem to require follow-up beyond the mine action engagement.

Another exception to the rule of poor integration between HMA and other programmes is the GTZ projects, which explicitly aim at integrating demining within a larger development effort. Zimbabwe-based Mine-Tech conducts the demining for the GTZ projects. These organizations argue that coordination is key throughout the project cycle. For example, the basic survey is set up as an extended mine-awareness exercise, in which the purpose is to gather not only landmines information but also information for planning reconstruction activities more broadly (Mine-Tech, 1998: 3).

There is certainly potential for a closer coordination between HMA and other reconstruction efforts. However, as the above example might illustrate, there are certain limitations in the capability of HMA organizations to take on a leading role in coordinating development-oriented activities in a project area, one of them being that HMA organizations rarely stay long enough in one area.

On the whole, it is clear that the process of reconstruction in Mozambique has come out of the emergency phase, and that the current challenge is to foster mid- to long-term development. This is as valid for HMA as it is for reconstruction in general. However, it seems that HMA, perhaps to an even larger extent than other reconstruction sectors, has failed to adapt to changing circumstances and remains focused on short-term priorities. The problem links up with the larger issue of not realizing that impact is also something that results from the way the operation is conducted, rather than just from the physical removal of mines. Indeed, within the approach here described as transformative reconstruction, HMA agencies from the very beginning of operations would have factored in a longer-term perspective in their planning, as well as in their mode of project implementation.

Concluding Remarks

The Mozambican mine action scene has been characterized by many and varied types of actors. There has been a general failure to build viable coordinating structures, and even today there is no standardized procedure applied by all operators in Mozambique. For prioritization and impact assessments, as well as for the more technical aspects of the operation, each agency has its own procedures.

More generally, HMA operators in Mozambique have operated in tandem with the wider reconstruction effort – with demining being separated out as a technically demanding and highly different task. We have argued that HMA practitioners need to work with a focus on the mid- to long-term impact of their work, and that such a change of focus would also be conducive to an increased realization of the potential that there is for maximizing impact through how one builds relationships with host communities.

Chapter 4

COMMUNITY IMPACT: DEVELOPING A FRAMEWORK FOR ANALYSIS

Understanding the impact of mines and mine action requires an approach that allows us to come to grips with how real people are affected by mines. There is a need for an alternative to looking at the impact of landmines through national level statistics, or through life stories of individual mine victims in isolation. Conducting community studies is one possible approach to understanding the mine problem in context. Studies of the impact of mine action tend to be based mainly on documents and on interviews with agency management. Our approach is based on the conviction that one has to get down to the project level in order to disentangle the complexities of mine action impact. Improved assistance to mine-affected communities must start with a deeper understanding of the situation faced by people living in these communities. It is this premise that makes the need for community-level field research a necessity. In this chapter, we will introduce a couple of key ideas underlying our approach to community studies, where the emphasis is on people's own coping strategies. The bulk of this chapter, however, is devoted to a discussion of the elements that together build a mixed-methods approach for community studies. This chapter ties in closely with the conceptual foundations outlined in Chapter 2, and can be read as a practical, community-level response to the need for maximizing impact.[1]

Contextualizing the Need for Community Studies

We will start by introducing two conceptual ideas from the debate on conflict-related assistance. The first is Mary B. Anderson's concept of *Do No Harm*; the second is the so-called *Capacity and Vulnerability Analysis* by Mary B. Anderson and Peter J.Woodrow. The *Do No Harm* concept takes as its starting point the assumption that aid has a potential to do more harm than good. Whereas it is easy to think that doing something is better than doing nothing, the former line of thinking places great responsibility on those who design and implement aid. There is always the potential that the harmful effects outweigh the positive ones; one should assume that any intervention does have at least some disadvantageous effects. As a concept, *Do No Harm* has been promoted by Anderson in the latter half of the 1990s, within the confines of the

[1] This chapter is a revised version of Harpviken & Millard 1999.

so-called Local Capacities for Peace Project (Anderson 1996; Anderson 1999). *Do No Harm* has now become almost a staple of international policy debates, yet it is too early to say what difference it will make for field-level aid operations. The concept has been launched and debated mainly in the context of the impact of aid on armed conflict, addressing how it is that aid might exacerbate, or even prolong, conflicts. HMA, just like other components within conflict-related assistance, needs to respond to the insights reflected by the *Do No Harm* concept.

There is a tendency in postwar reconstruction to base one's activities on so-called needs assessments. This approach is challenged by Mary B. Anderson and Peter J. Woodrow in the book *Rising from the Ashes*, where they introduce what they call Capacities and Vulnerabilities Analysis (CVA). Here, the concept of needs is replaced by 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' (Anderson and Woodrow 1989: 11, italics in original). The authors make two specific points in relation to the concept of vulnerabilities. First, they challenge the assumption that aid is about re-establishing a pre-conflict situation, by focusing exactly on the vulnerabilities that existed in that situation. One might add to this that these pre-existing vulnerabilities would often figure prominently on a list of the very factors that led to the conflict in the first place. Second, Anderson and Woodrow draw attention to the potentially negative impact of aid, as outside interventions might add to people's vulnerabilities. They also draw attention to cases where the short-term impact is positive.

The concept of vulnerabilities by necessity refers to its negation: capacities. Whereas conventional needs analysis only looks at people's problems and weaknesses, CVA takes their strengths and competences as a reference point. Hence, it suggests that aid practitioners must work on the assumption that all people do possess capacities, and furthermore that the only way to ensure that aid interventions are positive is to root them in these very capacities. Obviously, identifying people's capacities in a conflict situation where nothing but vulnerability stands out is a demanding task, yet it is one that needs to be tackled. The alternative, to return to hardcore needs analysis, implies a calculated risk that interventions exacerbate existing vulnerabilities, or even lead to new ones.

Conducting Community Studies

The ultimate effectiveness of aid interventions can only be grasped by looking at how they affect the lives of people on the ground, hence the focus at the community level. This does not mean a neglect of actors and processes at levels beyond the community level. Whereas the CVA framework presented above could, in principle, be applied to all levels of analysis, our focus on the community level is for pragmatic reasons. This is the level that most HMA assistance projects address. At the same time this is the

level most frequently neglected in analyses and evaluations of HMA. As has been discussed, this imbalance needs to be rectified. Community studies form an essential component of the effort to try to tackle seriously the need for strengthened impact assessments as a basis for the maximization of impact.

Community studies should be essential in the HMA agencies' strategies for impact assessment. As we will return to in Chapter 8, there is currently a practice where socio-economic data are included in the general Level One Survey which underlies priority setting but excluded at later stages of the project cycle. We argue that the Level One Survey serves only for a first filtering of tasks: the final selection should take place only after community studies have been conducted. Furthermore, we suggest that socio-economic analysis needs to be an integral part throughout the project cycle, and include regular follow-up studies of completed tasks. This approach would not only contribute to solidifying the basis for how individual tasks are conducted, but would also over time become the knowledge base that HMA agencies require in order to develop and refine the way they work.

Plan of Inquiry

Principal statements about capacities and vulnerabilities needs to be complemented by concrete issues. Currently, we have sorted the issues into three fields: *economic*, *human* and *social*.[2]

The *economic field* covers the physical environment in which people operate. This is seen to include: environmental aspects (such as deforestation linked to land pressure); natural resources (such as access to hunting or to pastures); resources for cultivation (particularly forms of agriculture, including irrigation systems); production aids (ranging from household animals and tractors to factory production lines); and infrastructural issues (roads, markets or public buildings).

The *human field* is defined as the vulnerabilities and capacities that are vested primarily in the individual. Here we are interested in: injuries and casualties (the direct health impact of landmines); health aspects beyond landmines (i.e., indirect effects, including issues such as access to drinking water or health facilities); and education (existing skills and competence; educational opportunities).

---

[2] This is somewhat different from the framework suggested by Anderson and Woodrow, who operate with: Physical/Material; Social/Organizational; Motivational/Attitudinal (Anderson and Woodrow 1989: 12). It is also different from the framework suggested for demining impact assessments by the Geneva International Center for Humanitarian Demining (GICHD), which has the following components: Human Impact; Social Impact; Economic Impact; and Environmental Impact.

Methodology (see chapter appendices)
- Field visit period
- Case selection
- Access/Dooropener
- Staff (surveyors/translator)
- Constraints/practical difficulties
- Data
  - *No. of survey respondents*
  - *No. of primary respondents*
  - *Documents*
- Qualifier questions

Community background
- Village geographical composition (with maps)
- Population
- War history
- Mine problem history
- Minefield - size and location
- Mine action operation

Economic field
- Agriculture
  - *Land*
  - *Land rights/ownership*
  - *Type of crops grown*
  - *Fruit trees*
  - *Irrigation*
- Fishing
- Hunting
- Wood resources
- Animals
- Household water
- Diet
- Markets
- Transport
- Employment – formal
- Employment - day labor

Human field
- Perceptions of security
- Injuries directly caused by mines
  - *Victim profiles*
  - *Evacuation facilities*
  - *Surgical facilities*
- Health
  - *Access to medical proffesionals*
  - *Access to health education*
  - *Most common diseases*
  - *Access to clean drinking water*
  - *Sanitation*
- Education
  - *Educational infrastructure and materials*
  - *Teachers*
  - *Access to school during war*
  - *Access to higher education*
  - *Mine awareness in education*
  - *Attitudes to education*
  - *Literacy rates*

Social field
- Local institutions
  - *Local leadership*
  - *Conflict resolution mechanisms*
- Religion
  - *Traditional practices*
  - *World religions*
  - *Link religion and health*
  - *Link religion and landmines*
- Tradition of collective mobilization
  - *Common resources*
  - *For private benefit*
  - *Recreational mobilization*
- Local solidarity
  - *Social support*
  - *Economic support*
- Information
  - *Vital for household economy*
  - *Vital info on local economy*
  - *Vital info on current security*
- Displacement
  - *History of displacement Repatriation*
  - *Current migration dynamics*
  - *Shift in community composition*
- Family composition

The HMA operation
- HMA operation
  - *Description of operation*
  - *Resources*
  - *Project plans/objectives*
  - *Monitoring & Evaluation*
  - *Visions for follow up in HMA*
- Information and Analysis
  - *Data collection*
  - *Prioritization process*
  - *Attention to 'unintended consequences'*
- HMA Organization
  - *Organizational resources in operation*
  - *Flexibility*
  - *Staff background and origin*
  - *Perceptions of community*
- Community perception of operation
  - *Knowledge about operation*
  - *Confidence in operation*
  - *Economic importance*
  - *Value not related to mines*
- HMA Components
  - *Demining*
  - *Mine awareness*
  - *Victim assistance*
  - *Advocacy*
  - *Coordination within HMA*
- HMA in Context
  - *Emergency assistance*
  - *Development assistance*
  - *Coordination with other assistance*
  - *Coordination with authorities*

Fig. 4.1. Plan of Inquiry

The *social field* is perhaps the one that is least immediately accessible, but also potentially the most rewarding, the field where one can expect genuinely new and important insights. As defined here it involves a range of issues: local institutions (including community leadership and consultative organs); social solidarity (local networks, social solidarity); information channels; and migration (particularly war-related migration and displacement, including repatriation). An analysis of the social field also needs to look at existing and potential conflicts, with a view to how these might be affected by aid interventions.

These three fields, with their constituent factors, are introduced by a general community background and complemented by a section that specifically addresses HMA factors. The fields are not intended to provide a rigid framework for this type of study or for analysis more generally. The intention with the fields, and more specifically with the list of issues that they generate, is to organize our way of thinking. In many cases the link between a particular issue and mine action is far from evident, at times even wanting. We would still argue that such a broad approach is necessary to be able to maximize impact, and for HMA agencies to serve as parties within transformative reconstruction efforts. First, we think that a checklist serves to guide attention towards issues that might not seem important at first sight but that are at least in some cases linked to the mine problem. Second, and closely linked to the first, it is often found that different issues interact in complex ways, so that an issue seemingly irrelevant to mine action becomes relevant through its interaction with other issues. This was dicussed under the heading 'Impact and Indicators' in Chapter 2, which focused on the difficulty of establishing cause–effect relationships. It will be further exemplified in the case-studies to follow. Thirdly, HMA agencies should not see themselves in isolation from broader reconstruction efforts, but rather use the latter's understanding of the communities in which they operate to encourage responses beyond mine action. The success of HMA operations themselves is often dependent on such initiatives, as when a demined road cannot be taken into use until it has been rehabilitated.

We will therefore be asking questions which appear to have no immediate relevance to landmines, and we will present comprehensive community studies which include analysis of issues which had no apparent relevance at the time of data collection. It is also important that the standard Plan of Inquiry ensures that we gather comparable information across locations. In general terms this facilitates both data gathering and analysis. The community case-studies reported upon in Chapters 5 to 7 are written with the Plan of Inquiry as their organizing principle.

Data Collection

A variety of research strategies, methods of data collection, analysis and interpretative processes are used in an attempt to understand the dynamics existent in mine-affected

communities, the capacities of those communities, and their needs as relevant to HMA projects. The work conducted, however, can be grouped into three main methodological strategies: reviewing academic literature, examining operational documents (UN, NGO and government) and community-based field studies. The third of these methodological strategies is at the core of the AMAC project and will be the focus of the following discussion.[3] The methodology discussion presented here has a purpose which goes beyond the conventional reflections on how project findings are arrived at. This is work-in-progress that should ultimately lead to the development of a training package for HMA staff, an introduction to the mixed-methods approach that operators can build on to strengthen their own competence in data collection and analysis.

For this report we combined three basic types of data: document review, open interviews and survey interviews. Whilst this ordering of data types largely represents the order in which data collection took place – reading up on possible background information comes prior to going to the field; taking the first open interviews comes prior to commencing the survey – once data collection started, there was a continuous interchange between the different forms of information gathering.

Document Review

This includes a survey of NGOs, UN agencies and government documents relating to the actual community or the specific HMA projects being implemented there. During field research both primary and secondary literature was gathered. This included academic material that highlighted the difficulties with humanitarian intervention and HMA scenarios in the particular country or community studied. Second, unpublished papers and reports (from governments, UN agencies and NGOs) were gathered and critically reviewed.

Open Interviews

A number of comprehensive interviews with key informants were conducted. Key informants include project implementers (i.e. management staff, deminers), local authorities and local leaders, as well as residents that have somehow been directly affected by the mine problem. Key informants are in other words chosen strategically, by virtue of holding particular insights into the issues we are investigating. Their identification might be through existing documentation, through the reference of other key informers, or through the survey.

[3] A thorough review of existing literature demonstrates that relying only on literature or documents would not lead to our gaining a more accurate understanding of how best to assist mine-affected communities. Hence conducting community-based field research is essential. Field studies will, of course, include critical reviews of the academic literature, as well as of UN, NGO and government documents, but the main data are collected through community-level fieldwork.

The employment of interviews can, in some cases, translate into the employment of information which is anecdotal. However, the interviews are regarded as central to this work because they serve to provide an 'inside' look into how villagers feel about the mine situation, what the community needs, and what the capacities are. By and large, individual villagers delineate needs associated with, and views of, the mine problem which are similar to the needs and views expressed by other villagers from the same area. It is central to note that understanding capacities and needs, as well as local perceptions, is central to devising a way to better HMA strategy. This makes interviewing the local population essential. In short, the interviews add paramount value to the research.

Therefore open interviews will compose the largest portion of field data. The interviews will entail extensive and lengthy conversations, which do not follow a pre-established standardized set of questions. At a more fine-grained level than the standardized Plan of Inquiry, the set of issues addressed is being continuously revised to reflect new insights, or even intuitive thoughts, that emerge throughout the data collection process. This information-gathering technique can lead us to identify key issues of concern or of relevance in terms of the communities' capacities and needs.

Surveys

Standard surveys will also be employed to gather general information on the community being studied, on its perceptions of the mine issue and the community perception of HMA projects. We have developed standardized modules that can be used to build up a survey in any mine-affected community. Basic modules address respondents' personal circumstances and issues about community structure, whereas specialized modules are tailored to address, for example, the aspects of war-related migration that might be relevant to any specific community. For the surveys, the respondents are principally selected at random. In addition a set of qualifier questions are developed in relation to each study. These questions respond to the need for specific information which will lead to a better understanding of the particular community but which is not necessarily relevant elsewhere.

Similarly, we have developed a survey form for interviewing mine action agency staff. The purpose of these surveys is to help us obtain an understanding of mine action personnel's perception of their work, of landmines and mine action more broadly, and of their contact with, and insight into, the communities in which they work. In the longer run, we intend to look into survey results, with a particular focus on how it is that demining personnel perceive, and cope with, the risks associated with the work.

As regards the survey teams, the issues of concern are extensive. One basic point here is that surveyors should not be seen only as individuals gathering qualitative data, but

also as sources of information and clarification. When conducting these studies, one must accommodate the fact that the surveyors employed are not professionals, and that some issues will be overlooked. Therefore, both basic training and daily quality assurance of the surveys is essential. Furthermore, the fact that survey data are held against other forms of data, including open interviews, provides a good foundation for qualified judgements about the validity of survey findings.

Gaining Access

The entry into a new community is a critical point in any research process. Communities that have been or are exposed to armed conflict generally have a low trust threshold. Furthermore, the period that can be spent in one community is limited and we cannot lean back on trust building through long-term interaction. This should be taken up by the operator during the demining phase. It is important to provide a clear introduction to the work. We know that in establishing the credibility of a stranger, what one says is not as important as with whom one is associated. For us this has implications both for partnerships with organizations and for the selection of field staff. In the case of operators, the premise is the same; but in their case, staff hired and the contact person chosen at the village level are of key importance. For us, the objective is to work as independently as possible of both village hierarchical structures and organizational influences. For organizations, only the former applies.

The selection of appropriate staff is also important. This has implications for the recruitment of surveyors, interpreters and guides, even for other support functions such as cooks. The identity of field staff members is important, but perhaps the most important issue is whether the person hired is known or not in the community. We are inclined to argue that, for short-term field missions, the advantages to hiring insiders outweigh the disadvantages. An insider has easy access and might also be seen as a distinct source of information. The main remedy is to avoid dependence on any single individual, but to establish solid relations with persons holding different positions within the community.

Analysis

The data require close and careful analysis by the investigators. Pre-field understanding of the area and issues aids in the formulation of questions and in identifying key informers. The interview itself and the information we have on the informer will give us a better understanding of the reliability of the information. With this knowledge we can assess how successful we have been in gathering important information and how reliable the data are. The combination of three kinds of field-level data-gathering methodologies – document review, open interviews and survey interviews – provides

an opportunity to combine and cross-check between different types of data. This is one of the most important strategies for ensuring the reliability of the findings.

Concluding Remarks

In this chapter we have given a condensed description of the community-study approach currently applied by the Assistance to Mine-Affected Communities project (AMAC). We have argued that comprehensive community studies are essential components if HMA agencies are to improve their ability to perform solid impact assessments. The framework presented here should be further refined so that it may eventually become a basis used by HMA operators when conducting socio-economic analysis of individual tasks. The following three chapters are community case-studies that were conducted using the framework just presented.

Chapter 5

THE CAPIRIZANJE CASE-STUDY: THE CHALLENGE OF PREDICTING IMPACT

The Capirizanje case-study was undertaken to explore impact of mine action from a post-operation perspective. This case illustrates how operators need to understand impact more broadly: here, what came to be the major outcomes of the operation were not foreseen. More specifically, Capirizanje serves as an example of delayed impact: at the completion of the operation, the local population did not have confidence in the demined land. In spite of decreasing availability of new land for settlement, it took at least two years from the completion of the operation until people started to settle in the former minefield.[1]

Central Findings

The Capirizanje case is highly illustrative of a number of issues posed in this report. In the context of this study, however, it is important to recognize that Capirizanje was one of the early tasks in Mozambican mine action. HMA agencies have modified the way they conduct operations, learning from experience. Nonetheless, we believe that the major lessons to be learnt from Capirizanje are far from being fully reflected in present-day HMA practice by most operators. Capirizanje serves as a good illustration of how to identify potential impact and how to better respond to community needs. Because the long-term impact of the operation has been considerable, Capirizanje is today a showcase for humanitarian demining in Mozambique.

The operation was launched in response to the needs of UNHCR. The mined area was in close proximity to a UNHCR returnee camp, and there had been a number of accidents. The principal goal of the operation was, therefore, to reduce the accident potential for returning refugees. To achieve that goal, a focus on the actual removal of mines appeared sufficient. Today, we see that the area cleared of mines is fully occupied, primarily for residential purposes, but also for agricultural production.

---

1 This community study can be read independently from the rest of this report; however, we would strongly recommend it be read in conjunction with Chapter 4.

