



# **Socio-Economic Approaches to Mine Action**

*An Operational Handbook*





United Nations Development Programme

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*An Operational Handbook*

**Geneva International Centre for  
Humanitarian Demining  
Centre International de  
Démunage Humanitaire - Genève**



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The **United Nations Development Programme** (UNDP) helps people in 174 countries and territories to help themselves, focusing on poverty eradication and democratic governance. In support of these goals, UNDP is frequently asked to help create and implement policies that are more responsive to the needs of ordinary people, and to help societies rebuild in the aftermath of war and humanitarian emergencies. UNDP is also an advocate for increased development assistance and a more inclusive global economy.

The **Geneva International Centre for Humanitarian Demining** (GICHD) supports the efforts of the international community in reducing the impact of mines and unexploded ordnance. The Centre is active in research, provides operational assistance and supports the implementation of the Mine Ban Treaty.

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## Chapter 1.

# Introduction

### The aims of the Operational Handbook

The international mine action community has learned a great deal over the past decade, particularly concerning the efficiency and safety of clearance operations, guidelines for establishing national mine action programmes, building indigenous capacities, implementing landmine impact surveys, and information management. *Socio-Economic Approaches to Mine Action, An Operational Handbook* builds on these lessons learnt, but focuses on the inter-relationships between mine action and a country's social and economic structures. The *Operational Handbook* has been developed out of the *Study of Socio-Economic Approaches to Mine Action*, published in March 2001<sup>1</sup> and is intended to assist mine action centres (MACs) and mine action organisations in improving their priority setting and operational performance.

The *Operational Handbook* is based on two underlying premises:

- **First**, the objectives of the national mine action programme should support the overall development effort of the country. Development has many dimensions including better health and education, expanded opportunities for political expression, protection of human rights from arbitrary actions by the State or by the economically powerful, and fostering communities in which people can raise families in safety and in harmony with their neighbours.

Remember that other individuals, communities, and organisations are working simultaneously to promote development, and such efforts will also be affecting the structure and strengths of the social and economic linkages over time. The ultimate impact of mine action on a nation's development depends on how

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1. Copies are available from the UNDP Mine Action Team ([www.undp.org/erd/mineaction/index.htm](http://www.undp.org/erd/mineaction/index.htm)) or the Geneva International Centre for Humanitarian Demining ([www.gichd.ch](http://www.gichd.ch)).

well mine action co-ordinates with other development projects in order to magnify the benefits brought about by mine action alone.

- **Second**, the true test for a mine action project is not whether it produces outputs (demined land, “mine-aware” people, and so on) efficiently, but whether these outputs are then used by local households, communities, and organisations to enhance the well-being of the intended beneficiaries. Local social and economic structures will strongly influence whether this is achieved.

Accordingly, because the true measure of success of mine action is based on its impact on the local population, mine action planners and managers must verify that what their projects are producing is reaching, and is useful to, intended beneficiaries. If not, they must learn what local social and economic features are preventing the mine action programme from being effective. Managers must monitor not only the short-term outputs produced by their projects, but also whether these lead to useful outcomes and have a lasting impact on the lives of those in mine-affected communities.

### Box 1. Efficiency versus effectiveness

A mine action programme should strive for effectiveness as well as efficiency. These two concepts are often confused or used interchangeably but their meanings are quite distinct.

**Efficiency** measures how well inputs are converted into outputs. For example, a mine clearance team might be judged efficient if it clears more land to the International Mine Action Standards than other teams, without sacrificing safety. In other words, **efficiency implies doing the job right**.

**Effectiveness** is a measure of whether, or how far, the objective has been achieved. For example, mine clearance in a community might be judged effective if its operations allow the community to re-establish itself economically and socially. In other words, **effectiveness implies doing the right job**.

A project can be efficient without being effective. For example, a mine awareness programme might provide training to large numbers at low cost, but then find that those who received training have not altered their behaviour and continue to take risks with landmines. Similarly, an inefficient project can be effective by achieving its objectives, but at a higher cost than necessary.

Obviously, projects want to be both efficient and effective. We want to do the right job while doing the job right.