We would argue that the demand that developed for using the demined area could have been foreseen at the launch of the operation. Firstly, Capirizanje was populated before the war; part of the minefield was within the centre of the prewar village. This in itself means that it was to be expected that at least some people would return and would have a need for using the mined area. Secondly, Capirizanje is a major transit area for refugees, being only five kilometres from the Malawi border. During the war, people fleeing to Malawi passed through Capirizanje; upon the return of the refugees, Capirizanje was an obvious stopping point. After the peace agreement, people were unsure of the success of the peace process, hence many looked for a resettlement area sufficiently close to the border to allow for a rapid exit. Thirdly, it could be expected that people would want to settle in proximity to the village, since it is located by the main road and since living in the village is preferable both in terms of security and access to information. All of these factors meant that people returning to Mozambique from refugee camps in Malawi would be likely to settle in Capirizanje upon their return. Hence, it could have been expected that the area would have to respond to the needs of a population number much larger than that of the prewar years, which means that the minefield, a relatively large area, would also attract settlers.

In parallel with the need for areas where returnees could resettle, people who had originally inhabited the minefield also required resettlement areas. One area that has been densely populated, partly due to the presence of mines elsewhere, is called Bairro Samoa (see fig. 5.1). Bairro Samoa, however, became subject to severe land subsidence, which was caused by poor water drainage of the soil. It is unclear at this time whether the environmental degradation of Bairro Samoa was a response to the overpopulation of the area or whether it would have taken place irrespective of the settlement. The land subsidence caused craters large enough to swallow whole huts. People report not only the loss of housing, but also of animals and crops. If the land-subsidence issue had been identified earlier, this in itself would have made it clear that the minefield area was essential for resettlement.

What is said so far points to one single issue: the mined area was a resource that the population required, hence demining was essential. Yet, it seem that the aid agencies involved did not understand the need for the land that was freed up by demining, and the types of risk people would be willing to take regarding settlement in former mined areas. If they did, they did not recognize what would be required of them in order for people to comfortably resettle in the area. In short, the idea that mine removal alone would be a sufficient response to the needs of the population was an erroneous assessment.

Furthermore, the long-term impact of the Capirizanje operation should not obscure the fact that this success could have been achieved at a much earlier stage. When one visits Capirizanje today, one can see that the former minefield is in full use. However, from the official completion of clearance until people started to use the area, there was

a time gap of about two years. The impact delay begs for a re-examination of what it takes before one can say that an operation has maximized its impact. In the case of Capirizanje, we can say that in the long term the operation achieved its full potential, but at the same time that a different approach would have ensured that that potential had been realized at a much earlier date.

It is unlikely that this impact delay would have become an issue had the operator invested in establishing community confidence in clearance. This would have required that the operational focus was placed not on the technical aspects of demining alone, but that similar efforts were made to ensure that people had confidence in the clearance undertaken. We do, however, recognize that building confidence in a community that is not homogeneous could have been a considerable challenge. Nonetheless, we think that a systematic attention to building community confidence would have resulted in little or no delay in taking the demined area into use.

Community Background

Geography:[2] The village of Capirizanje is in the locality of Zobue, District of Moaztize, Tete Province. It is situated along the road that links Tete City with Zobue, the border post with Malawi, some 90 kilometres from Tete and some 30 kilometres from the border post. The northeastern part of Capirizanje borders with Malawi and gives the area some strategic importance. This border is 5 kilometres away from Capirizanje and is accessible only by foot or bicycle.

Population: Prewar population figures are not available, but estimates of the current population vary between 17,000 and 29,000. There has been a massive increase in the population after the 1992 peace settlement. Informants claim that the current population is ten times larger than what it was prior to the war. Whilst we are not able to ascertain with certainty the exact population, we can assume that it is likely to be around 20,000, and that it has increased disproportionally in the postwar period.

War history: A military garrison was established in Capirizanje during the RENAMO–FRELIMO war. Due to its location, a lot of refugees went through Capirizanje on their way to Malawi. After the Rome Peace Accords in 1992, many refugees returned, but being uncertain about whether peace would last, they settled in Capirizanje rather than going on to their original homesteads elsewhere in the country. This way, people were able to resettle in Mozambique yet maintain an exit option should war return. A refugee transit centre was established in Capirizanje to facilitate return. This unintentionally served as a basis for more people to stay.

2 Italicized key words at the front of paragraphs are in reference to the concepts in the Plan of Inquiry found in fig. 4.1, Chapter 4.

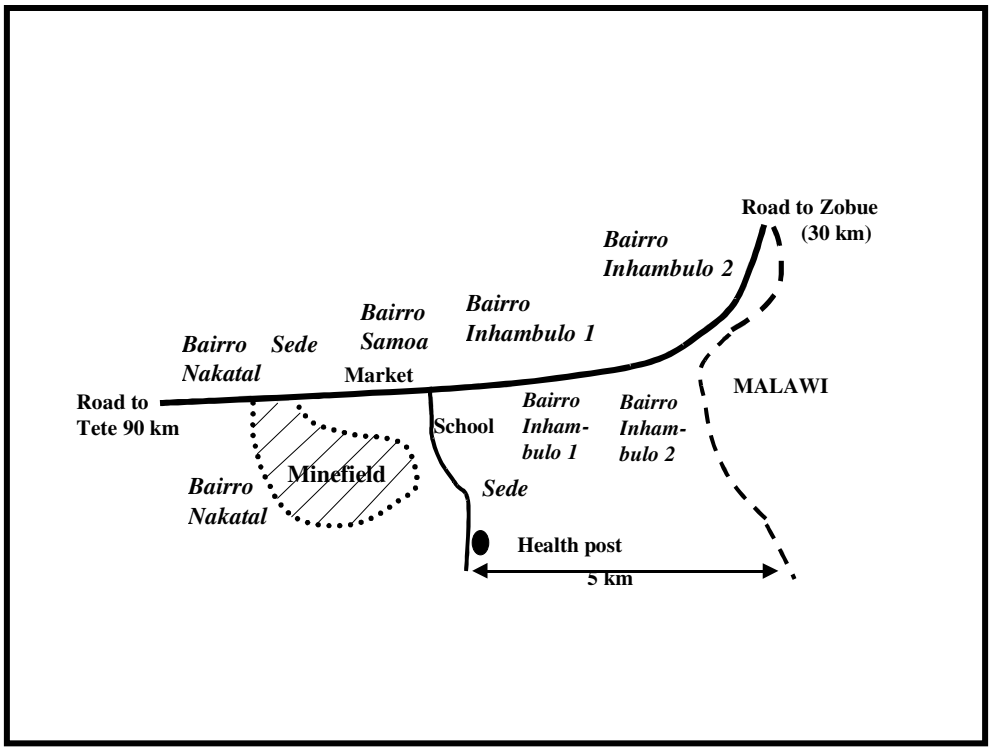

Fig. 5.1. Sketch map of the Capirizanje area

Landmine history: Towards the end of the war, 1989 to 1991, a minefield was laid around the garrison in Capirizanje, for protection against RENAMO forces. The minefield seems to have caused problems for people passing through the area. The original reconnaissance report claims that 6 people had died and 18 people had been injured in mine incidents in the area (Norwegian People's Aid 1993). Had the population from Capirizanje remained more stable through the war and postwar years, the mines are likely to have caused fewer accidents. As is true of elsewhere in Mozambique, the military informed the local population of the presence of mines. Whether the local population deliberately did not inform newcomers or whether they simply did not have the capacity to effectively inform the large number of people entering the area is unknown, but it remains the case that the mine victims were not from the area.

HMA operation: Since this was an early task in NPA's landmines engagement in Mozambique, documentation is limited. Yet there are reasons to believe that the operation was launched in response to the accidents. The presence of the minefield also led to the transfer of the UNHCR transit housing facility in order to establish distance to the minefield. At the time of reconnaissance in August 1993, the refugee centre was still located at 500 meters from the minefield. The operation was requested by UNHCR,

which effectively was setting priorities for NPA's demining in Mozambique at the time since it was co-financing the operation. UNHCR funding was brought to a halt in March 1994 by Sadaka Ogata during her visit to Tete (Hallam 1997: 80).

The Economic Field

Land: The sections of land cultivated by each household in Capirizanje are relatively small. Amongst 32 survey respondents, 10 households cultivate only one hectare, and another 9 households cultivate only two hectares. However, the land here is very fertile. As in other places in Mozambique, people have access to land for house building and for subsistence agriculture. The secretary of *bairro* allocates land upon request from an individual. The decision about location will involve a number of factors ranging from land availability to personal preference. It appears that former owners of land have first priority. A new arrival can have access to land, but if the previous owner returns and claims back the land then that takes precedence. In practice, people considering a move into inhabited areas consult widely with those living there, which also serves as a courtesy and a way to build good neighbourly relations. The size of the minefield when correlated to the amount of land used by any given family indicates that the land freed by mine clearance could have given land for crop production for 18 households. This is too small a number for the impact to be considered high, but in practice about half of the minefield have been used for housing. In short, for the expansion of the village capacity in terms of housing settlements, the impact has been considerable.

Crops: The most common crop is maize, which is cultivated by all survey respondents, followed by beans and sorghum, which are cultivated by 20 respondents. Furthermore, 9 respondents cultivate cassava or peanuts. A few people cultivate rice. Fruit trees are also common, primarily mango and banana. These are owned by individual families; the fruit is used for family consumption, but also sold in the local market. Agriculture in Capirizanje is fully dependent on rainwater, but it does not appear that this is a significant constraint. In view of the use of the minefield, the effect of mines on agricultural production has been minimal.

Fishing & hunting: The fishing that takes place is for household consumption only because fish is scarce. At present there is no hunting in the immediate area. The Capirizanje area has been a transit area for decades and the home of large Portuguese-owned cotton plantations, which have led to the reduction of bush, resulting in an overall reduction in wildlife. Notably the only area that has game animals for hunting is quite far and in an area where access is limited owing to suspicion of mines.

Wood resources: For reasons similar to the above, there has been a reduction in wood resources in the area. In the past there was commercial forestry here. Now wood is

only cut for household purposes, such as for use as firewood and building materials. In relation to the minefield cleared, the above factors have little relevance.

Household animals: Half of the survey respondents have animals. The most common household animals are goats, but there are also some cows, pigs and chickens. Cows are by far the most valuable animals, with prices ranging from 2.5 to 4 million Mt. (USD 180–285). Half of the respondents who have animals say that they sell animals for cash, yet it seems that animals are held mainly for purposes of household consumption. One of the reasons why people finally moved away from Bairro Samoa was that their animals were being lost in craters caused by land subsidence.

Household water: Availability of household water is a major problem in Capirizanje. There are a number of wells with pumps, but with one single exception these wells give salty water which cannot be used for drinking. Hence, people use river water for household consumption; according to the local nurse, this contributes to a lot of diarrhoea. In the case of Capirizanje the water problem is not linked to the mines problem.

Markets: There is one central market in Capirizanje, which is at the side of the main road. It has all essential goods and some luxury items; in total there are some 70 stands. Reportedly, the market has expanded a lot over the past couple of years in response to the increase in area population as more refugees come in. It is also reported that refugees returning from Malawi often brought with them some capital, which enabled them to start up business in the market. Due to the large influx of refugees it seems that the increase in commerce in the area was not, as has been the case elsewhere, principally linked to the large number of mine action personnel that flooded the area in 1994–95. However, it can be assumed that at least some of the original increase of trade was caused by the presence of the demining operator.

Transport: For local transport, bicycles are widely used. This goes for travel between different *bairro*s, for going to the health post, water pump and to the *machambas*. Since Capirizanje is located on the main route between Tete and the Zobue border post, the traffic passing through is high and there are always many opportunities to secure transport with a bus or a chapa. Transport opportunities are not, and have not been, affected by landmines.

Employment: The only opportunities that exist for formal employment are in the market. The health post, the school and the agricultural extension program have mainly recruited people from outside the local area. Realistically, there are very few options for day labour. This is not an issue of concern because people in the area rely primarily on subsistence economies.

The Human Field

Perceptions of security: In the postwar years, Capirizanje was selected by many as their area of residence because it was seen as providing security. The main reason for this is the proximity to the Malawi border, which people saw as a good exit option in case the war rekindled. After the 1992 settlement, UNHCR set up a transit camp in this area to assist the refugees returning from Malawi. This had the unintended effect that a lot of returnees who stopped over in Capirizanje had an opportunity to talk to locals and to evaluate the situation, which eventually prompted many people to decide to stay. In the first years following the Rome Peace Agreement, many returnees found it better to stay in Capirizanje than to return to their original homesteads. The decision to settle was taken despite knowledge of the presence of landmines, and despite the fact that staying meant losing the opportunity to be transported home free of charge by UNHCR. The increased settlement of people in the area also meant that there was a greater need for land availability. The drastic increase in population should have prompted the operator into realizing that the land made available by demining was needed by the population. In tandem with this it should have been realized that people, when other options are available to them, may not use land which was formerly mined unless they have full trust in the clearance operation. In this context it is important that operators recognize that confidence on demining is something that is built and not a side-effect of clearance.

In the larger area around Capirizanje perhaps the most important threat to human security is environmental. Bairro Samoa, just across the road from the minefield, has in recent years been subject to severe land subsidence, caused by bad water drainage of the soil. Just after the war, this *bairro* had the largest population density in Capirizanje; a large number of settlers established themselves in this *bairro* because it was not cultivated before the war and was not affected by mines. People lived with the increasing risk of homes and fields falling into craters caused by land subsidence. This has caused the recent gravitation of people Towards the former minefield and other surrounding areas. It seems that at the time that the demining was launched, it was not foreseen that environmental problems in Bairro Samoa would lead to relocation of a lot of families. Nonetheless, this has substantially added to the value of the area freed up through demining. Recognition of this before the clearance operation started, or during the operation, could have also served to reassert the need for confidence building.

Mine accidents: The original reconnaissance report from NPA states a total of 24 mine accidents in the area, with 18 injured and 6 killed (Norwegian People's Aid 1993). During fieldwork, people do talk about certain accidents with refugees that were housed at the UNHCR centre, but no details are available. It is well known from elsewhere that people on the move, including returning refugees, are particularly vulnerable to mines, since they are unfamiliar with where mines are located in the localities

they come to. It is also indicated by local informants that it was precisely the incidents involving returnees that precipitated the operation, again something which is highly likely given that UNHCR were key in influencing NPA priority setting at the time. Unfortunately, documentation about mine incidents is unavailable, and establishing this from local informants is impossible given that the events took place seven to ten years ago and seem mainly to have involved people from outside the local area.

We have come to know about the details associated with only one mine victim in the area. In this case, the victim stepped on a mine in an area that is outside what is identified as the former minefield as he went to his farmland. The incident happened in 1991, when there were considerable political restrictions on movement within the area. Several informants express suspicion that the victim was actually targeted. The individual in question lost one leg and was transported to Tete, where he got surgery, received training and eventually received an artificial limb through the HI program.

Health: In the local area, the only medical personnel are a nurse and a midwife. The closest hospital with surgical facilities is in Tete, 90 kilometres away. In Tete, there are also rehabilitation and prosthesis facilities, which are of particular interest to mine victims, but at present the requirements for first aid, evacuation and medical follow-up of mine victims are limited since the area is declared mine-free. Both medical professionals mentioned above reside in Capirizanje and hence are normally available. There is no organized health education programme in the area; however, the nurse claims to try to inform people of preventative measures that can be taken to reduce the frequency of the most common diseases, which include malaria, diarrhoea and sexually transmitted diseases (STDs). The nurse explains that the frequency of malaria increases during the rainy season, and that diarrhoea is in some cases a complication associated with malaria, but is in other cases caused by bad sanitation or poor water. As regards sanitation it seems that all households have some kind of sanitation system. It should also be noted, however, that Capirizanje is a rather polluted village. There is considerable trash lying around that may contribute to disease. As regards STDs, the nurse suggests that the proximity to the main road and to a border post makes the area highly susceptible to STDs.

Education: In terms of education, Capirizanje is much better equipped than any of the other villages visited. During the war period it was the home both of a training centre that can be best described as a teachers college and of a primary school that was used by children residing in refugee camps, who would commute to Capirizanje daily from Malawi. Currently Capirizanje has education facilities up to sixth grade. After this children have to go to either Zobue or Moatize if they wish to further their education. The school also has a literacy program for adults. It was launched earlier this year as a government effort to tackle illiteracy at the national level. Mine awareness is in principle introduced into the regular curriculum as is the case elsewhere in Mozambique,

but as mines are no longer a problem in Capirizanje, the need for mine awareness is limited.

Attitudes to education are changing. People in the age group 20–50 years are now attending literacy classes. This might be the most fundamental demonstration of the attitude shift. A little over half of the families send their children to school. With the exception of two respondents, literate parents always sent their children to school. In Capirizanje, as in most of Mozambique, illiteracy is quite high amongst the adult population. In Capirizanje just over two thirds of the respondents did not know how to read or write.

The Social Field

Local leadership: Capirizanje does not have a dual system of local leadership where traditional and governmental institutions work alongside each other. In fact the traditional system with a *regulo* is nonexistent. The most likely explanation for this situation takes as its starting point the drastic political shifts that took place in Capirizanje, as elsewhere in Mozambique, after independence. When FRELIMO took power, it systematically abolished the *regulo* system. However, in most places there was some degree of continuity in the population and the *regulo* was informally able to retain a degree of legitimacy, at times through flexible arrangements with local government staff. In Capirizanje, however, the postwar population bears little resemblance to the prewar population. Hence, the *regulo* system has been unable to make a postwar reemergence. The people who now live in Capirizanje have no knowledge of, trust in or respect for the people that composed the *regulo* system before the war. Nonetheless, there were informants who claimed that a *regulo* did exist in the area.

Also when it comes to official institutions, Capirizanje is a special case. The government has established a system that relies on an area president that serves as a link between the locality administrator and the village. The president is assisted by secretaries of *bairro* that serve as links between the president and the people of any given *bairro*. Also the secretaries of *bairro* have subordinate secretaries for smaller units within the *bairro*, but at this level arrangements vary substantially and have to be mapped from one *bairro* to the next. Parallel to subordinate secretaries or adjunct secretaries to the secretary of *bairro*, there are *chefe de zona* who control groups of ten houses and *chefe de cedula* who control groups of five houses. The *chefe de cedula* Responds to the *chefe de zona* and the *chefe de zona* responds to the secretary of *bairro*. As a whole, the system works to facilitate the transfer of information between the government structures and the people, as a problem-solving body and as a local administrative structure.

In Capirizanje, the administrative system contains one more important element which is not recognized by the official government structures (administrative post) and which does not seem to exist anywhere else, the general secretary. This is an informal position; the individual holding the post used to have a government-linked position during the war, although it is unclear exactly what role he had. Interestingly he managed to maintain his hold on power despite the fact that his position is not recognized at the government administrative level. He is, however, respected by the other members of the local administrative system and by the population of the area. The general secretary works in tandem with the president, and secretaries of *bairro* relate as much to him as they do to the president. Key informants who knew the Capirizanje set-up well said that they were not familiar with any other place that had a similar arrangement. It is also clear that the Mozambican authorities do not recognize the function of the general secretary.

Understanding local institutions is important in the context of mine action because it will provide reference points for how the operator may effectively communicate with the population. Identifying the wrong point of contact can be highly detrimental to the operation as a whole. In Mozambique, the *regulo* has been generally identified as the key person of contact within communities. The Capirizanje study demonstrates that the role and importance of the *regulo* may or may not be key to the operator. Whilst on the one hand a balance must be struck between identifying people that require information so that 'order' is maintained, on the other hand the operator should be careful to identify the people of real importance – the people that will be successful in serving as the link between the population and the operator.

Religion: Traditional religious practices persevere, in spite of considerable resistance from the established world religions. Out of 32 survey respondents, 20 admitted to having consulted a *curandeiro* – a traditional healer. There is a variegated religious life in the area, with as many as seven different Christian denominations being represented. The Catholic Church seems to be the largest church. We have had interviews with representatives of all but one of the seven churches, and the overall impression is that they all strictly oppose traditional practices. Some churches go as far as applying sanctions such as excluding members who do not comply. It is also the case, however, that half of our survey respondents say that they do not attend church. Religious leaders are important in that they can be effectively used as both sources and transmitters of information. Furthermore, understanding religious structures is one way by which collective local capacities can be understood.

Collective mobilization: The degree of collective work seems to be relatively limited. People do come together in their church communities and work, for example, to build new church structures. There is also some collective work to help people with more private tasks, but these seem often to be confined to the family.

Local solidarity: In the survey we ask people who the three people are that they trust the most. This question generated an interesting pattern. For a total of 32 respondents, the totals of people that can be referred to are 96. Out of these possible 96, people made reference to 49 relatives and to 16 friends. The frequency of friends (as opposed to family members) was somewhat higher than we have seen in other communities in Mozambique. Furthermore, many people claimed not to have as many as three trusted contacts, and altogether there were 31 blank responses out of the possible 96. Most likely, the frequency with which friends were listed – and even more so the frequency of blank responses – is indicative of a society with enormous mobility, where most of the people have settled in the area in the last few years.

Another survey question concerns what people would do if they needed cash. With one exception, people said that they would get money from selling something or from working for somebody. Only one person said that he would take a loan. Another question was what would people do if somebody in the family fell ill and they needed money for treatment. Half of the respondents said that they would borrow money; the other half said they could sell some of their belongings. The follow-up question was whom people could ask to borrow money from. One third of the respondents would borrow money from somebody who was not a relative; no one claimed that there was no one to ask.

Information: The official administrative system seems to work relatively well, also at the *bairro* level. People are asked about whom they would approach for information about security: 29 out of 32 said the secretary of *bairro* and the remaining three made reference to the police. What was striking was that nobody referred to more semi-official figures or to relatives or friends.

Displacement: Capirizanje was, before the war between FRELIMO and RENAMO, a relatively small community. During the years of war the majority of the population crossed the border into Malawi in search of refuge. Upon the end of the war, the former Capirizanje population returned, accompanied by a huge number of Mozambicans who were originally from other areas of the country. Many from the latter group settled in Capirizanje. The population in the area grew rapidly. The central issue for the new settlers was security: few people had developed any trust in the newly signed peace agreement in the first few years after 1992, and it was attractive to stay close to the border, maintaining a safe exit option. Although the Mozambican political situation developed for the better, by then people had settled, and eventually many of them came to make Capirizanje their new home.

It appears that at the moment the population has stabilized. All the Mozambican refugees that were outside the country and who wanted to return after the war have done so. People who came to use Capirizanje for a year or two of transit, awaiting assurance that peace would last, have by now returned to their original homesteads. Within

Capirizanje itself there is also movement of people. The Bairro Samoa, which was one of the central areas for house building after the war, is gradually becoming smaller as people move either back to the former minefield or inland away from the road to form new smaller *bairro*s. The earlier described soil erosion is one important reason for this, but people's movements are also motivated by the fact that improved security permits more scattered settlement.

The HMA Operation

Operation: The Capirizanje operation was started in April 1994 and completed in January 1995. Since this was at an early stage of NPA's engagement in Mozambique, there is very little written documentation about the operation. The area cleared was relatively large – almost 180,000 square meters – and during clearance 68 anti-personnel mines and 72 UXOs were found (Norwegian People's Aid 1997: 16–17).

Information and analysis: UNHCR's concerns were key to the prioritization of the task. The motivations seem to have been to prevent mine accidents amongst returning refugees, both those staying at the transit centre and those that were returning from Malawi independently. As indicated in the reconnaissance report, there had been several mine accidents in the area. This may also have been a key reason for giving priority to Capirizanje. Indeed, this is an instructive case, since the things that constitute the major effects of the demining operation today are rather different from what was intended at its initiation.

There has been little or no follow-up of the Capirizanje task after its completion in early 1995. This is unfortunate since it makes it difficult to reconstruct the history of mine action in this community, and more importantly it deprives us of insights into key elements of what is otherwise an instructive case. However, the Capirizanje case does get one point clearly across: unless agencies invest in regular follow-up visits to earlier tasks, there will be clear limitations to knowledge building within HMA in general. Knowledge generated from former operations is perhaps the most important resource we have for strengthening organizational responses to the mine problem.

Community perception of operation: After clearance was completed, it took at least two years before locals started using the area. This is particularly striking given that land was already becoming scarce in Capirizanje at the time. We also note that one effect of this delay in taking the areas into use is that people could not benefit from the deminers' removal of vegetation when starting cultivation, but rather had to go through a major exercise themselves. We have asked survey respondents if they have trust in the clearance: they do, with only two exceptions. However, since it took such a long time before land was taken into use, there is reason to believe that confidence in clearance was a major problem in the first few years following the operation. We have

talked to the person who was the first to return. She confirms that people lacked confidence, but that soon after she had moved back to her own land, which was inside the minefield, and people around saw that it went well, they too started to move into the former minefield.

The area being demined was relatively large and very close to the main road linking Tete City and the Malawi border. This should have given some indication that the area would be highly apt for repopulating. This is the case not only because the area was populated before the war, but also because the proximity of the area to the Malawi border would allow people to return to exile if the peace process failed. It seems that the international peacekeeping effort (ONUMOZ) did not consider the potential human cost of a breakdown of the peace process with most refugees back in the country. It is inconceivable that the population itself had full confidence in the peace process. From a personal security perspective, therefore, it is understandable that a large number of returnees had planned an exit strategy, back to safety, if the peace process failed. These factors meant that Capirizanje was an ideal relocation sight. Hence the demining operation was by default not only decreasing the potential for accidents and assisting the return of refugees, but also opening resettlement areas.

Concluding Remarks

We have earlier stressed that the chief reason for the large resettlement in the Capirizanje area was a direct result of security considerations associated with the peace process. Whilst this is true, the fact that people stayed in the area and eventually came to use the former minefield is also contingent on other issues. First, we need to realize that returning refugees were faced with establishing a household irrespective of where they settled originally. Second, the existence of a well-established school and a health post in Capirizanje are likely to have largely affected people's desire to stay. The quality of social services available in Capirizanje is high by Mozambican standards. Third, the fact that the population realized that they had successfully built key social institutions, including leadership structures and religious bodies, will also have been an important factor for somebody weighing a new move against permanent settlement.
Similarly, the expansion of the market, and the repercussions this has had on the local economy, can be expected to have also influenced people's decision to stay in the long term. The success of the market signifies an economic capacity to establish commercial enterprises, but also builds on the proximity of the market to the main road, which has been key to increasing the sales potential. This exemplifies the interplay of factors that contributed to the importance of the demined territory for resettlement: If people wanted to stay in Capirizanje, which many had good reasons for, the cleared minefield was an attractive option.

Conversely, had social services, the establishment of local institutions and the revival of the economy been less successful, then it could be expected that more people would have moved on. The use of the former minefield is linked to the presence of all these factors, which at first glance appear to have little relevance for the conduct of a demining operation in the area. These factors appears to have compensated, in people's decision about where to settle, for the scarcity of other resources such as drinking water, fishing and hunting possibilities, which may have been available elsewhere. This illustrates the types of priorities that people have and that demining alone is not on in its own a sufficient factor in explaining the use of land. Moreover, this illustrates the need to have a more global understanding of both the needs and capacities existent in any given community.

In conclusion, we have shown that Capirizanje was a priority typical of the emergency stage of mine action in Mozambique, with accident prevention and safe movement for returnees as the primary motivations. In the longer term, the effects of the operation went well beyond the primary objective of accident reduction. From a general perspective, demining in Capirizanje served to open up land for the settlement of returnees who were not willing to return to their places of origin elsewhere in the country, whereas at the local level, relocation was caused partly by environmental degradation in one *bairro* neighbouring the minefield. The Capirizanje demining task has undoubtedly had a major positive effect for the local population. The case also illustrates how agencies can maximize the impact of their operations through more effective strategies for communicating with the local population and for building confidence in clearance; in this case the use of the demined land was delayed by at least two years. Moreover, the case serves to illustrate the importance of operators being able to understand the larger social processes within which landmines and humanitarian mine action constitute only a small part.

Appendix: Methodological Notes on the Capirizanje Case-Study

Period and case selection: Fieldwork in Capirizanje was conducted in the period 16–27 March 2000 by Ananda S. Millard. The task was selected after having visited three different tasks conducted by NPA in Tete province (Capirizanje, Marara and Mlengueni minefields). It proved a good idea to visit several tasks before selecting a task for study; experience has shown that selecting a task only on the basis of information provided in meetings with operational staff has not always been ideal. The Capirizanje task was selected because we wanted one post-demining case-study. Further, this was a task where the former minefield was fully employed for housing or agricultural purposes. It therefore seemed an interesting case for studying socio-economic impact at the micro level.

Access: The operation in Capirizanje was finished in 1995, and contact between NPA and the population has been minimal since. Nonetheless, the operation is fresh in people's memories and through our expressed interest in the mines issue we were associated with NPA. In this sense, NPA indirectly came to serve as a door-opener. During the first visit to Capirizanje, a few days prior to starting research, we met the president of the area, the general secretary and a couple of secretaries of *bairro*. Although nobody from NPA was with us to make a formal introduction, these local leaders welcomed the idea of research being conducted in the locality.

Staff: One guide/interpreter from the local area was hired to translate Nhungue–Portuguese. Two more persons were hired locally and trained to conduct the general village surveys. The guide/interpreter was originally from Capirizanje. In the case of Capirizanje, where there have been considerable population fluctuations, any particular individual will at best only be able to represent and introduce us to a limited demographic group. Still, having someone who knew the area and its history well was a great asset to the team. In Mozambique it is often the case that an interpreter/guide and surveyors who are able to speak the local language are essential. Even in places which, like Capirizanje, are highly exposed to population movements, the use of local language is often maintained. Consequently surveyors need to be able to conduct surveys in the local language.

Data: The most important material in the case-study was in the form of open interviews with key informants: 28 interviews were conducted in total. Secondly, observations and informal conversations comprised a substantial part of the data. Thirdly, we conducted 32 surveys with heads of household in the community. As to survey interviews with demining staff, we could only conduct six surveys with demining staff since most of the staff were unavailable for interview when we visited the site at the Mememe minefield, some 30 minutes' drive from Capirizanje. The case-study also draws on material contained in documents provided by NPA.

Chapter 6

THE NAIROTO CASE-STUDY: COMMUNICATION AS A KEY TO SUCCESS

The Nairoto study serves to illuminate two central issues: the importance of historical context and the value of good agency–community relations. First, operators need to understand the historical context of the places in which they work in order to be able to make informed decisions regarding the value and importance of tasks. In some cases, such as in Nairoto, the true value of the operation is only visible once one understands the historical background of the area. Second, good community–HMA relations are essential for the success of operations. This is particularly relevant for tasks where the impact of the demining operation is at the micro level only. Good agency–community relations form the basis for confidence, which is key if demining is to have a positive impact.[1]

Central Findings

The Nairoto case serves to illustrate how difficult it may be to identify impact at the micro level, but also demonstrates how the success of an operation may be ensured through fostering good relationships with the community. Nairoto is a case where at first glance it seems the operation will have very little impact. Identifying the impact in this case requires a more thorough community understanding than what is commonly the case with HMA operators.

The landmine problem in Nairoto has little economic impact. The population has moved their agricultural fields to areas relatively distant from the village. The area in close proximity to the village is less productive, and it therefore seems unlikely that the demined areas will be taken into use for cultivation. The land also has no value as grazing land, both due to its location and to the type of vegetation. There are some cashew trees in one of the minefields, but these are not seen to represent significant economic value by the locals. In conclusion, the potential economic impact of the minefield is minimal.

---

[1] This community study can be read independently of the rest of this report; however, we would strongly recommend it be read in conjunction with Chapter 4.

Similarly, the mines seemingly have little impact in the human field. Villagers perceive that they have safe access to the village administration, the school and the health post despite the presence of mines. The population has good information regarding the presence of mines, hence the risk of accidents is minimal. The general security situation is good, hence there is no popular wish to be able to resettle closer to the road. These issues again point to the possibility that mine clearance will not have an impact; however this is not the case. The people from Nairoto are enthusiastic about the demining and regard it as an important service to the community. When asked, people ranked demining either above, or of equal value to, other welfare issues, such as a better equipped health post.

In fact the clearance of the minefield is seen to have considerable social benefits by the population. It was generally the case in Mozambique during the colonial period that people were constrained in their settlement opportunities by the wishes of Portuguese settlers. When the Portuguese established the Nairoto administration they forced people to move closer to the administrative post, while at the same time preventing them from living in close proximity to the white people who were administering the area. Because of this, the minefield has considerable value to the population. Clearance of this area will allow the population to reassert their ownership of the land and their freedom to govern their own affairs.

Another interesting aspect of the Nairoto operation is that the relations between the demining team and the local population are particularly good. This is because the community is homogeneous and people live in close proximity to one another; the operator has identified an effective information broker; and the deminers have gained the trust of the local population through socializing.

The population seems to have full confidence in the operation. The high level of confidence is to a large extent based on the good relations between the population and the demining personnel. The fact that the task is located close to a frequently used path from which the deminers are easily visible is also important. The path is regularly closed for detonation, and the operator has taken care to explain to people why mines are detonated *in situ*, and why they have to close the path. In this case, the good agency–community relations come on top of the fact that confidence building was greatly aided by the physical location of the task.

Lacking an impact of critical importance to people's survival, confidence building becomes particularly important in a case like Nairoto. Even though people hold the operation as important in order to reassert their control over the administrative post, this is not likely to be something which would have made them take the demined area into use if they had no confidence in clearance. The implication is that good agency-community relations, as well as a favourable location for the task, might have contributed not only to the maximization of impact, but to the very realization of the impact.

Community Background

Geography: The village of Nairoto, including Nairoto administrative centre and Bairro Natulo, are in Nairoto locality, Montepuez District, Cabo Delgado Province, Mozambique. Nairoto is one and a half hours' drive from Montepuez, the district capital. The village lies on the road linking Montepuez and Mueda. The Nairoto locality is almost precisely in the middle of the province.

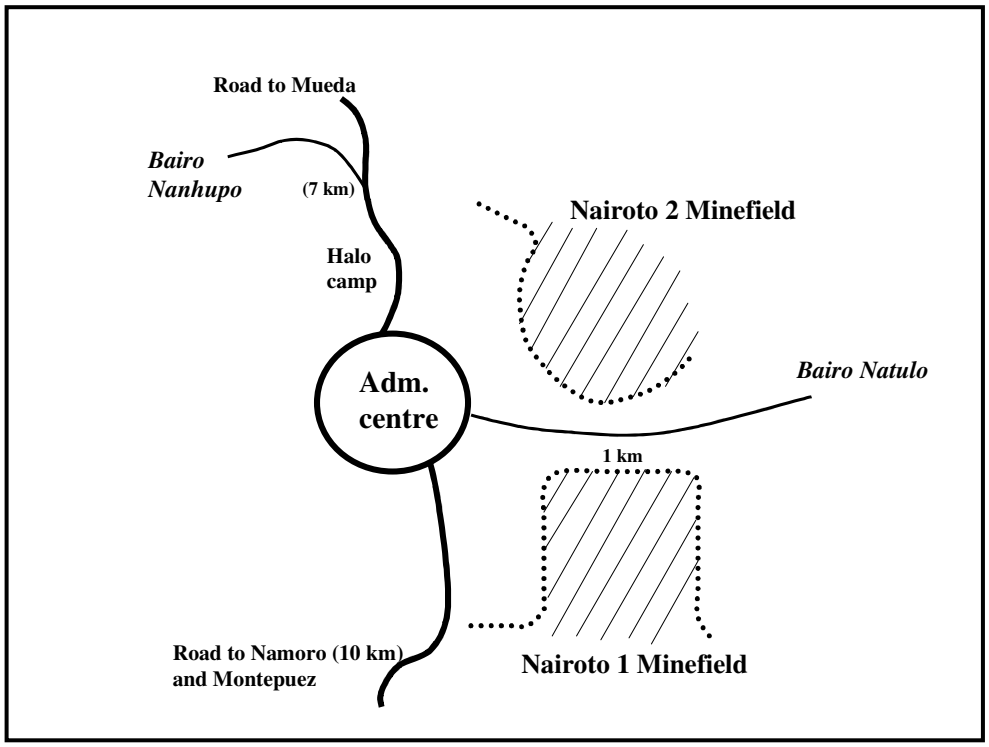

Fig. 6.1. Sketch map of the Nairoto area

As regards its location in reference to the local geographical area, the following is important: Nairoto locality comprises a number of villages. Bairro Natulo is the house conglomerate that is closest to the administration and the area that will be most affected by the demining operation. Nairoto administrative centre is 1 km from Bairro Natulo. Nanhupo is 7 km from Nairoto administration towards Mueda, but not on the main road. Namoro village is 10 km in the opposite direction, towards Montepuez. Whilst Namoro lies by the side of the road that links Nairoto administrative post and Montepuez, Nanhupo is located a few kilometres inland. This means access to transport is more difficult for Nanhupo villagers than for the Namoro or Bairro Natulo populations.

Population: Official population estimates suggest that Bairro Natulo is comprised of 300 households (1393 people); Nanhupo village has 97 houses (313 people); Namoro village has 263 households (920 persons). The principal tribes inhabiting the area are Macua and Angoni. There are also a small number of Maconde in the area. All three tribes speak their own local languages. However in Nairoto itself the majority of the people speak Macua.

War history: Back in the 1950s the Nairoto administrative post moved to its current location. Soon after, people who lived in the surroundings of present-day Nairoto were forced to concentrate close to the Nairoto administrative post. This was done to prevent people from joining the FRELIMO liberation movement and also to provide people with some protection from the war. However, whilst the local population was forced to move closer to the Nairoto administrative post, people were by and large forced to live outside the village administrative centre. When the Portuguese left, people of the area reclaimed the village administrative centre by expanding their settlement area. Later, during the RENAMO–FRELIMO war, the inhabitants of Nairoto (administrative centre and Bairro Natulo) had to flee the area. For the most part the population of Nairoto (administrative centre and Bairro Natulo) escaped the area as a direct result of RENAMO's take-over of the village, most likely sometime between 1986 and 1989. The majority of the local population seems to have left during the war: altogether, 28 out of the 33 survey respondents did so, and of the five that stayed, three stayed as individuals, with their families elsewhere.

Landmine history: As the war came to an end in 1992, people started to return to Nairoto. Upon return they found that the perimeter of the administrative centre had been mined, hence they were again forced to inhabit the area outside. A portion of the people that had lived in the Nairoto administrative centre area before and during the RENAMO–FRELIMO war – because they were forced to do so either by the Portuguese or by the so-called second war (RENAMO–FRELIMO) – left the area and created new villages in search of better crop land. However, it seems clear that being able to reassert ownership of their village is very important for the population still living in the Nairoto neighbourhood. Interestingly, although the whole perimeter of the administrative centre is presumed mined, the population clearly stated that their priority was the clearance of the Nairoto 1 and Nairoto 2 areas. These two minefields are currently acting as physical barriers to the expansion of existing residential areas (Bairro Natulo) to encompass the old administrative centre.

Minefield: As mentioned, the perimeter of the administration was mined whilst the population was displaced. Yet it is common knowledge amongst the population that FRELIMO mined the area in order to reassert control over the area and prevent further attacks. Locals claim that many RENAMO fighters died in the minefield by activating mines. The whole area around the administrative centre is suspected of being mined. There are also other mine-suspected areas in the surrounding area.

HMA operation: HALO Trust commenced the operation on 23 May 1999, having informed the population about its arrival one to two months in advance. The task was surveyed during HALO's 1994 Level One Survey of Mozambique. The task was ranked as priority number two by the provincial governor (HALO Trust 1999b).

The Economic Field

Land: In terms of agricultural land, the average landholding among the survey respondents is 3.7 hectares. Each of the households had land, and twenty households had landholdings in the range between 2 and 6 hectares. Only two respondents had more than 8 hectares. It is not the availability of land that serves to limit the size of individual *machambas*, but rather other factors, household labour capacity in particular.

Access to land does not seem to be a major constraint for Nairoto residents. Among the survey respondents, only one respondent claims not to own land. The land tenure system is at follows: the village chief grants people the right to use a particular piece of land, after discussion with the administrator. By principle, land cannot be rented, but it may be borrowed – with an obligation to return it to the owner upon demand. The only circumstance where there is a market for land is when people take over land which is cleared of vegetation; in this case the former claim holder is paid compensation for the work. Furthermore, there does not appear to be any limit on how much land you can have: the size of household units ranges from one half to sixteen hectares. The majority of survey respondents, 28 out of 33, have fields ranging in size between one and a half and eight hectares. According to the village chief, the land freed up by demining will be sufficient to make *machambas* for five households. However, he added that the land is not the most productive in the area. Who gets access to the demined land is yet to be decided. The village chief expects to be contacted by interested parties as completion draws closer.

For building a residence, there are variations from one locality to another. For building a permanent structure in Bairro Natulo, no permission is required. For the old village centre, things are different. Anybody who wants to set up a permanent house here (i.e., anything more than a mud hut) will need to get a document from the district administrator at a price of 40,000 Mt (USD 2.75). The demined area is attractive as a residential area owing to its proximity to the old administration, and it is to be expected that this area over time will become densely populated.