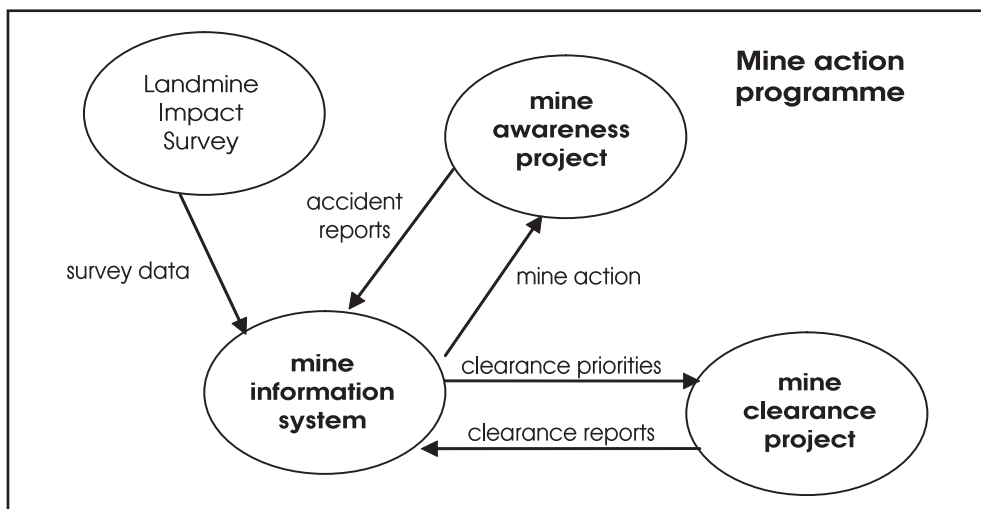
## Chapter 2.

# Information – the core of mine action

### The value of information to mine action

*“In many ways, mine action is as much about information as it is about mines.”* This is one of the main findings of the *Study of Socio-Economic Approaches to Mine Action*. It is borne out by the increasing investment by the international mine action community in different forms of mine action survey and various information management tools, especially Geographic Information Systems (GIS) and the Information Management System for Mine Action (IMSMA). Figure 1 illustrates the systematic role of information in a typical mine action programme.

**Figure 1. Inter-relationships within a mine action programme**





In the initial emergency phase of a mine action programme, the primary objectives will be risk-reduction — clearing landmines and unexploded ordnance (UXO) that represent the most immediate threat to human life. As the situation stabilises, however, these objectives will become less and less appropriate. Accordingly, the first steps in developing a new mine action programme — or radically reforming an existing one — are formulating and adopting appropriate programme objectives and a strategy for achieving them. This requires **information**.

## But which information?

An analysis of the landmine and UXO contamination, together with the key social, economic, and political features of the country, will lead to an understanding of the problems caused by the contamination. You will naturally have the necessary technical and institutional information, but may not have gathered all the requisite developmental data. Try to obtain as much as possible of the following, though bear in mind that much may not be available or reliable, particularly after prolonged armed conflict.

### ➤ **Geographic**

- What is/was the pattern of current and former conflict?
- Where are the mine- and battlefields?
- What is the pattern of roads and bridges, and electrical and other utilities?
- Where are health/education facilities and administrative centres?
- What is the range of soil types and vegetal cover and climate zones and where are they located?

### ➤ **Legal**

- Is there existing mine action legislation?<sup>2</sup>
- Does it establish formally the MAC?
- Does it set out priorities for selecting mine action tasks?
- Are they appropriate? Sufficiently flexible?
- Has the government signed and ratified the Ottawa Convention?
- What is the nature and extent of land ownership? Are there any plans for legal reform?
- What is the legal status of non-governmental organisations (NGOs) and other civil society organisations?

### ➤ **Institutional**

- What is the existing/potential capacity of the MAC?

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2. This issue is discussed further in the next section, *Setting objectives*.

### Box 2. Information gathering in Kosovo

The extent of the mine and UXO threat in Kosovo became relatively well known after a short period of time. An initial rapid survey of contamination by the HALO Trust indicated that a long-term mine action capacity would not be required. Given the huge concentration of mine action and other resources in the province, the United Nations Mine Action Coordination Center (MACC) decided that a full Landmine Impact Survey (LIS) was not appropriate. However, future plans had to be based on more than just mine location data, and as a result the Survey Action Center (SAC) proposed a modified LIS.