Crops: The most common crops planted are maize and beans of different varieties. Other important crops are cassava, tobacco and peanuts – which are all grown by approximately two thirds of the survey respondents. This implies that most families grow three crops or more, with maize and beans as the primary staple food. About half

of the households say that they sell crops for cash; tobacco and peanuts are apparently the most common cash-generating crops in the area.

There are mango, cashew and baby coconut trees, but few of the trees are seen as private property. Most of the mango trees are close to the river; mines surrounded some of them. Reportedly, a mine under a mango tree caused one fatal accident, and HALO has since conducted some spot tasks in the same area. In the Nairoto 1 minefield there are quite a few cashew trees, which are seen as government property although the locals may harvest windfallen cashews. For the moment people are unable to access any of the nuts because the area is mined and entry is prohibited. There are also a number of baby coconut trees around the village; these are protected by fences to prevent children and/or animals from destroying them. The coconut trees are outside the mine-affected areas, but are too small to produce anything yet.

Irrigation: Agriculture is largely rain fed. The only option for irrigation is that of carrying water from the river; this is only done for the tobacco fields, which are for this reason placed along the riverbank.

Fishing & hunting: People fish in the river, almost exclusively for household consumption. The same is the case for hunting, which takes place both with traps and with nets. Hunting is not scheduled at regular intervals, yet it appears to be relatively frequent and seems to constitute one of the few activities where people cooperate voluntarily on a level greater than that of the single household. The most commonly hunted game is gazelle. Monkeys are also common in the area. Whilst Macua people occasionally hunt monkeys for personal consumption, Angoni people do not hunt monkeys because eating them is a violation of their religious beliefs. As regards hunting, we were told that mines do not pose a threat. It has been known elsewhere that hunters have found mines well outside the minefield, but this has never been the case in the hunting areas around Nairoto.

Wood resources: Whereas wood is plentiful in the area, this is a resource that is barely exploited by locals, who attribute this to a lack of tools. There is very little coal production, and the little that there is seems to be mainly for private consumption. There is a private company, not locally based, that has cut wood in the area for sale. We have had no reports of mines posing a threat to wood harvesting.

Household animals: In general, it does not appear that people keep animals. Amongst the survey respondents, 23 households claim not to have animals, whereas 10 households say that they do. It seems somewhat more common for people living within the villages to have animals – mainly chickens but also some ducks. There are also a few goats. For those who have animals, they constitute one important source of cash.

Household water and diet: Drinking water is mainly from the river, but one can also get water from some of the streams. Although it is impossible to assert with certainty the causes of stomach-related illnesses, it is believed that water might be one of the causes of disease. In Nanhupo wells are more common; here they also have a common well built by voluntary communal work, which serves the population when the private wells run empty during the dry season. As earlier alluded, the staple diet consists of corn and corn derivatives, such as corn meal. There is no mill, so meal is made by hand. Additionally, people consume beans, peanuts, mapira and dry mendioca,[2] complemented by some fish and game.

Markets: There is no market either in Nairoto or in Nanhupo. There are three shops in Nairoto (administrative centre and Bairro Natulo). One is owned by someone from outside the village and has irregular supplies; in fact it is often empty. The second shop is owned by a local police officer; it was opened last year and sells basic supplies such as oil, sugar, soap, salt and cigarettes. The third shop is smaller than the second in terms of merchandise, but also focuses on essential goods. Moreover, a salesman comes occasionally from Montepuez to sell clothes; the price for a *capulana* seemed to be exactly the same as in the city of Pemba, around 35,000 Mt. (USD 2.4). Interestingly the economic effects of the demining team on the local shops is limited. The reason for this is a combination of the small number of deminers, the fact that their salaries are limited and that the majority of them have at least one person to support at home, which means that they do not spend their whole salaries in the village.

Transport: Transport within the local area is either by foot or by bicycle. Bikes seem rather common, although there are clearly many households who do not have one. There is a *chapa* that travels daily between Nairoto and Montepuez; the fare is 20,000 Mt. one way (USD 1.4). At the time of fieldwork there was a truck transporting wood that passed by regularly, but it only went a few miles past Nairoto administration towards Montepuez and hence did not provide an alternative mode of transport. One particular concern for the locals is emergency transport. During the demining they can rely on HALO for this, but otherwise this is seen as a key problem. There used to be a radio at the administration that could be used for emergency communication between Nairoto and Montepuez, but it does not work anymore. Landmines are not a problem for the major transportation routes: although 11 respondents in the survey say that there are roads or paths that they do not use because of landmines, the remaining 22 say that there are no roads or paths that they do not use because of mines.

Employment: Employment opportunities are very few. Some seasonal work is available with the logging company. There is one large farmer who employs people for day labour, mainly between January and March. The latter pays in kind rather than in cash, mainly with essentials like soap, salt or oil. This farmer complains that it is difficult to

[2] Both Mapira and Mendioca are vegetables commonly cultivated in Mozambique.

get people to work on a regular basis; this is probably a reflection of people's immediate needs. If they require essential goods they will work for him; if they do not, they will not.

All in all, it seems that the economic importance of the operation will be minimal. A handful of households will regain access to agricultural land and to some fruit trees. In the survey, six people said that they have had economic problems due to landmines. One of these referred to problems during the war, whereas the other five referred to problems in the present which had to do either with access to land or with access to former residential areas.

The Human Field

Perceptions of security: The local population is not concerned about security, neither in the form of fear of the re-emergence of armed conflict nor in the form of crime. The police stationed at the village centre have little to do, apart from resolving minor conflicts involving villagers. The HALO demining camp does not have guards, and when the staff leaves the area they only store away equipment; the more permanent structures (i.e., toilets and kitchen) are left unattended. In relation to landmines, it seems to be the case that nobody has an interest in maintaining mines for purposes such as personal security or protecting personal property.

Mine accidents: Since the cessation of hostilities, two mine accidents have occurred in the area; both were fatal. The first case was that of a young girl who stepped on a mine under a mango tree on the river bank, close to the bridge. This area, which is outside the minefield as such, was surveyed by HALO after the accident. At that time HALO found and disarmed a few mines. The second case was of a woman who was reportedly mentally disturbed and who walked into the minefield against all good advice. Both accidents happened well before demining started. Altogether, 26 of the survey respondents say they know somebody who was killed or injured by a mine. More generally, people talk about RENAMO casualties that happened during the war; they also talk about monkeys, elephants and household animals falling victim to mines.

Health: The facilities available for assisting potential mine victims are very limited in terms of transport, as well as in terms of first aid and other medical assistance. For evacuation, the only opportunity would be with the local *chapa* that goes to Montepuez daily; this is because there is currently no wireless communication for calling an ambulance. The nurse at the local health post has no special training for stabilizing mine injuries, although basics like antibiotics and sutures are available. The situation is significantly better when the demining organization is present; they have both transport facilities and well-equipped paramedics, resources that have repeatedly been drawn upon, as when a child was gravely injured by a monkey just prior to fieldwork.

From this perspective, one of the unintended effects of the presence of the demining operator is that it can provide emergency transport and healthcare assistance.

The local health post has one nurse and one midwife. The nurse is affiliated to the Montepuez hospital, which practises a rotation system in which each nurse stays for a period of two years. The midwife is from the locality; she has practised for 20 years, but has also attended a few training courses in Montepuez. The nurse is salaried by the hospital. The midwife has no salary, but still works at the health post twice a week, where she does pre-natal check-ups. Births take place in people's homes, often with elder women of the family handling the delivery without the midwife being called upon. Many people also use traditional healers: in the survey, 22 respondents say they have approached a *curandeiro* (traditional healer). The *curandeiro* is responsible for healing and for some traditional ceremonies. Health education does not take place in any systematic manner. The nurse claims to try to convince people to use condoms to prevent Sexually Transmitted Diseases (STDs), but reports that this has not been very successful. Whilst the presence of the demining operator is suspect of contributing to the STD index, one of the principal causes of STDs is polygamy.

According to the same nurse, STDs (i.e., gonorrhoea and syphilis) are some of most common diseases in Nairoto. No known instances of HIV are reported, however. Malaria is a large problem and diarrhoea is also common. The number of cases of the latter had been lower than usual at the time of our visit, for unknown reasons. The fact that diarrhoea is not a larger problem may mean that the water from the river Mezalo is relatively contamination-free, despite its turbid appearance. Before and after the rainy season, people get their drinking water from streams and from wells in the area. Also, sanitation seems relatively good, with latrines existing in almost all households.

Education: There is one school in the Nairoto administrative centre. This provides education up to fifth grade and has a total of 229 students. Two of the classrooms are in the administrative centre whilst one is in the Bairro Natulo. There is also a school in Nanhupo, which goes up to third grade. Children from the latter sometimes transfer to Nairoto to continue their education up to fifth grade. There are blackboards, but no chairs or desks; books for the core subjects are provided once a year by the government; stationery and other materials, however, need to be provided by pupils' families. Currently, there are four teachers in Nairoto and one in Nanhupo. Whilst the children travelling in from Bairro Natulo to the administrative centre pass through the path that separates the minefields, the trajectory is not dangerous. Moreover, one of the classrooms in the administrative centre lies on top of a rock and its perimeter is mined. While safe access to the classroom is available, it is noteworthy that deviating from the established path could prove fatal. Somewhat surprisingly, the corresponding risk of mine accidents does not appear to be a grave concern for villagers.

During wartime, the school was running until RENAMO took control over the village. It was only reopened in 1997, reportedly with great difficulty. For education beyond fifth grade children have to go to Montepuez. Last year, according to the school principal, all five students who completed fifth grade went on to Montepuez for further education, two at the regular high school, three at the technical school.

All teachers have received training in mine awareness. According to the principal of the school, mine awareness is now incorporated into the lessons wherever appropriate, though there do not seem to be any specialized mine-awareness lessons at school. Whilst HI was conducting mine awareness, the ministry of education felt that a good way of tackling mine awareness would be to incorporate it into the regular education curriculum. The scheme is interesting, but its results and effectiveness are unproven.

In the survey, 20 of 30 respondents say that they send their children to school. The educational level among the local population appears to be low. For example, among the 33 survey respondents there are 20 who say that they do not know how to read and write. These data give us the impression that the regard for education by community members has increased in recent years. It is also noteworthy that in Nairoto children learn Portuguese at school. This means that people that are illiterate are likely to know very little, if any, Portuguese.

The Social Field

Local leadership: There are two systems of village leadership that work in parallel – the traditional *regulo* system and the more recent village chief system. In Nairoto the latter appears to be by far the most important, from the perspectives of local residents. The village chief is elected by the local population at two-year intervals. The main responsibility is to serve as an intermediate between the administration and the locals. The village chief, upon election, selects some assistants. The position of village leader is not remunerated, but it is regarded as a position of honour and duty to your community if chosen. Notably, whoever holds this position is granted some power by the population.

The position of *regulo*, unlike that of the village chief, is an inherited position, in a matrilineal system where the new *regulo* is most often the son of the old *regulo*'s sister. The *regulo* also has assistants. The *regulo* position is complemented by that of a queen, whose role is to give advice to the *regulo* and to serve as a problem solver. The queen position is also inherited through a matrilineal system, where the replacement is most often a cousin. The *regulo* and the queen are not spouses. Interestingly, in the Nairoto case the current village chief is the brother of the queen. The latter is married and resides in Tanzania; hence her sister is substituting for her at the moment. As regards the success of community–operator relationships, one of the causal factors has

been the operator's ability to establish good communication with the village chief, as opposed to the *regulo* who holds very little power and resides far away from the mined area.

In the AMAC survey, people have been asked about what they perceive to be the main responsibilities of the *regulo*, as well as of the village chief. The responses concerning the *regulo* tend to be that he is responsible for initiation rites or funeral ceremonies, as well as resolving disputes. Quite a few respondents do not at all acknowledge the *regulo* as a functioning leader. As regards the role of the village chief, survey responses are varied, but they tend to be as follows: 'To control and organize the population' or 'He is the link between the community and the administration.' For official purposes, HALO relates primarily to the village chief and administrator.

There are several mechanisms for local conflict resolution. This is a primary responsibility for both the *regulo* (and his assistants) and the queen, but in Nairoto this does not work to well with the queen absent (although a substitute exists) and the authority of the *regulo* under dispute. The village chief system might also be used for conflict resolution. In a case where none of the local mechanisms can establish a settlement, the issue would go to the tribunals. The tribunal is composed of appointed judges that are chosen, it seems, according to the regard villagers have for them. The judge of the Nairoto area, for example, has no education and is illiterate, but says that he is good at solving problems. He was appointed by the district judge. The impression is that there are few grave issues to settle in the area. Mostly the issues solved are disagreements between people while drunk or settlements after adultery; routine settlements exist for both. Here again, the good relations between the demining team and the village have been maintained because the operator staff has been willing to respect local conflict resolution mechanisms whenever a problem between a villager and a deminer has arisen.

Religion: The dominant religion is Islam. Traditional practices such as initiation rites have been reconciled with Islam, so that rather than a conflict between the two what we have is a reinvention of practices that strikes a delicate balance between Islam and traditional religion. The mosque is the only religious building in the area; the building of the mosque is also the major example we came across of collective mobilization. Here, everybody had joined hands because, as one respondent stated, 'We needed a place to pray'. There were 31 respondents who answered the questions about religion; they all said they were Muslim and that they went regularly to the mosque. After attending the mosque for Friday prayer a couple of times it became clear that the large majority of participants were men. Moreover, it was also clear that only a proportion of the population attended. Whilst the homogeneous nature of religious practices could serve as a further mechanism in building good communication between the villagers and the operator, it seems that the operator has never employed this social structure as

a communication line. However, the effectiveness of the brokers employed by the operator has also meant that employing the religious body has been unnecessary.

The *curandeiro* in Nanhupo claims to hold the power to give people protection against bullet wounds. He does not claim to be able to protect people from landmine accidents and draws a clear distinction between protection against bullets and protection against landmines: 'bullets are one thing and mines are something else'. When asked if he would be able to cure someone that was injured by a mine, he said he could but that it would always depend on whether the person was destined to get well or not. Admittedly, no mine victim had yet contacted him for help.

Collective mobilization: The building of the mosque stands out as the primary example of collective mobilization for the common good. People say they are not willing to contribute to the building of a school or an administration building in spite of the fact that both are institutions that seem to be held in high regard. People probably see such buildings as the responsibility of the state. The practice of hunting with nets also requires a collective effort: normally groups of five to ten people join in a hunt, most often family or friends. Occasionally, people join in communal work to take on private tasks of a single household, such as when helping out with harvesting. This does not appear to be very common and many people complain that people like to attend the party, but are less interested in getting the work done. Drumming sessions are the collective gatherings that, apart from the mosque, most often gather the population. During the two weeks of fieldwork, there were a number of such sessions. Drumming sessions do not seem to be planned in advance; they simply occur when 'people are happy'.

Local solidarity: The main basis for people's primary networks seems to be the family. In the survey, one standard question asked respondents to list the three people that they trust the most. Out of 90 persons listed by the 33 respondents to this question (some trust fewer than three), 20 are described as friends, whereas 70 are various types of family member. One can therefore assume that family is key, but that it is also possible to build strong friendship relations. Furthermore, only 10 of the people listed do not reside in Nairoto; people tend to rely almost solely on people within walking distance. Moreover, one issue that illustrated who people turn to for social support is that of marriage decisions. It seems that the source of advice and approval when someone is to be married is a family member, as opposed, for example, to a traditional leader.

To a question about how it is that people get cash, only nine respondents say that borrowing money is an option; with one exception, money would be borrowed from family. Even more interesting, when we asked respondents what they would do if a family member became seriously ill and they needed money for treatment, almost everybody would ask for a loan from a relative; there were only two persons who said they would sell belongings and three persons said they had no options to generate money on such

short notice. These response patterns are indicative of a society where family ties are key to coping and where the economic basis, although poor, does make it realistic for people to ask close contacts for a loan when in need.

Information: The diffusion of information seems to be working relatively efficiently within the system constituted by the village chief and his advisers, which leaves people with less need to rely on personal networks. When asking survey respondents specifically about from whom they received landmines information, almost half would say that they received it directly from deminers, whereas most of the others would refer to different local leaders, the village chief in particular.

Displacement: The Nairoto population has a long history of multiple shifts of residence, having been displaced repeatedly by force. Going back 40–50 years, people were forced to settle close to Nairoto administrative centre by the Portuguese, in order to facilitate control. It appears that the Nairoto area became overpopulated at the time; soon after liberation many people moved to neighbouring areas where they had less distance to their fields. The emerging RENAMO–FRELIMO conflict forced many to move back to Nairoto administrative centre and Bairro Natulo for protection, but after 1992 the process has repeated itself. In the meantime, there was a period from 1986 onwards when almost the whole population was displaced from the larger area.

Most of the people seem to have returned in the time just prior to, or soon after, the war ended in 1992. People in general say that a lot of people have yet to return. We found that there are few people from Nairoto that have not returned after the war, and that those are likely to have established themselves elsewhere. In other words, the potential for repatriation seems to be limited.

On the other hand, people seem to continue to move to Nanhupo and Namoro villages, simply because their crops are there. These areas have land that is more fertile, and many find it more convenient to live there and come to Nairoto administrative centre when necessary than it to live in Nairoto administrative centre and Bairro Natulo and walk a long way daily to get to the fields. People seem to have a realistic view of what the impact of demining will be: the minefield is said to be large enough to accommodate five families, but people's main perspective on the demining is that it permits them to gain full access to, and control over, the village centre.

The HMA Operation

Operation: In Nairoto a minefield surrounds the administrative centre, which includes school, hospital and administrative buildings. The mines were laid by FRELIMO after they regained control over the area in 1987–88. It appears that most of the mines are either POMZ-2 fragmentation mines or PMN blast mines. HALO Trust started demin-

ing on 23 May 1999. At the time of writing the Nairoto 1 minefield has already been handed over to the community. So far, the task has been tackled with conventional manual mine clearance, but the organization has conducted quite a few spot tasks with smaller teams. Currently HALO plans to bring in machines to complete the task (Nairoto 2). By the end of January this year, agency documents said that altogether 11,359 square meters of ground had been cleared of 25 anti-personnel landmines and a range of unexploded ordnance. The operation is not linked to any other humanitarian initiative. In fact there seems to be no other such initiatives, apart from HI's mine-awareness work. The staff, in their briefings as well as in their daily work, leave the impression that they adhere to high security and quality standards.

Information and analysis: Nairoto was first surveyed as part of the 1994 national Level One Survey. On 4 March 1999 HALO did a reconnaissance in the area. This apparently followed discussions with the provincial governor, where he had suggested Nairoto be top priority (HALO Trust 1999b). In the reconnaissance report reference is made to the national priority-setting criteria of NMCC, out from which Nairoto is a high-priority task within the Level One category, which means it is ranked top in a system of nine priority groups. The report makes reference to the chief administrator and to a force commander who fought with the local forces. With regard to socio-economic data, the survey report has no data of the kind, and the reconnaissance report discusses accidents, number of beneficiaries and what the land is likely to be used for in a rather brief manner.

Organization: HALO has had one team of deminers engaged in Nairoto for about a year. The team consists of 15 deminers plus support staff. Hence the units are both small and relatively flexible as compared to those of many other organizations. The agency is also flexible in a different sense: in the past they have responded quickly to mines found outside the area defined as the minefield. This flexibility is positive and seems to in itself have contributed to people's confidence in the overall operation. HALO has also been generous in making it clear to people that, during their presence, people can contact them for help with emergencies such as transportation of sick people. Whereas this is very clear to the supervisor, it is interesting that other organizational staff seem to think that HALO assistance to communities is limited to demining.

Agency staff have limited understanding of how it is that landmines impact upon the lives of the population. To our standard question about what they see as the major impact of landmines in Nairoto, the responses are highly varied and quite often irrelevant to the particular locality. The demining staff have extremely good relations with the local population, and this has a major influence upon the success of the operation, even though the individual staff members' understanding of the task is limited. HALO staff are recruited in the province; in fact one support staff member is from Nairoto itself. Agency staff have also regularly played soccer with the locals, an activity that

contributes to strengthening relations and may increase overall confidence in clearance.

Community perception of operation: The population is relatively well informed about the HALO operation, with regard both to what they do in demining and to other assistance they provide to the population. People have contradicting thoughts about when the task will be completed, but so do HALO staff. In fact nobody knows with any degree of certainty. Almost half of the population, when asked from whom they receive information about landmines and UXOs, say it is from the deminers. Even more importantly, there is only one person who responds that he does not receive such information; the remaining respondents refer to a variety of members of local leadership and administrative figures. To a large extent, HALO's success in establishing an effective network for disseminating information about the operation can be explained by the comparatively effective administrative structure that existed in Nairoto prior to agency arrival. At the same time, though, it needs to be emphasized that the ability to build on and strengthen such capacities is one key form of maximizing impact. In Nairoto, the confidence that people have in cleared land is very high. While high degree of confidence is reflected by survey responses, it is an impression that is strongly established through the open interviews.

The presence of HALO has had some influence on the local economy. The owner of the largest shop says that business has improved somewhat due to the deminers, but that they represent an increase of one third of normal sales volume at the most. For the locals the presence of HALO is important in that it gives them transport opportunities in case of an emergency.

HMA components: Among the different components of HMA, demining now stands at the centre in Nairoto, with HALO as the sole implementing body. Locals who were trained by HI have conducted mine awareness on a regular basis. One of the educators is a key informant for HALO and has been given a bicycle by the agency. The informant's role is generally limited to providing information regarding the location of the minefield, patterns of mine laying, etc. However, in this case the informer has regarded his role as including information transfer between the HMA operation and the community.

In the survey 29 respondents claim that they have received mine-awareness training. What does appear to be somewhat unfortunate, though, is the strong distinction drawn between HALO's demining work, and HI's mine-awareness work. This lack of coordination between different HMA efforts is regretfully quite common. In the case of Nairoto, HALO does deserve credit for having encouraged local mine-awareness educators to attend a HI course in the first place, although it remains a fact that they have not integrated this component with the demining work that they do themselves.

Concluding Remarks

The impact of the Nairoto demining operation is neither immediately evident nor easily understood. This operation points to the importance of asking people themselves what it is that they regard as important, rather than giving credit only to factors that form part of a predefined list of indicators. The Nairoto population is poor and the facilities are few. The need for services such as a better healthcare facility and a way of communicating with the district capital in case of emergency is openly recognized by the population. Coupled with the fact that the economic implications of demining are minimal, and that the population see mines as posing almost no physical threat, one could easily expect that the demining effort is low in their priorities. However this is not the case because they see their ability to reassert control over the administrative centre as highly important. In this respect it is interesting to note that what may seem as evident priorities to outsiders are not necessarily the priorities of the local population. The impact as identified by the local population in Nairoto could hardly be established without the use of community studies, and this is representative of many issues that are key if assistance providers are to respond sensibly to the needs and capacities of postwar societies.

The Nairoto study is an instructive example as to the importance of good agency–community relationships. The operation is likely to have minimal economic and limited human impact but will significantly contribute to people's reassertion of ownership in the larger area, including the Nairoto administrative centre. The high level of confidence in the operation is another quality of the operation in Nairoto. While confidence to a large extent reflects good agency–community relationships, it is also the case that it was here facilitated by the fact that the mined area was highly visible to locals. Confidence in clearance is critical to the success of demining operations and is often a problem. The Nairoto study indicates that what investment is necessary to build confidence varies a great deal from one locality to another.

Appendix: Methodological Notes on the Nairoto Case-Study

Period and case selection: The Nairoto village was the location of a field study conducted by AMAC researcher Ananda S. Millard between 19 February and 4 March 2000. From AMAC's perspective it was important to conduct a community study where the demining operation had a significant local impact. We had long discussions with HALO staff where they presented the ongoing tasks that they had in Cabo Delgado province. It was eventually decided that, between the two ongoing tasks in the province, Nairoto was the one that potentially had more easily identifiable impact. Hence the choice of Nairoto for the study. It is noteworthy that significant differences between the ways AMAC staff and HALO staff conceptualized and identified community impact were made visible throughout the process of selecting cases for the

study. These were illuminated further once AMAC conducted the case-study in Nacala.

Access: HALO Trust was conducting a demining operation in the area during our stay in Nairoto. Its staff both facilitated logistics and introduced us to the local population and administration. HALO's good relations with the local population ensured that we were accepted by the population and eased our work considerably.

Staff: An interpreter, one of two candidates introduced by HALO, was hired in Pemba. While the researcher does have working knowledge of Portuguese, the interpreter would translate both English–Portuguese and English–Macua. Quite a few people speak only Macua, the dominant local language, and do not command Portuguese. However, it soon became evident that the quality of data was higher if the researcher herself interviewed in Portuguese. From thereon the interpreter was used for interviews in Macua and occasionally to clarify questions in Portuguese. In addition, two surveyors were recruited locally, as this was seen as advantageous for access and trust with local respondents. The researcher spent a day on basic training for the surveyors, accompanied them for the first day of interviews and followed up by going through the interviews in detail on a daily basis. Certain topics proved difficult to establish: it proved particularly problematic to get sensible information on age, both for adults and for children; it also proved difficult to establish precise dates of displacement, returns and so on.

Data: The researcher conducted open interviews with 13 key informants, including local leadership figures, people in different branches of the administration, and HMA personnel. The key-informant interviews were complemented by observations and informal conversations with locals, and together form the most important data that underlie the study. The survey team interviewed 33 respondents from the local community. A further 26 surveys were conducted with agency personnel, including staff in a variety of functions. Finally, we had access to some HALO documentation, regarding both the Nairoto task specifically and HALO Mozambique generally.

Chapter 7

THE NACALA CASE-STUDY: SECURING IMPACT AT MULTIPLE LEVELS

The Nacala demining operation was launched with a classical macro objective: to secure access to a main water-supply pipeline. At the same time, the operation is close to populated areas; hence there is considerable potential for making an impact at the micro level. The findings of the study demonstrate how easily operators may overlook micro impact when confronted with a task that was chosen for its macro-level impact. Furthermore, this study demonstrates how similar organizational means for establishing good agency–community communication might lead to different outcomes in different locations. As such, the study serves to uphold earlier notions of the AMAC project, in which we stress the importance of understanding the individual community.[1]

Central Findings

The Nacala case serves to illustrate how difficult it can be to secure impact at the local level. The primary reason for demining was macro impact and the impact at the community level was unidentified. However it is here argued that operators have a responsibility to attempt to maximize their impact, and that demining needs to see itself as part of the larger post-conflict transformation effort.

The central objective behind the Nacala operation is to restore access to the water pipeline that provides water for Nacala port, in order to facilitate its operation by the Nacala Water Company. On the provincial list of priorities, the Nacala task has been listed ninth; the majority of the tasks with higher priority are either completed or they are in progress. With the central impact of the Nacala operation being at the macro level, it is easy to see the operation as one in which the only issue is the removal of mines, with little concern for the community in which the operation is conducted. The local community does not benefit from the services of Nacala Water.

---

[1] This community study can be read independently from the rest of this report; however, we would strongly recommend it be read in conjunction with Chapter 4.

On the other hand, knowing that there is a population residing in relatively close proximity to the minefield, and which cultivates the area next to it, should lead to the assumption that the operation will clearly have an impact for the local population. However, while presuming that local impact will exist, we must also be aware that there are obstacles to both the identification and the realization of such impacts. First, we know that Nacala Water is eagerly awaiting the completion of the task so that restorative work, contingent on funding, can be conducted. Second, it is known that the population of the area moved away from the minefield in the direction of the main road linking Nacala Port and Nampula during the war years. This is linked to the fact that the old road that went in parallel with the pipeline has deteriorated and is currently out of use; additionally people have a strong preference for living close to the road. Hence, it seems unlikely that the mined areas will be attractive for housing.

Nonetheless, the potential for impact at the community level does exist. First, as was made clear through interviews, the demined land has agricultural value. Second, it is expected that the land will provide the population with a new source for coal production, which is the chief cash generator in the area. Third, there is a potential upon the completion of clearance for limited hunting endeavours in the larger area that has been affected by mines.

There is, however, no guarantee that the operation will have an impact at the local level; hence there is a need for operators to make an effort to maximize operational impact on the local level. In this case, we talk first and foremost about confidence in the clearance, which is here an ambiguous issue. During operations, the agency has had to actively prevent people from entering the minefield to collect wood, which for some people is just a continuation of what they did prior to agency arrival. At the same time, we realize that people do not necessarily have the confidence required to start cultivating the demined areas. In this regard, the Nacala operation is significantly different from the Nairoto operation. Whereas in the latter the demining activity could be closely observed by people passing on a nearby main path, in Nacala people do not get any exposure to the ongoing activities. Nacala is therefore a case where there is a need to invest more, not less, in providing the locals with solid information about the operation.

There are a couple of ways in which the demining operator provides services of benefit to the local population. Most importantly, people have free access to clean drinking water, otherwise a scarcity, from the pipeline itself. Also, the presence of vehicles and drivers implies that emergency transport is always available if needed. Albeit simple, these things are good starting points for further strengthening agency–community communication.

In the Nacala case there is an interesting point to be made regarding the role of mine action within postwar reconstruction more generally. The local population does not

see mine clearance as being of significant benefit to them. Indeed they have a number of other priority reconstruction tasks that they would have liked to see addressed. This to a large extent represents a conflict of interests, since the main objective of the demining has nothing to do with the local population. Nonetheless, there are a couple of things that an operator could do. Firstly, as indicated above, it could do more to maximize impact at the micro level, including the advantages of the short-term presence of the agency and the longer-term advantages that follows from the clearance. Secondly, an agency working in a community should build up considerable knowledge about its needs and capacities, and hence also have a strong base for facilitating assistance from other agencies. We argue that agencies have a moral responsibility to see themselves as part of the larger postwar reconstruction effort and to coordinate with others to respond to community needs.

Community Background

Geography:[2] The populated area is located along a stretch of three kilometres alongside the old main road linking Barragem to Nacala port, between the new road to Nacala port and the minefield. The water pipeline runs alongside the old main road, but traffic has been re-routed since the area was mined.

The minefield identified as Nacala is located in Bairro Mangane, Nacala Velha locality, District of Nacala Velha, province of Nampula. The minefield is identified as the Nacala minefield because it is close to Nacala port, and the impact of the task is in direct relation to Nacala water. Whilst the minefield will in this paper be identified as Nacala, the community itself requires more precise usage of location names according to areas. The general area where the minefield lies is called Nacala Velha, and it is composed of a number of different *bairros*. The most important of these for our purposes is Bairro Mangane. Mangane is the *bairro* that encompasses most of the population likely to be affected by the minefield at the micro level, and is the area that includes the minefield. Other areas of importance relevant to this report are Musorili and Barragem. Musorili is across the road to Nacala port, basically opposite the Mangane area. The Musorili population shares resources and institutions, such as farmland and schools, with the people living in Mangane. Barragem, literally 'the dam', is another important reference point. It is located at four kilometres' distance from the road crossing between old and new roads to Nacala port, in the direction of Nampula. Barragem is where the health post and school beyond second grade are situated; also the police, the administrative post and a larger market are located in this area.

Population: Data on the population inhabiting the area were unfortunately not made available to us. The administrator became ill and left Barragem a few days after our

2 Italicized key words at the front of paragraphs are in reference to the concepts in the Plan of Inquiry found in fig. 4.1, Chapter 4.

arrival. He left all data under lock and key and had not returned at the time of our departure. The *regulo* of the area did not have any information on the population. The only figure we have is from the HALO reconnaissance report, where it is estimated that the population of Mangane and Barragem together is 5,000 people.[3] It is very difficult to confirm any such data because the population is dispersed.

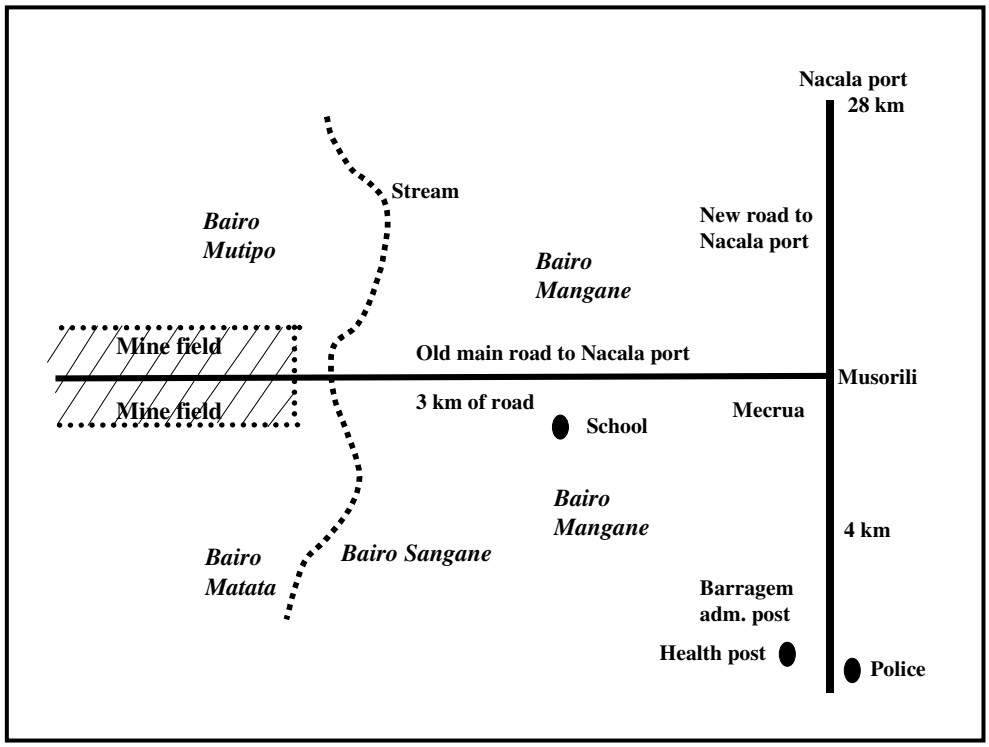

Fig. 7.1. Sketch map of the Mangane area

War history: The war of independence does not seem to have had a major impact in this area. Locals say they knew about it, but that they were not engaged or affected. This seems to go for the whole of Nacala Valley. In the so-called second war, between FRELIMO and RENAMO, things were different. FRELIMO was well established in the region, and RENAMO forces repeatedly attacked the area focused on in this study. One target was the water pipeline that served Nacala port. Hence, FRELIMO decided to establish a protective minebelt alongside the pipeline. In total, mines were placed alongside some six to eight kilometres of the pipeline.

[3] Population data in Mozambique are generally unreliable. Hence the population number stated in the text should be regarded as a reference point only. Another reference point that may be employed is the 1997 census where the total population of the Nacala Velha administrative post is identified as 32,266 (Estatística, 1997 #429: 20).

Landmine history: At the time of the mining this area was not populated, yet people were living in the vicinity and the area was used for cutting wood. During the early years of the war people had lived even closer to the area that was later mined, and it had been used for cultivation. However, the military forced them away long before the minefield was laid. Locals assisted FRELIMO with transporting the mines into the area, but did not take part in the placement of mines. This is important in that people in the area were able to provide relatively reliable information regarding where the mines were located, particularly since parts of the barb-wire fence which delimited the minefield was cut down by villagers before the arrival of the operator. FRELIMO forces had a military garrison in the area. The soldiers based at the garrison were the ones responsible for laying down the mines, for recruiting help from the population and for informing the population of the location of the mines.

Minefield: The local population does not claim to be seriously affected by mines. Indeed some stress that what they need is not so much demining as other kinds of assistance, for example schools. People do say the demining will have a positive effect in the long run, but as things stand it is far from being essential. This reaction is partly due to the fact that people have no idea when the operation will be finished and hence the idea of benefit is so abstract it becomes almost unimportant to them. This could be changed if there was better communication between the operator and the villagers. People are much more concerned with problems and difficulties they are currently facing, and with how these may be dissipated, than they are with the gain that may be incurred from demining which will end far into the future. According to the reconnaissance report, the minefield is estimated at 120,000 square meters, which also explains why HALO has two demining units working in the location. The minefield consists of anti-personnel mines and UXOs.

HMA operation: The demining operation was initiated in late 1999, after HALO conducted a reconnaissance in August and after discussions with the governor regarding provincial priorities. We have very little background on what the motives for prioritization were, but it seems clear that the primary objective was to facilitate access to the water pipeline in order to make maintenance possible. The pipeline is currently functional, and was so throughout the war. However, it is believed that the pipeline should be inspected and that it requires some maintenance work. The Nacala Water Company is, at this time, unable to finance any restoration work. Theoretically, once the demining operation is complete the government will allocate money to Nacala Water for the pipeline to be inspected and repaired if necessary.

The Economic Field

Land: Agriculture is the key economic activity in the area. Most people in the area have enough land to produce crops for personal consumption only. However, we have

observed that there are a few large landowners in this area. The person who owns the area where the minefield is located also seems to be the largest landowner in the locality. This person inherited the land from his father, Mr Mangane, who reportedly was the first person to settle in the area; therefore the *bairro* is named after him. According to the owner of the minefield, the area will be employed after demining primarily for crop production.

As is common in Mozambique, people are allotted land for cultivation by the local leadership. Once land is allocated to a particular individual, he has the right to pass on this land to family members after death. In short, whilst land is allocated and monitored by the traditional administration, it is also true that it is inherited. However, in this location there are some land holdings that are rather large and exceed the amount of land needed by one family to feed itself. Whilst people refer to the land they occupy as their own, ownership of land is largely symbolic. The individual has the right to use the land and may allow someone else to borrow it for short periods of time, but he cannot sell it or rent it. This also means that if for any reason a particular individual wants to move his/her house, or start cultivation in a new area, that person has to make a request to the appropriate traditional administrator. By law, all rural land belongs to the government. Although the area currently being demined is the property of one individual, this does not seem to be a source of community conflict. Whilst it could have been expected that people were critical of demining since it is only benefiting one individual, the loose definitions of land ownership and the fact that anybody can harvest wood in the area seem to prevent such a view from developing. In fact, the owner is likely to provide access to land for some 30 households, all of which are part of his extended family. Other people in the area said that the owner of the minefield area would also give land, or give people the right to use land, even though they may not be related. The family that owns the land confirmed this, and it seems that the notion of ownership at work here does not prevent other people from occupying the land, given that they obtain permission. It is debatable whether the minefield once cleared will effectively provide crop land for 30 families, but it will undoubtedly provide people in the area with a new source of coal production. Whilst crop production is linked to either 'owning' land or 'having permission' to use land by the owner, harvesting wood for coal production does not require any such agreement. Therefore the number of people that will potentially benefit from the cleared land through wood harvesting is potentially larger than 30 families.

Crops: Maize, cassava and beans are crops cultivated by all survey respondents; more than half also cultivate peanuts and sorghum; and one third cultivate rice. It also appears that a majority of the people have fruit trees, cashew or mango. Coconut trees do exist, but are far less common. Most of the crops planted are for personal consumption. Only a third of the survey respondents say that they sell any of the crops they produce. If people sell anything, it is because they have in excess of household needs,

not because they cultivated with a view to sell in the market. For irrigation of agricultural land, there are no alternatives to rainwater.

Fishing & hunting: Fishing does not appear to be practised, whereas hunting used to be a popular activity. Interestingly, the demining personnel say they have observed some game in the area being cleared, both gazelles and monkeys. This knowledge, however, has not been made available to locals, although it would be a good opportunity for relating the demining operation to local needs and for fostering support for the demining operation at the local level.

Wood resources: An important source of cash comes from wood resources; many people sell both wood and locally produced coal on a regular basis. Indeed, this seems to be the primary cash generator. By principle, wood can be taken from any land: property rights do not imply that others can be prevented from taking out wood resources. The mined area has been used for cutting wood in the past, and although it does not appear that access to wood is a constraint in itself, the demining operation will make more land available for harvest.

Household animals: More than half of the survey respondents have household animals. Animals seem to be reared both for household consumption and for sale. About half of the households that have animals also say that they sell them. Most people have chickens only. Some people do have goats, but this was not very common. It seems that people do not have money to invest – another factor that enforced the presence of a subsistence economy. The fact that they do not have goats or bicycles, for example, can be translated into the inability to save sufficient money to get started.

Household water: Household water is easily available from local wells during the rainy season. During the dry season, people have to go to the dam, which is in Barragem. At the moment, people living in close vicinity to the minefield can obtain water directly from the pipeline since the water company has opened access to water for the demining agency. This arrangement is an indirect benefit of the demining operation since household water is otherwise quite difficult to get, or it needs to be paid for. People that have to buy water, pay 500 Mt. (USD 0.04) for 40 litres of water.[4] As regards diet, the basic diet is very much based on what people produce themselves. Most common crops are maize, cassava and beans, followed by peanuts, sorghum and rice.

Markets: There is one market in Mangane, by the side of the main road to Nacala port, three kilometres from the demining camp. It has small shops that sell essential goods, coal, wood, corn flour and beans. There is another market in the Barragem area – four

[4] A family's normal monthly expenditure for essentials is estimated at 50 000 to 80 000 Mt. (USD 3,60 to 5,70).

kilometres from Mangane market along the main road going toward Nampula. The Barragem market has a better choice, but it is still limited mainly to food items.