For Kosovo, the Information Management System for Mine Action (IMSMA) imported all records of minefields, UXO and cluster bomb strikes as danger areas. Each record was automatically assigned a number based on its date of entry into the database. Some seven separate data sets were combined to form the IMSMA danger area set. Inevitably, the approximately 4,000 records were of varying reliability.

The basis for the prioritisation methodology used by the SAC and the MACC linked a public safety/hazard analysis and LIS based on geographically-defined areas. It was reasoned that civilian populations go about their social and economic activities in a geographic space. When parts of these socio-economic spaces are denied, due to mine or UXO contamination, normal activity exposes the population to greater risk of death or injury. By selecting certain activities and defining these boundaries as “essential livelihood space” it was then possible to identify the contaminated areas that posed the greatest threat.

After generating a Geographic Information System (GIS) model of the essential livelihood space it was possible to attach values based on social and economic assistance programme priorities. International relief and reconstruction programmes determine project priorities based on sector-specific criteria. Depending on the focus of any given programme, the sector priorities were usually assigned by town/village, municipality or geographic region. By compiling the sector priorities for relief and reconstruction resource allocation, it was possible to identify the relative geographic concentration of such resources across all of Kosovo. It was reasoned that towns and villages in areas with a heavy concentration of relief and reconstruction activities would have a higher demand on mine action services.

What links does it have with other government departments and agencies?

With supporting donors?

What indigenous capacities for mine action exist?

What local or international organisations capable of mine action operations are present?

#### ➤ Demographic

What is the spatial distribution of the settled population?

What are the numbers and likely movements of refugees and internally displaced persons?

What are the numbers and migration patterns of nomadic groups?

- **Public health**
  - How many mine incidents are there and how many civilians have been affected (broken down by age, sex, position in household, occupation)?
  - What is the capacity of public health facilities for treatment and rehabilitation?
  - How many victims are reaching treatment centres?
  
- **Public policy**
  - What is the national economic and social development strategy?
  - What is the degree of political and administrative decentralisation?
  - What is the relative importance of mine action versus other public policy issues?
  - What are the government's attitudes toward, and mechanisms for, dialogue with donors?
  - What is the government's privatisation policy and policy toward foreign-owned corporations?
  
- **Social**
  - What are the household and community structures across ethnic groups?
  - What are the household coping strategies (e.g. following loss of household head, injury to member, etc.)?
  - What are the traditional forms of community support and key social institutions (religious, ethnic or self-help)?
  - How prevalent are community-based organisations?
  - What is the sexual division of economic assets and activities?
  
- **Economic**
  - What is the level and structure (sectoral, geographic, public-private, market-subsistence) of economic activity?
  - What are the principal and secondary sources of livelihood in contaminated communities?
  - What is the extent of commercial activity and dependence of affected populations on factor (supplies, labour, credit) and product markets?
  - What are the types of land, resources, and infrastructure affected by mines and UXO?
  - What is the degree of inequality and pattern of poverty?
  - Where are critical natural resources located?
  
- **The actions of other development actors**
  - What are the plans of government departments, United Nations (UN) and donor agencies, international and local NGOs, and mine-affected communities,

and how will they impact on mine action operations and outcomes?

What lessons have been learned by other development actors in implementing programmes in the country?

## How to get the missing information?

First, talk to the major development actors present in-country, such as UNDP and the World Bank and relevant government ministries, for instance of agriculture, education, health, reconstruction. Think about getting them together in a workshop or conference to talk about development priorities and how mine action can support them in a systematic fashion. As an integral part of the process, consider how to obtain the views of affected communities — local associations and community groups can act as a proxy.

Where a national development strategy is not in place, or where it is obsolete or otherwise seriously deficient, the mine action programme will need to work out its own understanding of how mine action promotes the ultimate aims of development.

In addition, there are major development information databases available online. Examples are:

**DEVELOPMENT GATEWAY**, hosted by the Development Gateway Foundation ([www.developmentgateway.org](http://www.developmentgateway.org)), and supported by the World Bank.

**ELDIS**, hosted by the University of Sussex in the United Kingdom ([www.eldis.org](http://www.eldis.org)), which has a wide range of country profiles and thematic issues.