Transport: Transport in the neighbourhood is almost exclusively by foot. Bicycles are uncommon: locals claim that this is because they can not afford to buy bicycles. Once one gets to the main road, transport is easy to find, to Nampula as well as to Nacala port. The price for one person going with a *chapa* to Nacala port is 7500 Mt. (USD 0.50). The road that passes through the mined area, in parallel with the pipeline, used to be the main road. Now a new tarmac road has been built (see map). Although the new road, at 28 kilometres, between Barragem and Nacala port is 3 kilometres longer than the old one, the latter is in poor condition and is very unlikely to be rehabilitated and to be used as the main connection between Barragem and Nacala port again. Interestingly, some local inhabitants think that this will be the case. The original road was shut down during the war and is currently out of use owing to the mines.

Employment: There are few opportunities to get paid work in the area; it seems that most people live in subsistence economies. The local family economies are based on crops, and complemented by cash from selling coal and/or wood.

The Human Field

Perceptions of security: The local population identified no security threats.

Mine accidents: As regards mine accidents, there seems to have been two people killed in the minefield (HALO Trust 1999 #427). The individuals were hunters and reportedly came from outside the area; hence they had no knowledge about the mine problem. Since the victims were not locals, people have very little knowledge about them. In fact we have been unable to ascertain whether there were one or two victims, and whether there were one or two incidents. The attitude of the villagers towards the mine victims is rather dismissive. Amongst village leaders, the view regarding mine accidents is as follows: We have informed the population about the presence of mines, and we have told people that if they enter the minefield they are individually responsible for what may happen to them. This attitude from village leaders can partly explain how it is that people have such a dismissive view of the mine victims.

Health: As regards medical facilities for mine victims, this has never been tested because the only accidents in the minefield have caused immediate death. In theory, the only opportunity to evacuate mine victims, or others that need urgent medical attention, is to get to the main road and take ordinary transport. In terms of first aid or other medical competence in the locality, there is a health post in Barragem. This is four kilometres from the main road intersection towards Nampula. Therefore if any accidents were to occur the best option would be to seek transport from the main road and

go to Nacala hospital. In the event that an accident occurred whilst the demining team was on site, then these could be approached for assistance.

The health post that provides care for Bairro Mangane also provides care for Barragem, Mutaverene and Mulatane – in total for 18,000 people. The post is located in Barragem, some seven kilometres from the minefield. The post is staffed with one nurse and an assistant who doubles as a servant and midwife. The latter was trained in Nacala, but the nurse does not know how long the training lasted. She was sent to work in the Barragem health post because someone was required to assist with births.

In addition to the nurse and midwife, there are 21 health activists. The activists give classes in preventative health care. They focus on issues such as care and prevention of malaria, diarrhoea, pregnancy, Sexually Transmitted Diseases (STDs) and child nutrition. The activists hold general meetings with the population to train them on how to deal with and prevent the above illnesses. This programme is funded by Save the Children (SCF). The organization pays the nurse to train the activists, but the activists themselves are not remunerated. Didactical materials are also provided by SCF. In addition, SCF has introduced a family-planning programme. A specialized nurse comes to the health post once a week. The nurse provides women with birth control pills or vaccines and also provides condoms. The service is free of charge and, according to the nurse, in high demand. The most common diseases present in the area are diarrhoea, malaria, acute respiratory problems and STDs.

Drinking water in the area is not very clean. According to the nurse, most people drink river or stream water and, although told that they should boil it, they do not. Another indirect effect of the demining operation is that it provides some people with clean drinking water. This potentially reduces the index of some common diseases. As regards latrines, some people have them and some do not. It seems having or not having latrines involve relatively equal numbers. The nurse explains that that the health activists also teach people how to build latrines.

Education: School attendance seems to be very low: only 7 out of 29 respondents say that their children attend school. A similar number of respondents say they know how to read and write, but there is no correlation between being literate oneself and sending the children to school.

The school infrastructure is one example of collective mobilization in the area. The school was built by a collective effort of the local population without any external funding or support. Currently the school in Mangane, which also services Musorili,[5]

[5] The fact that children from Musorili have to attend the school in Mangane means that the respective *cabos* (traditional leader at the *bairro* level) are forced to coordinate efforts.

has 2 teachers and 88 students and teaches first and second grade only. The number of students in each class is virtually equal.

According to the teachers, people's perception of education is quite good, and most people do send their children to first and second grade. This is supported in the views of the local population, who rank the need for a school that teaches beyond second grade as one of the principal needs of the area.

As things stand at the moment, if children are to continue education beyond second grade they need to go to Barragem. Currently the majority of children do go on to the school in Barragem, but even then the educational facilities only offer education up to fifth grade. If children are to continue education further, they require greater financial capacity. Going on to sixth grade means that children have to board somewhere and this requires considerable financial support. The teachers at the school think that about half of the students come from families who are able to facilitate education beyond fifth grade, but given the relatively poor economic condition in the area, this might be overly optimistic. As regards the age of students attending first and second grade, teachers say that they range between seven and twelve years of age.

According to a teacher who has worked in the area since 1987, but who has recently been transferred to another school, there used to be 5 teachers, the school had a total of 205 students, and it taught up to third grade. It also seems that the infrastructure available during the war years was larger than the one available today. Whilst today essential books are provided by the government, during the war years all materials had to be supplied by the parents. He says that parents did send their children to school during the war, and that in 1989 the school increased their level of education to fifth grade. Now the educational level, as stated above, only goes to second grade. Currently, as above stated, children need to go to Barragem if they are to further their education beyond second grade. According to the same teacher less than half of the students go on to third grade

As regards mine awareness, current teachers received a course so that they are able to include mine-awareness issues into the curriculum. Mine awareness is taught twice a month. Schools also receive mine-awareness didactical materials from Handicap International (HI). In this context a few issues should be highlighted. During an interview with the children at the school it became apparent that they have sufficient information on mines to prevent accidents caused by ignorance. Most of the time this information seems to have come from the teachers. As regards the materials provided by HI, it seem HI relies on the assumption that kids can read and write, but this proves problematic. Children do not speak Portuguese when they come to first grade, nor do they read or write, which means that any written material has to be read by an adult. When asked how many children could have their parents read to them, no child responded. When asked how many of them could read the book on their own, a handful

of children asserted they could. Of these children, two said that they knew language well enough to read the document to their parents. This situation forces us to consider whether written material, in any language, is the appropriate medium for information diffusion when large parts of the population are illiterate.

The Social Field

Local leadership: As regards administrative systems, the traditional and governmental administrative systems merge with one another.

The *regulo* position is a traditional leadership role at the level of the locality. It is passed on in a matrilineal hereditary system; however, in addition the *regulo* is chosen. In short, being a blood relative of the *regulo* on the mother's side is not enough: the individual must also show good character to uphold the position and gain the support of the population. His duties include the general governance of the whole area, conflict resolution duties and also more specific tasks like following up on people that have not paid their taxes to the administrator.

The *cabo* is a traditional leadership figure at the level of *bairros*, where one *cabo* is responsible for more than one *bairro*. The *cabo* of the Mangane area is not the rightful *cabo*, but the former *cabo* appointed him when he could not fulfil his duties and apparently moved out of the area. Under normal circumstances the title of *cabo* would pass on hereditarily in a matrilineal system (i.e. from one individual to the son of his sister), as is the case with the *regulo*.

In addition to the *regulo* and the *cabo*, there are other leadership figures – including the king, the queen, the *chefe de poblaçao* and the administrator. While the king has not maintained any duties, he is still well respected. His earlier responsibility was to coordinate amongst three *regulos* in the larger area. The queen currently plays a ceremonial role: she will, for example, be called upon for traditional ceremonies like 'rain calling'.

The *chefe de poblaçao* operates at a level below the *cabo*, which means that normally there would be one for each *bairro*. Like the *cabo* and the *regulo*, this is also an inherited position. The *chefe de poblaçao* is heavily involved in conflict resolution, less so in other administrative tasks.

In the administrative system that is currently employed, the *chefe de poblaçao* answers to the *cabo*, who in turn communicates with the *regulo*, who in turn communicates with the administrator, who serves as the link to the government. This is the chain of command in theory. However in practice the *cabo* often communicates directly with the administrator. It is to be noted that this is the currently functioning system, which

appears to be similar to that which existed prior to the war. During the war, however, things were different: then the traditional leadership figures were replaced by secretaries of *bairro*.

The importance of understanding the administrative system at the local level is illustrated here by the gap between the theory of how the system works and its practice. Whilst the *regulo* might be the obvious person to contact so that the largest number of people receive information on the HMA operation, in fact contacting the *regulo* would serve very little purpose in the Mangane area. This is because the *cabo* relates directly to the administrator, and because it is he who has command over the area where the minefield lies. In fact the *regulo* lives far away and his knowledge of the mines problem is limited. The *regulo* should be contacted because he holds some power and has the respect of the people, but he can not be used as a source of information on the local population or as a channel for diffusing information to the population in the area. For the Nacala task, the principal point of contact between the operator and the population is the administrator, which is largely insufficient to fulfil the needs of the HMA operator. The administrator has not conveyed the appropriate information to the *cabo* and hence the information the *cabo* has is limited, as is the information that *chefe de poblaçao*'s have. As in Capirizanje (Chapter 5), relying on the *regulo* as a source of information or as a way to communicate with the community would be ineffective; however the presence of and respect for the *regulo* suggests that in this case the operators should have contacted him as a sign of respect for the community where they work and as a way of legitimizing their own work.

Conflict resolution largely is the task of the traditional leaders: the *chefe de poblaçao*, the *cabo* and the *regulo* all have conflict resolution duties. They serve in an ascending order when the previous individual was unable to solve the problem. If these community leaders are unable to cope with a problem, it is often transferred to the official court system.

Religion: There are two main religions practised in the area: Islam and Catholicism. In the survey, 24 respondents out of 29 are Muslims. Everybody claims to visit church regularly. The presence of world religions seem to be harmonized with traditional beliefs; for example, all respondents admit to having obtained the assistance of traditional healers. This is contrary to statements by the representative of the Catholic Church, who says that his church does not permit the use of *curandeiros* (traditional healers) or traditional practices more broadly. It seems apparent that Islam, as locally practised, is more tolerant of local traditions than is Catholicism. Interestingly, the Catholic Church representative was open about how the church condemns the use of traditional healers, while admitting to using their services himself. The high attendance of religious services suggests that the different churches would be an effective way of diffusing information to the community.

Collective mobilization: The extent to which collective work is organized has been difficult to ascertain, but the impression is that such undertakings are fairly limited and that they take place mainly within the domain of extended families. What is clear is that building and maintenance of the school is a community effort. Apart from that, the main collective practices we have come across are linked to religious life, and to church attendance in particular.

Local solidarity: Solidarity relationships seem to be very strongly based in the family. In the survey, respondents are asked to list the three persons they trust the most. The findings from Nacala are particularly strong: out of the total list of 87 people listed, there are only three persons that are not relatives but friends. Over half of the people identified as most trusted live within walking distance of the respondent. This means that whilst the people identified are family they are also people that can be interacted with on a daily basis.

It is also interesting to see specifically how network relationships contribute to economic security. One survey question is how people would get cash, if needed. Only two respondents would ask family members; the others all suggested they could sell something. In case of an immediate need, however, such as illness in the family, almost everybody would have somebody they could ask to borrow money; again the most likely candidates are close relatives.

Information: When asked whom they would contact to get information on security issues, it is interesting that more than half would go to multiple sources. One possible explanation for this is that the population does not live in dense villages, and the residences are dispersed over a wider area – in such a case the threats to the security of one household do not apply to another, and there is a need for multiple sources of information.

Displacement: The survey data on displacement are somewhat unruly, but it seems that a substantial share, perhaps more than half, of the population did not flee permanently. Those people continued to stay in the area, while evacuating their homes for shorter periods of time, fleeing to the bush on a regular basis (often daily). Among the 29 respondents to the survey, there are nine who say they have returned from a prolonged stay in a different location. Attempts to establish how many people left the area during the war and did not return were fruitless.

The HMA Operation in Context

Operation: The Nacala Velha task lies between Nacala Dam and Nacala port, along the old road linking the dam and Nacala Velha to Nacala port. It is at least 6 kilometres long and perhaps 20 meters wide. It lies along a water pipeline that carries water

from the Nacala dam to Nacala Port city. The mines were laid by government forces during the RENAMO–FRELIMO war. The objective of the mining was to prevent RENAMO from sabotaging the water pipeline. So far, demining has been conducted through a combination of mine detectors and full excavation, but with the expected arrival of new detectors, the need to excavate will be eliminated, with huge gains in efficiency. The change in the detector will drastically speed up the process because the new detectors will be able to counterweight the presence of certain minerals in the ground and hence will be sufficiently reliable to be used as the sole method of detection. The area is not severely metal contaminated; hence with the proper equipment, detectors alone can be used to identify metal, eliminating the needs to excavate unless the detector identifies metal.

Information and analyis: The task was not surveyed during the 1994 Level One Survey. It seems that the first survey done was the one by HALO in August 1999, just prior to starting work (HALO Trust 1999 #427). The locality was visited by a team from the Canadian International Demining Centre (CIDC) in the period of our field research, as part of CIDC's ongoing Survey Level One. The CIDC team did establish contact with HALO. The team conducted a group interview exercise with a group of people, none of whom lived in the vicinity of the minefield.

There are no good maps of the minefield, and the minefield is not systematically marked. Originally, the minefield was fenced by barbed wire, but the fence has not been maintained and now has little value. In fact people from the local population cut down parts of the fence. This is because some of the mines are visible and hence people felt safe going into the minefield to harvest wood, for example. There is little information on the socio-economic impact in the HALO reconnaissance report, apart from an estimate of the number of people affected and a statement as to the operation's impact in reopening *machambas* and facilitating access to the pipeline. Through conversations with senior HALO staff in the region, the impression that the task had been taken on for two reasons was confirmed. Firstly, it would give Nacala Water Company access to the pipeline for maintenance and repairs. Secondly, it would give people access to an area where they could establish new *machambas*. The task is ranked ninth on the provincial priority list, but we have not seen the arguments behind this ranking. What is clear is that both HALO and the provincial governor had placed it as Level Two priority, the middle level, within a system of three levels.

The demining operation, albeit being primarily motivated by the need to establish safe access to the pipeline, has numerous side effects. The access to safe water, and the presence of cars that can transport people in an emergency, are examples of side effects during the demining process. Access to wood resources and to hunting are examples of unintended benefits that go beyond the primary rationale behind project implementation. For both, the point is the same: operators need to realize that they should also pay attention to side-effects; in other words, they should maximize impact.

Maximizing impact in Nacala requires that the operator is able to identify and secure impact at multiple levels. In other words that it move beyond its original mandate and communicate with the community in order to better respond to its needs.

Organization: In terms of personnel employed, the task is the largest currently being conducted by HALO Trust, with two teams – each consisting of some 15 deminers plus support staff – working on the same task simultaneously. With the exception of demolitions of UXOs found in a building owned by the local police station, no other spot tasks have been undertaken, simply because no mines have been reported outside the minefield.

The HALO staff employed in the field is recruited at the provincial level. The agency staff has verified views on the major impact of the operation which are very different from the views of the community, but a majority does emphasize that it will permit the establishment of new *machambas*. Four persons say they do not know what the impact will be. Given these responses, it does not appear to be agency routine to brief staff on the impact of operation beyond what is outlined in the priority document. A related concern is agency activities to build confidence in the area cleared, particularly since this operation is largely out of sight for the locals. Some agency staff say they talk to and socialize with people in order to build trust. Others think too little is done to establish confidence. The most frequent view, however, is that building confidence is something one does at the hand-over ceremony upon completion of clearance. Some staff tend to think that establishing confidence is primarily the responsibility of the local administration, not of the agency, whilst others feel that their employer should invest more efforts into confidence building throughout the operation.

Community perception of operation: The majority of respondents say it was the government forces that first informed them about the mines. When asked from whom they receive information about landmines and UXOs, people say the radio. When being asked about whether anybody has done anything to address the problem, the demining agency is first mentioned. The fact that people do not make reference to the demining agency as a source of landmines information is indicative of a passive attitude from the agency's side when it comes to establishing communication and report with the local population. However, people surveyed – with only one exception – do claim to have confidence in the cleared areas. It should also be noted on the positive side that the operator has emphasized to staff that they should be helpful in emergencies, providing first aid and transport.

Concluding Remarks

In the Nacala case the need for understanding communities is again reinforced. Since trust in the operation seems relatively high and impact at the community level is low, one could argue that to invest in understanding the community where

the work is conducted could be regarded as superfluous. However, we have here argued that as long as there is a population in the project area, there exist both the potential and the responsibility to seek the maximization of impact at the local level. In that regard, the success of the operation if largely contingent both on communicating with the villagers and on understanding what their needs are and how the operator may respond to these needs.

Moreover, it seems that the ability of the community to recognize the benefit of the operation at the micro level is of extremely high importantce. From a general post-conflict reconstruction perspective it is important that communities do not feel that their needs are disregarded or that they are being invaded by a foreign institution that does not regard their needs or capacities as issues of importance. Dialogue between the operator and the community could fundamentally change the perception of the operator at the village level, both in that the community is able to see the benefit of demining and in that needs identified by the community are acknowledged.

The Nacala operation has been launched with limited concern for the micro-level impact that it can potentially have. This is primarily because the principal objective of the task was its macro impact, in the form of reopening access to the Nacala water pipeline. However, in reality the task could have considerable micro impact if greater efforts had been made to establish an understanding of the socio-economic impact at this level, while also building stronger relationships with the local population. Operators need to recognize that the impact of demining can be identified at different levels ranging from macro to micro, and that the scope of impact can vary between benefiting a handful of individuals to benefiting the larger collective. In Nacala, a locality where ensuring good communication with the locals is particularly demanding, the operator has focused on mine removal alone, and hence responds to success measures formulated at the macro level only.

Appendix: Methodological Notes on the Nacala Case-Study

Period and case selection: Fieldwork in Nacala was conducted by Ananda S. Millard in the period between 1 and 14 April 2000. Our initial plan of doing a case-study with ADP in the southern part of Mozambique had to be cancelled because of the floods. We therefore had to find an alternative site. We also found that under the given circumstances – where only NPA or HALO seemed able to host us – priority would be given to HALO since we had already done two studies with NPA in Mozambique. We found Nacala interesting both because it was a macro-oriented task, in contrast to other case studies we have undertaken on in Mozambique, and because we were under the impression that the areas bordering the minefield were populated. This prompted us to think that the likelihood for both macro and micro impact from this operation would be quite high.

Access: As elsewhere, we relied on agency staff to introduce us to key people in the local community. In Nacala the degree to which the demining agency related to the locals was limited. This proved to be a constraint in the conduct of our work. The local administration, to which we were introduced by HALO, is located in Barragem, some seven kilometres from the minefield. HALO also introduced us to the local *cabo* (traditional leader), who lives 1,200 meters from the minefield. The primacy given by HALO to the link with the administration as a point of contact here serves to illustrate how agencies should not rely on standard points of contact. In Nairoto, for example, using the administration as the main point of contact between HALO and the community worked quite well, but in Nacala it did not. One reason it did not work is distance. In Nairoto the administrative post is centrally located, in relation both to the minefield and to the population affected by mines; in Nacala the administrative post is seven kilometres away from the minefield and at least four kilometres away from the people that are most likely to be affected by both the mines and the clearance operation. This serves to illustrate an important point regarding contact persons and information diffusion between the operator and the community. We do not wish to suggest that the administrative post should not be interacted with because they are not the best medium for information diffusion in the Nacala area, but we do suggest that relying almost exclusively on the administrative post has been a mistake.

Being introduced by HALO was useful and important in terms of official recognition and acceptance for our work. However, these introductions had little influence in breaking the ice between the local population and us. The fact that the operator and the community had little interaction meant that we could not base our access to locals on existing relations. In this situation, locally employed staff became even more important that they usually are for establishing relationships with locals. Having a local interpreter (Macua–Portuguese), who also served as a guide, proved essential. The area is populated in a relatively non-orderly fashion, which means that most of our time was spent walking bush trails to and from people's houses. Our ability to go to people's homes, often repeatedly, proved to be highly beneficial for establishing contact and building trust.

Staff: As was the case during the other AMAC studies, two surveyors were hired locally to conduct the community surveys. Both were residents of the area, but – unlike the interpreter – they were not born there. Working with local staff is not only useful because they serve important roles as door-openers, but also because they can be sources of information and clarification. It is often the case that wrongful assumptions are made because the data are erroneously interpreted. The opportunity to check findings with local staff can often serve to prevent such misinterpretations.

Data: The main data used are open interviews with agency personnel, local leaders and other key informants in the community, complemented by observations. Altogether, 18 such interviews were conducted. The survey team interviewed 29 respon-

dents. From agency personnel, survey data were gathered from a total of 27 respondents. There was very little documentation available on the Nacala operation; we had access to the Reconnaissance Report (HALO Trust 1999 #427) and a short HALO briefing paper on the operation.

Chapter 8

IMPACT ASSESSMENT AND THE USE OF INDICATORS: PRACTICAL CONCERNS

Socio-economic analysis needs to be strengthened in all phases of the HMA process. There is an established system for information collection in HMA, with three levels of surveys (McGrath, 2000: 74-138; United Nations Mine Action Services, 1997). Level One surveys are intended to gather rough information on mine-affected areas, including the character and scope of the mine presence. More recently, it has been acknowledged that there is a need to also gather socio-economic information at this stage, in order to set priorities for action. Level Two surveys have conventionally aimed at gathering the technical information needed to plan a demining operation and to establish the perimeters of the minefield; demining expertise is required. Level Three surveys take place upon completion and potentially include quality assurance. They are normally linked to the formal hand-over ceremony, in which local representatives receive a document certifying the clearance of the area. This description of survey levels draws heavily upon the existing UN International Standards for Humanitarian Mine Clearance Operations. It should be acknowledged here that these are currently under revision. Still, it is remarkable that existing standards, established in 1997, make no reference to impact assessments.

In the context of the revision of standards, it seems to be the case that socio-economic data are only gathered during the Level One survey. In this chapter we will suggest that Level One can only give a rough overview on the basis of which one can select areas for more careful investigation. This investigation would serve as the socio-economic complement to the technical information gathering currently named Survey Level Two, and ought to take place before final priorities are established. Furthermore, we argue that attention to socio-economic factors and the building and maintenance of strong community relationships are vital throughout the whole operation. One implication is that the current attention to Survey Level Three is problematic, since this tends to be linked to the assumption that building confidence in cleared areas can be arranged as a singular event upon completion of demining. Building confidence needs to be an objective throughout the whole project cycle. Demining agencies have huge potential for maximizing impact if they invest more in community relationships throughout the operation. We also argue that the attention to Survey Level Three is unhelpful in another sense: it veils the fact that the full impact of operations can only be estab-

lished in hindsight. There is a decisive need to follow up with socio-economic data gathering of demined areas at regular intervals; this will help to build knowledge and inform future impact assessments as well as project implementation routines.

Finally, we argue that the whole reorientation of HMA to take socio-economic impact seriously requires a thorough upgrading of analytical skills across the sector. Devising new tools to deal with socio-economic issues is not likely to be effective unless backed up by a major investment in capacity building to collect solid data, draw sensible conclusions from these, and ensure that these conclusions are reflected throughout the demining process.

This chapter will make extensive reference to findings from the three community case-studies presented in Chapters 5 to 7. The community studies are complemented with material from a few shorter site visits. We will also make reference to a 1999 AMAC community study in Bandua, Sofala province (Millard 2000 #420).

General Survey and the Ranking of Mined Areas

The general survey, Level One, is an effort to get an overview of the landmines situation in a country. In Mozambique the 1994 HALO survey, complemented by smaller survey efforts of new minefields, has been the main instrument used to date. It contains technical minefield information exclusively, with no data on impact. The ongoing CIDC Level One survey represents a different line of thought with a heavy emphasis on socio-economic impact data. Demining organizations are critical of this because they feel that the CIDC survey will not give them the information they require to assess whether, given individual organizational constraints, it is practically possible to take on a task. Whereas we acknowledge the need for agencies to collect technical information, it remains an open question whether detailed technical data is a necessary component of Survey Level One, or if such information should be collected at a later stage. Sensible priority setting depends on good impact data; the request from agencies for more detailed technical data serves another purpose, which is the identification of constraints. We are concerned that in current priority setting there is little distinction between impact and constraints, to the extent that priorities may at times be established with constraints as the main orienting principle.

Priorities should only be set on the basis of impact assessments. When and how a prioritized task is taken on must be a reflection of existing constraints, but constraints should not lead to a reordering of priorities. Most basically, however, sensible priority setting is impossible unless one has a certain level of impact data. Besides the quality of the data, there is also another key issue: who is involved in the actual decisionmaking process of setting priorities? As we will return to in the following subsection, we think the final priority setting should build on a data foundation that goes beyond that

of a Survey Level One. Nonetheless, in this section we will mainly look at existing organizational practices in basic survey and prioritization.

The NMCC standard survey form seems to be applied by most agencies – although the ongoing CIDC socio-economic impact survey operates with a different set-up, which is likely to replace the NMCC standard in the future. The NMCC form contains mainly technical information, but includes a few questions addressing the impacts of mines on the community: accidents (with description); number of people affected by mines (and description); likely use of land cleared. This is a limited basis for making decisions about the impact of landmines on a community. However, the actual ranking of tasks does not refer to these data, but rather to a specific ranking system.

The national policy for priority setting is outlined in *The National Mine Clearance Strategy Approach* from November 1998, and this still seems to be the principal foundation on which a nationwide priority-setting standard should be set. Here, priorities are ranked by type of task, which includes considerations about level of impact (i.e., community to national). There are three categories: high, medium and low priority, each with three subcategories. (see fig. 8.1.) While all concerned agencies have until now used the NMCC standard survey form, in which this prioritization key is included, it does not appear that the ranking based in the NMCC standard serves as the key to agencies' ranking of tasks.

Overall, priority setting does not occupy a central place in agency documents. ADP's recent 17-page project document has little to say about impact assessments and priority setting. This is the full section on 'Prioritisation of ADP clearance tasks':

> Task input is sought from national (IND), provincial, and district level authorities, with a final yearly list of clearance priorities submitted to IND for confirmation. Although broadly based on stated national priorities for landmine/UXO clearance (i.e. access roads, water points, schools and health centres, agricultural land, economic infrastructure), the actual determination of clearance priorities is, in practice, left largely to local (i.e. provincial) discretion. (United Nations Development Programme, 2000: 7–8)

In practice, it appears that ADP priority setting is the domain of senior ADP management, which has consultations with provincial authorities in the process of establishing priorities.

HALO largely sets priorities as follows: After Level One Survey at the provincial level, the organization prioritizes tasks according to their technical and logistical capabilities and their view of the importance of the task. In other words, constraints and impact are not clearly distinguished. A list of the surveyed tasks, not ranked, is sent to the provincial administration, which is also asked to establish its priorities. If the two rankings are largely compatible, HALO goes ahead. If not, discussions are taken up

with the provincial authorities in order to reach a consensus. In these discussions, constraints do often play a central role. The organization claims to keep an eye on tasks that may potentially increase in significance and changes priority lists accordingly. One example would be when a hospital or school is going to be built in an area that is mined, and mines either inhibit the building or pose a threat to the population that will use the new structure. This tactic, although positive in that it can be a demonstration of cooperative work and/or good communication between HMA and other development and reconstruction efforts, can also mean that areas where no development projects takes place are repetitively pushed back in the list of priorities.

According to their Project Proposal 2000–2001, NPA receives information on new tasks from multiple sources. As regards their priority-setting mechanisms, NPA has regular meetings with the relevant Provincial Governor. In addition, at the district level NPA approaches traditional and religious leaders for advice regarding particular tasks and their respective impact.

Overall, our impression is that in the final decisionmaking phase of establishing priorities, there is little or no reference made to the NMCC indicators. There is a good reason for this, since these are very rough and simply sort priorities out from the function of the area that is mine-affected. The real problem, however, is that neither the NMCC survey form, nor possible complementary routines by the organizations themselves, provide them with a really helpful description of impact. When this is linked to the lack, in many cases, of data on all tasks within a province, there are clear limits to the usefulness of engaging provincial authorities in a dialogue on priorities, something which seem to be routinely done by all three agencies discussed here.

In practice, there has been a tendency by operators to place constraints at the forefront of priority setting. One example of this is the Songo minefield in Tete province, the selection of which has been criticized in several evaluation reports (Agenda, 1999: 31–33; Hallam, 1997: 81). This minefield was established to protect the Cahora Bassa dam in the 1960s. Demining started in September 1995. Although the socio-economic impact is potentially large, the task is huge and – in spite of continuous work by one or two platoons since 1995 – completion is not in sight. By 1997 the operator admitted that the Songo task was not the highest priority, but argued that as a mine-dense field it is a good training ground. Since then considerable capacity has continued to be tied up in Songo. This serves as one example where prioritization seems to have been motivated by organizational constraint (i.e. the need for a mine-intensive training site), rather than by overall socio-economic impact.

HIGH:

Level 1 – POPULATION SETTLEMENT AREAS AND SOCIAL INFRASTRUCTURES to provide services at provincial, district, and or community levels such as rural shops, education centres, hospitals, workshops.

Level 2 – LARGE INFRASTRUCTURES AND FACILITIES for water supply, electric power / gas / oil export and distribution at national level and areas required for constructing new power lines and water-supply systems.

– LARGE INDUSTRIAL UNITS and areas with high potential for these activities at the national level.

– INFRASTRUCTURES AND FACILITIES for electric power and water supply at provincial, district and/or community level and area required for construction of such systems.

Level 3 – LARGE EXISTING TRANSPORT INFRASTRUCTURES (roads, railways…) and areas required or very important for local movements, in particular for provision of services.

– RURAL ROAD NETWORK, essential or very important for local movements, in particular for provision of services.

MEDIUM:

Level 1 – LARGE INFRASTRUCTURES for agriculture, livestock, forestry, and fishery, and areas with high potential for these activities at national level.

Level 2 – INDUSTRIAL. AGRO-INDUSTRIAL AND PRODUCTION UNITS (agriculture, livestock, forestry and fishery…) located at provincial, district, and/or community level and small scale local industries, including areas with high potential for these activities.

Level 3 – ROUTES (paths, tracks, roads and bridges) used by people involved in selling means of production, marketing local production, and providing services.

LOW:

Level 1 – LARGE COMMERCIAL AND TOURISM FACILITIES and areas with high potential for these activities at national level.

Level 2 – IMPORTANT AREAS in terms of conservation and ecologial use of wildlife and natural environment at the national level.

Level 3 – AREAS devoted to cultural, religious, RECREATIONAL and other activities where mine clearance may contribute to create or consolidate a climate of stability.

Fig. 8.1. Priority-Setting Standard, NMCC (Republica da Mocambique, 1998: 16–17)

Since the currently ongoing CIDC Level One Survey is supposed to cover all mine-affected areas within a country, there are clear limitations on how detailed the information gathered can be. In Mozambique with some 2000 mined sites, the general survey must rest upon the formulation of simple and standardized indicators. The weight given to the various components, though, is open for discussion. The role of each component, we suggest, should reflect the character of the mine problem in that particular country, and the kind of effort that has been made to deal with the problem, if any. A review of survey forms deviced by CIDC for the socio-economic survey indicate that accidents are given 30 out of a maximum of 60 points. Within this system, any community that has had a mine accident in the past 12 months will belong to the highest of three impact categories, 'Very Severe', which is the case for any score above 14 points (Canadian International Demining Centre, 1999). In two of the four communities that we have studied in Mozambique, Nairoto and Bandua, we found that mine accidents most likely had happened in the past 12 months before operations started. However, those accidents were in both cases singular instances rather than parts of a larger trend. The primacy given to accidents seems particularly surprising given that Mozambican demining is long past the emergency stage. According to CIDC officials, the ranking criteria are undergoing revision, yet the instrument originally deviced illustrates more broadly the problems with developing simple measures to say something about complex social processes.[1]

Detailed Survey and the Selection of Mined Areas for Action

The Survey Level One might establish socio-economic indicators, and these serve as a basis for selecting cases for further scrutiny. However the data contained in a Level One survey are very rough, and hence a more comprehensive analytical exercise is needed to make informed decisions about whether to take on the task, and, if so, how it is to be done. We will here give a few illustrations, identified from case-studies in Mozambique, as to the importance of making a more comprehensive socio-economic impact assessment prior to operations. These are issues not addressed by the current Level One design.

First, there is the general issue of conducting operations with a focus only on 'automatic impact', seeing impact as being largely equivalent to the physical removal of mines. In the Nairoto case, there was very little impact of this kind. The minefield posed no economic strain on the community; the area being demined has long since been defined as unattractive for cultivation due to low fertility; the potential for accidents is minimal; there has been one mine accident in the area, but the person killed was mentally disturbed and entered the minefield in spite of the known risk. Nonethe-

[1] Our comments here concern the CIDC Level One Impact Survey conducted in Mozambique, which has some coordination with, but yet is separate from the Global Survey that is coordinated by the Survey Action Centre.

less, the Nairoto operation is likely to have a major impact, primarily because it allows the local population to reassert ownership of the administrative centre, from which they have been driven out repeatedly. The story dates back to the 1950s, when the Portuguese made locals settle closer to the administrative centre in order to protect them from the war, but also to prevent them from joining the independence movement. However, whilst the local population was forced to move closer to the Nairoto administrative post, they were by and large forced to live outside the village administrative centre. Upon Portuguese departure, the locals took control of the village administrative centre by expanding their settlement area. Later, during the FRELIMO–RENAMO war, the locals were forced to flee, and upon return they found that the perimeter of the administrative centre was mined, so again they were forced to settle outside. In spite of the whole perimeter of the village being mined, locals gave preference to clearing the Nairoto 1 and Nairoto 2 minefields, which are the ones that currently hinder existing residential areas from expanding to include the administrative centre. This operation is important because it is assisting a population with a long history of political marginalization to reassert ownership of the territory it sees as its own.

Secondly, the impact of any one particular factor depends on the extent to which people have alternatives. Many mine-affected communities in Mozambique have developed ways to compensate for the fact that certain areas or resources are unusable due to mines. In Nairoto, the demining operation will give more easy access to the village centre, and it will open up for an expansion of the settlement. However, access to the administrative centre is not contingent on demining, since there already is a wide trail linking it to the residential area. Both sides of the trail are mined, yet the trail does provide safe access to and from the village administrative centre. The point to note is that since people are not totally dependent on demining to have access to the village centre, they will need a high level of confidence in order to use the cleared areas. For agencies, it is essential to know the degree to which affected people are dependent upon the resource that is being freed through demining.

Thirdly, and closely connected to the above, is the question of being able to contextualize one's work by seeking to understand the perspectives of those being affected by the operation. The Capirizanje operation is interesting. The area selected for demining was relatively large and it was close to the road linking Tete City to the Malawi border at Zobue (i.e. the Capirizanje village is five kilometres from the Malawi border). The area was populated before the war. For refugees in Malawi, who had little confidence in the peace process, Capirizanje was an ideal site for repatriating, whilst maintaining a safe exit option. Henceforth, whereas the initial motivation for the operation was to facilitate the return of refugees that would pass through the area, and to reduce the accident potential, a key impact was to allow for the resettlement of returning refugees.

More generally, operators need to be able to identify the impact that an operation will have for the local population. The Nacala operation was launched to demine eight

kilometres of water pipeline, which is the only source of fresh water to the city of Nacala port; hence the operation's primary impact is at the macro level. However, the area where the minefield lies is populated, hence the operation will also have a micro-level impact. In this case the operator has concentrated on the macro impact, largely disregarding the effects for local residents. While locals have developed alternatives, such as new areas for cultivation or for production of coal, the failure to factor in local impact represents considerable lost opportunities. A different example is from Capirizanje, where Bairo Samoa, across the road from the minefield, suffered from severe land subsidence due to bad water drainage. People fearing that homes and animals would fall into the craters were under considerable pressure to relocate to the demined area. Opening up for local relocation of the Bairo Samoa population became a key impact of this operation, yet one that was unidentified prior to the operation.

Hence, the conduct of thorough impact assessments prior to setting final priorities is necessary. This implies that agencies will have to invest in studying mine tasks that may eventually not be taken on. The requirement for analytical capacity therefore goes beyond attaching an analytical component to existing units. Furthermore, agencies need to develop the courage to invest in socio-economic analysis of tasks that may not become project areas. This requires not only capacity, but also a planning horizon that is longer than that most operators have at the moment.

As should be clear by now, there is immense variation between different demining tasks, a variation that cannot be grasped by the rough nature of indicators applied in the general Level One survey. The detailed impact assessment therefore needs to have as one objective the development of indicators that reflect the particular factors that are key in each case. Such indicators are essential to give focus to conducting the operation, and will serve as a basis for monitoring and evaluation. Locally defined indicators do not replace standardized indicators but, rather, complement them. Standardized indicators by necessity only address a minimum common core of issues across all cases. We can easily imagine cases where landmines have a severe impact but where this impact is not registered because it is not addressed by the standardized indicators.

The process of defining local indicators can also be used constructively to engage stakeholders in discussing the design of the operation, as well as what its expected impact is. This is valid regardless of whether the project has its main impact at the micro level or at the macro level. However, in the former case it would seem sensible to engage the local population, whereas in the latter case one would most likely relate to selected representatives. In any case, the engagement of the affected population in the definition of indicators serves a dual purpose: not only does it secure that the project is geared towards responding to locally defined needs and capacities, it also contributes to strengthen the population's feeling of ownership in the project.

Conducting the Operation and Maximizing Impact

In order for impact to be maximized, operators need to have in-depth knowledge of the area where they are to work. They also need to have the ability to further their knowledge of the area whilst they are working. The latter issue is central if operators want to be able to adapt to the changing dynamics in the area. The idea that impact can be maximized was elaborated upon in Chapter 2; here we will provide examples of how this can be done. The fundamental idea here is that the ability to improve upon the agency's understanding of socio-economic impact goes hand in hand with building strong relationships with the community.

Most basic is the need to understand how it is that the resources freed up by demining will affect the distribution of wealth, and if power amongst the population is affected by mines. Land ownership is a good case in point, being an important theme in most clearance operations. It is our experience that operators rarely establish knowledge of land ownership prior to clearance.[2] This does not always lead to problems. However, the question of land rights is both a staple issue and one that often leads to disputes; hence any agency entering the local scene to free up resources need have basic knowledge of local land tenure systems.

In Nacala, the whole minefield area belongs to one extended family. This is common knowledge amongst the population and there is no sign that land rights are disputed. It is interesting to note, though, that everybody is allowed to cut wood for sale or to produce coal in this area. In this particular case, one could imagine the operation falling into disrepute since it only benefits the family that owns the land. On the other hand, there are also reasons to think that everybody benefits, since the area is available for the productive use of other community members in addition to the owner. The basic point is that unless an operator knows, there is the potential for causing harm. Knowledge and understanding of local relations is key; the operator must ensure that the goals of the task are understood by the local population.

Land rights have not been an issue of dispute in either Capirizanje, Nairoto or Nacala; however in Bandua they were a potential source for community conflict (Millard, 2000). Although rules for land tenure in Bandua are quite similar to those in other areas of Mozambique, the issue of who would be able to relocate to the mined area once the operation was finished was the source of confusion and contradicting accounts. A variety of different scenarios were posed as the chain of events that would succeed the hand-over of land, but it became evident that no one actually knew what would happen. There is a common perception that the land being freed is agriculturally rich, hence gaining access to parts of it will be very attractive. Under circumstances such as

---

[2] NPA Cambodia has done interesting work in this regard, focusing on how land ownership can be clarified, and in fact judicially established, prior to demining (Harpviken, Juergensen & Nergaard, 1999)

these, it is easy to imagine that powerful actors in the community will take advantage of their position and establish ownership over the land upon completion of clearance.

Contact with the community is often limited to the use of one single community representative. Any external actor treads a fine line between respecting local authority relations, while also maintaining diverse enough contacts to safeguard against severe misuse or manipulation of information. At times, as when entering a local community with a highly legitimate leader figure, relating to only one person might work reasonably well. In Nairoto, the operator had established a strong relationship with one person who does not belong to any official administrative system. This person lives in the area, he is in charge of mine awareness locally, and regards it as part if his duty to inform the population about the local landmines situation. His effectiveness in brokering information between the agency and the local population was compounded by the fact that this was a community with low levels of conflict and with a smoothly working administrative system. Hence, the diffusion of information worked relatively well, without the agency having to invest heavily in working with a range of locals.

Focusing specifically on relations with local leaders, operators need to pay attention to the fact that local leadership is not standardized across communities. In Mozambique some operators have been focusing on the *regulo* as the standard community representative, but in fact there are many areas in which the *regulo* holds little or no power, and performs no community functions. In such cases, establishing contact with the *regulo* exclusively can entail a risk to the whole operation. In Capirizanje, for example, the *regulo* holds no power, and had an agency unknowingly relied on him as a community representative and diffusion channel for information, they would most certainly have failed.

Moreover, relating to one single representative of the community is not enough. First of all that entails the risk of becoming severely dependent on one person, possibly subject to manipulation. More importantly, maximizing impact is only possible if broader relationships with the population are established. The Nairoto village, as we have already discussed, is a case where the 'automatic impact' is very limited. However, owing to the operator's investment in good community relationships, the operation had a substantial social impact at the local level. The strong agency–community relationship is paralleled by strong local confidence in the clearance operation. Now, there are several reasons behind this situation: Nairoto is an isolated place; hence deminers living there have few alternative places to go. Importantly, the minefield is very visible; hence the population can actually follow the work and progress of the deminers. The trail that passes between the minefields is regularly used, but when a mine is demolished, it is closed, and people are prevented from passing. This arrangement in itself requires communication, and it makes people very aware of the work that is going on.

For community relationships to be good, stability of agency staff is a prerequisite. Whereas all agency staff should see that good local relationships are upheld, the role of the supervisor is normally a key one. In the Nairoto case the supervisor had very good relations with the villagers. When the supervisor was changed, people in the community felt that the relationship with the HMA operator was potentially in danger of disintegrating simply because they 'did not know' the new supervisor. In this case it would have been wise to make sure the old and the new supervisor had a short transition arrangement. The Songo example is a more extreme case of the same. Here, the operator rotates platoons through the area, with one platoon replacing another at six-week intervals. This system reflects the use of Songo as a training site for deminers since it is so mine dense. However, it has the cost that for the local population there has no consistent person to relate to from the agency's side. Disregarding the question about whether Songo is a sensible priority, it would have been advisable that, when rotating teams, there was at least a core staff with a senior community liaison permanently on the location so that relationships with locals could benefit from some continuity.

The broad issue of community relationships is closely linked to the more special issue of confidence in clearance. In many cases we see that it takes a long time for the population to take the cleared areas into use, and it seems that this is often linked to confidence in clearance. One example is Capirizanje, where clearance was completed as early as 1995 but it took at least two years for people to start using the area. Such delays in taking demined territories into use are not rare in Mozambique. We think this is related to the routines that demining agencies have for establishing confidence in cleared areas. Confidence building is often linked to a one-off hand-over event, to which the local population is invited and where a certificate stating the technical standards of the demining is issued to local authorities. To be effective, confidence building ought to be a process rather than an event. As the example of Nairoto illustrates above, close relationships between agency and villagers, linked to strong visibility of the operation, fosters feelings of confidence amongst local populations.

The issue of confidence in cleared areas can serve as a good illustration of the reorientation of definitions of impact. Whereas most agencies would traditionally have been satisfied with earlier minefields being cleared up to existing standards, it is now increasingly realized that the operation has failed its purpose unless areas are trusted and taken into use.

The ability of operators to ensure that their projects have an impact at all levels, including at the local level, should not be regarded as unimportant. People need to know that operations are being conducted for their benefit, and they need to see what this benefit is. An operator may be satisfied achieving only the primary goal of the task, such as demining around the water pipeline in the case of Nacala. Although this is a major impact in itself, we would argue that there is considerable room for synergies

and that operators should feel responsible to maximize their impact at different societal levels.

Countries that go from war to a peacebuilding and reconstruction stage are often flooded with aid, and people may easily come to expect and depend on assistance. One implication of this is that people in particular communities may feel that they are left out. As with many communities hosting demining, people remain uninformed about what the costs are, and may continue to feel bypassed even after massive investments are made in HMA. The solution to this is not to spread a thicker layer of aid over a country, but rather it is for individual agencies to work close to people, and to demonstrate through practical examples that demining is to their benefit. Basically, agencies need to actively seek synergies when addressing what they perceive as their primary tasks.

One example of lost opportunities to serve the local population may be Capirizanje. Here, it took years before the locals started using cleared land. The rapid growth of vegetation means that people would have saved considerable time in opening up new areas for cultivation had they been able to take the area into use immediately after demining. Similarly, in Nacala locals think that the mined area currently does not host wild animals. The demining personnel know there is a hunting potential, but failing to tell this to locals, another opportunity for generating positive local interest was lost.

Communities in Mozambique, as in other post-conflict countries, do not only need demining, but also are in need of a large number of post-conflict reconstructive efforts. The Nacala Velha community, where the Nacala minefield lies, does not have a local school beyond second grade, nor a health post. Hence, it is difficult for the local population to accept that they are hosting a large reconstruction effort which has no impact on their daily lives. Again, options for creating synergies have been lost. It is now broadly recognized that populations need to see the benefit of reconstruction efforts taking place; if not they will feel increasingly powerless. More broadly, communities must feel ownership of emergency and development efforts in their area if these efforts are to be sustainable. In the Nacala case, community interest in demining would have been much larger if people had known that the area being freed up would be accessible for them to harvest wood and make coal.

Being able to create synergies depends to a large extent on the local adaptability of the individual organization. Communities are highly varied entities, with very different needs and capacities. One traditional criticism of demining organizations is that the units they contain are too large, so that they become less mobile and are unable to take on smaller tasks. Most organizations have now developed the flexibility to do spot tasks, in itself a major confidence-building measure. However, it seems that, at a more general level, there is an inclination to standardize particular measures of adaptability: whereas spot demining has now become routine for most organizations, other meas-

ures that could be equally beneficial are rarely considered. One case where local adaptation has failed is Songo, where people started to occupy areas that were cleared before any official hand-over had taken place and against the wish of the operator. It seems inflexible of the agency, in an operation that goes on for several years, not to have been able to hand over sections of the larger minefield at regular intervals.

Impact Studies and Knowledge Building

In current practice, the Survey Level Three is the completion report, written immediately upon finalizing the task and constituting the document that is given to stakeholders as a certification of the operation. Whereas such documentation is necessary within a larger process of HMA programming and evaluation, it is written at a time when important elements of the impact cannot yet be established. The only access one has to study the long-term impact of operations is to follow up project areas regularly upon project completion. Such follow-up studies should serve as a primary source of information for improving upon operational procedures in general and upon indicator formulations and impact-assessment techniques in particular. It is recommended that agencies institutionalize regular follow-up of past clearance tasks, and that the knowledge gained thereby is systematically fed back to all organizational personnel, particularly to those who work with the analysis and prioritization of new tasks.

Building Analytical Competence

A major difficulty of mine-action programs in Mozambique, as elsewhere, is the failure to realize that socio-economic analysis requires time and competence (Horwood, 2000: 13–14). At the moment, such analysis is mainly the responsibility of personnel that do not have basic skills in such matters, at times being tacked on to an array of other operational responsibilities. Whereas there are some remarkable individuals who do this work well against all odds, current arrangements can not secure quality assessments. There is still the conception that if only we can develop good instruments (i.e. questionnaires, ranking systems, computer packages), the work can be done with existing capacities, at least if short-term training is given to key personnel. As should be clear at this stage of this report, data collection based on standardized indicators is just one of the methods at our disposal and on its own is unlikely to bring substantial improvements to mine-action programmes. Furthermore, indicator-based systems are only as good as the data that are fed into them, and at present the ability to collect quality data is very limited. Let us look at two illustrations:

The ongoing CIDC Survey Level One rests upon the assumption that a survey team can spend a few hours with a group of key informants, fill in a standard questionnaire, and, on this basis, form a qualified, yet coarse-grained, opinion about the socio-economic impact of landmines in that locality. The assumption is problematic for sev-

eral reasons. For one, it is vital that the best key informants are identified; in Nacala, which was visited by a CIDC team in the period of our field research, it was clear that none of the informants present at the meeting with the survey team lived in the vicinity of the minefield or was directly affected by it. Another difficulty is that group meetings give limited information and are often dominated by one or a few individuals. Group meetings are good for public information purposes; less so for gathering solid data on socio-economic impact. In Nacala, for example, neither the presence of HALO personnel that were actively demining in the area nor the presence of the AMAC researcher were exploited by the survey team. Whereas we understand that there are constraints on the time and personnel that CIDC is able to devote to each task, we are concerned that current data quality may not live up to minimum standards.

A different issue is about question formulation in surveys. For us as researchers, it is a key concern that people might inflate the impact of mines when we come in and announce our interest in the landmines issue. There is little we can do but seek to counter that through attitudes, and through the way we ask questions. We therefore find it counter-intuitive when existing surveys use questions such as the following (both from surveys conducted in Mozambique):

> How many members of this house has been hurt by mines? (Roberts & Williams, 1995: 503)
>
> How many persons were killed by mines or unexploded ordnance in the area shown on the map in the past 12 months? (Canadian International Demining Centre, 1999: 6)

By using question formulations which actively discourage the response that is likely to be most common, namely 'none', this sort of questioning is unlikely to generate reliable data.[3]

Building up competence in socio-economic analysis as the primary responsibility of a few individuals within an organization is not enough. As should be clear from what we have said about the maximization of impact, and about community relationships in particular, a reorientation needs to be ingrained through the whole organization. Unless deminers, drivers and paramedics realize that their attitudes to, and interaction with, locals is key to the success of the operation, organizations have a problem. Although such relationships are often good, there is a need to ensure that their importance is understood by building it into training programs. Furthermore, it needs to be

[3] Leading questions do have their role, particularly in cases where one is relatively certain that people have information on something but might be inclined to respond that they don't, for example because they regard it as unimportant. In addition to what is said above, leading questions always run the risk of being impolite.

ensured that all staff realize the importance of socio-economic impact – without needing to train every staff member as an analyst – by building it into standard training.

The requirement of dedicating resources to socio-economic impact assessments is rooted in the redefinition of the objectives of demining. The removal of mines has been seen as a self-contained objective, with all attention given to the technicalities of the operation. Clearly, demining is both a demanding and a risky enterprise. Nonetheless, we must not lose sight of the fact that the ultimate objective is making an impact on people's livelihoods. The challenge now is to build the required competence into demining and HMA, without losing sight of the need to uphold and develop technical standards skills.

Concluding Remarks

We have in this chapter drawn heavily upon illustrations from our field research in Mozambique to demonstrate the distance that still exists between ideals and reality when it comes to the use of socio-economic analysis in HMA. We have implicitly suggested a model, in which socio-economic issues are given a prominent role in all phases of the operation, including a phase which has hitherto been largely neglected, namely the first few years following the operation. The need for operators to be sensitive to the potential for maximizing impact throughout has also been emphasized – something which is of particular importance during the implementation phase. In conclusion, we underline the need for agencies to devote the time and effort needed to develop the competence that it will take to secure that priority setting and project implementation is better informed in future. HMA is not only too resource demanding for that recommendation to be neglected, it is also too important.

Chapter 9

THE WAY FORWARD

This study has argued for a thorough reassessment of how we see the impact of humanitarian mine action. Such a reassessment has several components, which require practical steps. We would not claim to have the finite answers as to how it is that the challenges posed should be tackled by HMA agencies, donors and mine-affected populations. Nonetheless we do think the following issues deserve particular attention in moving forward in the impact assessment practice within HMA: redefinition of success criteria; accepting that indicator development is a process; development of a robust assessment methodology; building of analytical capacities; fostering of strong agency–community relationships; and involvement of all staff.

Firstly, success criteria must be redefined, shifting the focus away from a technical removal of mines to the actual socio-economic impact of that removal. This will imply that indicators may be less clearcut than the numbers of mines and square meters that are so frequently used today. It will further imply that the focus should not be only on the positive impact of mine removal; there will also have to be attention to potential negative effects. One important aspect of this redefinition is that impact cannot be established prior to the operation: impact is to a large degree a reflection of the way the operation itself is conducted. Finally, we must move away from applying standard indicators alone. HMA tasks are so varied that in order for the operational response to be adequate, one should always develop local indicators that will serve to give focus to the operation.

Secondly, the identification of impact needs to be seen as a process, rather than as something that once established is unchangeable. This applies at the community level, where the impact assessments made prior to starting the operation are complemented by new factors as the operation moves along, as we have discussed when suggesting an expansion of the current three survey levels practised in mine action. This is also the case at the national level, where initially defined indicators are refined and where new ones are added as one gains experience from new operations. One needs to institutionalize a feedback loop where knowledge gained through running operations affects the way impact in general is defined and documented.

Thirdly, there is a need to emphasize the methodology by which one collects and analyses the data when doing impact assessments. In current practice, agencies often

do not conduct impact assessments, or they do it on the basis of limited data. There is a range of methodological issues that needs to be clarified, such as the formulation of questions, the identification of informants, or rules of thumb for dealing with contradictory information. Whereas those issues are not particular to HMA, it would be useful to develop a methodological handbook that draws extensively on examples from mine-affected communities. Such a handbook should be written in a way that makes it easily accessible to practitioners, but would need to be complemented by a training package that aims at developing the analytical competence of HMA staff.

Developing analytical competence is the fourth issue. In terms of both time and competence, it will require more than just adding a new task to the work description for HMA managers. Whilst managers need to understand thoroughly what it is that impact assessments are about, the task of conducting impact assessment should be allocated specialized staff within the organization dedicated to this alone. In Mozambique, like in most other mine-affected countries, it will not be possible to recruit people with comprehensive academic backgrounds for this task, yet there exist candidates with the strength of having an intuitive insight into the society in which they live. A training programme, to be effective, should be based on a methodology handbook, drawing heavily on case studies to illustrate the various points. The pedagogy should be interactive. Earlier case studies could be used as a basis for simulation of data collection and analysis. Furthermore, trainees should spend time in the field conducting case studies under supervision. Such training courses, depending on the basic qualifications of candidates, could have a duration of eight to twelve weeks. Follow-up of candidates would be necessary, with external advisors coming in regularly to check on performance and to complement the training as needs are identified.

Fifth, agencies need to invest more in the fostering of strong relationships with communities. This goes back to the more basic issue about a general reorientation of mine action, demining in particular, from being primarily occupied with mines to being primarily occupied with people. Positive agency–community relationships have proved essential to the establishment of confidence in clearance, and the impact of operations has often been delayed unnecessarily because of failure to realize this. Building such relationships is not only an investment in confidence in the operation, it is also the most constructive avenue to securing a rich flow of information throughout the operation, something that we see as a prerequisite to maximizing impact.

Finally, there is a need for HMA agencies in general to foster employees' understanding of socio-economic impact and of means used to maximize impact. In short, new components need to be added to the standard training package for deminers, paramedics and all other personnel. The objective here is not to train each employee as an analyst, but to ensure sure that employees have a shared understanding of the objectives of the work and that they do their best to contribute to the maximization of impact – for example, through good relations with locals. We have experienced that local staff

members often have insights that are vital to the understanding of socio-economic impact, but which are neglected by management. This requires a fine balance between – on the one hand – main standards of competence and authority within the organization to avoid contradictory information to locals and – on the other hand – fostering the inclusion of what may be potentially good insights from field staff.

At the outset we stated that the increasing attention to socio-economic impact represents a quiet revolution in HMA. This report does not bring that revolution to an end. It is rather one contribution in giving direction to a process that is still in its early stages. For that process to succeed in bringing about substantial change, donors and implementers will need to invest heavily in developing the necessary capacity. One important aspect therefore is to strengthen organizations' ability to relate to the needs and strengths of local populations affected by mines and to reflect these in project practice.

BIBLIOGRAPHY

Agenda, 1999. 'Review of Norwegian People's Aid's Mine Clearance Operation in Mozambique, 1993–1998'. Sandvika: Agenda.

Anderson, Mary B., 1996. *Do No Harm: Supporting Local Capacities for Peace through Aid*. Cambridge: Collaborative for Development Action.

Anderson, Mary B., 1999. *Do No Harm: How Aid Can Support Peace – or War*. Boulder, CO: Lynne Rienner.

Anderson, Mary B., and Peter J. Woodrow, 1989. *Rising from the Ashes: Development Strategies in Times of Disaster*. Boulder & San Francisco: Westview Press.

Andersson, Neil; Cesar Palha da Sousa & Sergio Paredes, 1995. 'Social Cost of Landmines in Four Countries: Afghanistan, Bosnia, Cambodia and Mozambique', *British Medical Journal* 311: 718–721.

Bottigliero, Ilaria, 2000. *120 Million Landmines Deployed Worldwide: Fact or Fiction?* Geneva: Foundation Pro Victimis.

Canadian International Demining Centre, 1999. 'Locality Survey Questionnaire: Global Landmine Survey, Mozambique'. Maputo: Canadian International Demining Centre.

Chelimsky, Eleanor, 1997. 'The Coming Transformations in Evaluation', in Eleanor Chelimsky & William R. Shadish, eds, *Evaluation for the 21st Century: A Handbook*. Thousand Oaks, CA: Sage (1–26).

Eaton, Robert, Chris Horwood & Norah Niland, 1997. 'Mozambique: The Development of Indigenous Mine Action Capacities'. New York: United Nations Department of Humanitarian Affairs.

Hallam, Alistar; Kate Halvorsen, Janne Lexow, Armindo Miranda, Pamela Rebelo & Astri Suhrke, 1997. 'Evaluation of Norwegian Assistance to Peace, Reconciliation and Rehabilitation in Mozambique'. Evaluation Report 4. Oslo: Royal Ministry of Foreign Affairs.

HALO Trust, 1999a. 'Relatório de reconhecimento: Barragem (district Nacala)', HT/Na/076/99. Pemba: HALO Trust.

HALO Trust, 1999b. 'Relatório de reconhecimento: Nairoto', KHT/CD/005/97. Pemba: HALO Trust.

Harpviken, Kristian Berg, 1997. 'Landmines in Southern Africa: Regional Initiatives for Clearance and Control', *Contemporary Security Policy* 18(1): 88–103.

Harpviken, Kristian Berg; Olaf Juergensen & Per Nergaard, 1999. 'Towards New Indicators of Success in Humanitarian Mine Action: Report from Roundtable Discussion

at the International Peace Research Institute, Oslo (PRIO), 3 March, 1999'. Oslo: International Peace Research Institute, Oslo (PRIO).

Harpviken, Kristian Berg & Ananda S. Millard, 1999. 'Studying Mine-Affected Communities: A Preliminary Framework (First Edition)'. Assistance to Mine-Affected Communities (AMAC), Landmines Memo No. 5. Oslo: International Peace Research Institute, Oslo (PRIO).

Horwood, Chris, 2000. 'Humanitarian Mine Action: The First Decade of a New Sector in Humanitarian Aid'. Relief and Rehabilitation Network Papers 32. London: Overseas Development Institute.

Human Rights Watch, 1997. *Still Killing: Landmines in Southern Africa*. New York: Human Rights Watch.

Human Rights Watch Arms Project, 1994. *Landmines in Mozambique*. New York: Human Rights Watch/Africa.

International Campaign to Ban Landmines, 1999. *Landmine Monitor Report 1999: Toward a Mine-Free World*. New York: Human Rights Watch.

Landau, Luis, 1998. 'Rebuilding the Mozambique Economy: Assessment of a Development Partnership'. Country Assistance Review, Washington: The World Bank Operations Evaluation Department.

McGrath, Rae, 2000. *Landmines and Unexploded Ordnance: A Resource Book*. London: Pluto Press.

Millard, Ananda S., 2000. 'A Community Living with Mines and Demining: The Case of Bandua, Mozambique'. Assistance to Mine-Affected Communities (AMAC), Landmines Memo No. 6. Oslo: International Peace Research Institute, Oslo (PRIO).

Millard, Ananda S. and Kristian Berg Harpviken, 2000. 'Use of Socio-Economic Analysis in Planning and Evaluating Mine Action Programmes: The Case of Mozambique'. Report for the International Development Research Centre (IDRC) submitted to the Geneva International Centre for Humanitarian Demining (GICHD). Oslo: International Peace Research Institute, Oslo (PRIO), 8 May 2000.

Mine-Tech, 1998. 'GTZ/Mine-Tech IHDD Team: Integrated Humanitarian Demining'. Harare: Mine-Tech.

National Demining Commission, 2000. 'A Strategic Vision for IND'. Maputo: National Demining Commission

Norwegian People's Aid, 1993. 'Recce Proforma: Capirizanje'. Tete: Norwegian People's Aid.

Norwegian People's Aid, 1997. 'Annual Report 1997: Norwegian People's Aid Mozambique'. Tete: Norwegian People's Aid.

Rebelo, Pamela Logie, 1998. 'Level One Surveys and the Socio-Economic Component wih Specific Reference to Mozambique'. Maputo: International Development Research Centre (IDRC).

Republica de Mocambique, 1998. 'The National Mine Clearance Strategy Approach (Draft)'. Maputo.

Roberts, Shawn & Jody Williams, 1995. *After the Guns Fall Silent: The Enduring Legacy of Landmines*. Washington: Vietnam Veterans of America Foundation.

United Nations Development Programme, 2000. 'Accelerated Demining Programme – Phase III'. Maputo: United Nations Development Program.

United Nations Mine Action Services, 1997. 'International Standards for Humanitarian Mine Clearance Operations'. New York: United Nations Mine Action Services.