**E-MINE**, a site developed by UNMAS and supported by UNDP, UNICEF and other UN and non-UN agencies. Found at [www.mineaction.org](http://www.mineaction.org), the site contains case studies, reports, project documents and information on a wide variety of mine action issues.

**RELIEF WEB**, a site supported by the United Nations Office for the Coordination of Humanitarian Affairs ([www.reliefweb.int](http://www.reliefweb.int)), with information from the UN and NGOs.

These avenues should obviously be exhausted before any thought is given to the MAC spending its own time and money gathering information directly.

## How much to spend?

You may need to hire specialist assistance or conduct your own surveys to obtain the missing information. Of course, data collection consumes resources that might otherwise be used for clearance. There will be a point at which the cost of collecting

extra data on the alternative tasks outweighs the benefit likely available through better prioritisation and decision-making.

### Box 3. Analysis versus responsiveness

Mine action planners and managers should strive for efficiency but must first and foremost be concerned with effectiveness — the impact of their programme in the real world. But impact is a complex, multi-dimensional concept, so how can we get a better understanding of the likely impacts of decisions? Two broad strategies can be employed. The first is **analytic** (more data and more processing); and the second is **responsive** (adopting the priorities identified by government officials, community representatives and other development actors). Both approaches have merit and should be seen as complements rather than alternatives.

The advantages of responsive approaches are that they tap into the expertise of others, and, where a programme responds directly to local community concerns, this increases a sense of community ownership. Community-level information can be collected by discussions with local, district or provincial officials and working with local or international community development NGOs that use participatory approaches. If neither of these proves satisfactory, it may be necessary to conduct participatory consultations directly with affected communities (though this is obviously a more expensive method).

The disadvantages of responsive approaches are the risk of bias or partiality. This demands that mine action continue in some measure with analytic approaches.

## Chapter 2.

# Setting objectives

### Possible objectives for a mine action programme

We all agree on the need to try to reduce deaths and suffering caused by landmines and UXO. But there are situations in which the best way to reduce deaths and suffering is not to focus only on mines and UXO that pose an immediate danger of an explosive accident. Indirect impacts of contamination may result in persistent malnutrition or outright starvation, or in the spread of infectious diseases due to the inability to provide public health services in regions isolated by contamination. Is the goal to reduce deaths and injuries caused directly by explosive accidents or to reduce the deaths and suffering caused, directly and indirectly, by mine and UXO contamination?

The naïve view is that mine action tries to eliminate landmine and UXO contamination — to somehow turn the clock back to a time before the mines were laid. Indeed, early programmes that focused on the numbers of mines removed seemed to be designed with such a goal in mind.

However attractive this view might be, it is wrong. Mine and UXO contamination is a Pandora's Box type of problem. Once unleashed, it can rarely be **solved** by trying to eliminate the threat: instead, it is a problem that must be **managed**. Not all contaminated areas can be cleared, and not everyone affected can be helped. Difficult choices must be made in goals and the strategies employed to advance those aims.

There appear to be four different, albeit inter-related “pure objectives” sought by mine action:

- To minimise further deaths and injuries from landmine and UXO accidents, particularly among civilian populations — **disaster mitigation**;

- To compensate people in affected communities for losses incurred by landmine and UXO contamination — **insurance**;
- To assist affected countries, communities, and households by accelerating economic growth and development — **growth**;
- To assist the poor in the affected countries and communities by raising their capacities to earn incomes — **poverty reduction**.

Mine action programmes rarely pursue a pure objective: rather, they pursue a mix. This mix varies depending on the country and its stage of crisis. For example, disaster mitigation tends to dominate while conflict prevails and in the immediate post-conflict period. Mine clearance to support economic investments (e.g. roads, irrigation works) would not typically be a priority while a conflict continues because re-mining would quickly and cheaply destroy the economic rationale for that investment. More generally, a programme’s goal statement should reflect the specific needs of the country at that time.

Different mine action organisations also attach different weights to the various objectives. For example, many NGOs emphasise poverty reduction over the maximisation of aggregate economic growth. Organisations in the medical fields generally try to compensate mine survivors for physical and other injuries they have sustained.

The predominant objective of mine action programmes also varies according to the information available. For example, what we term the “insurance” objective looms large while mine action organisations have information on the **negative impacts of mines** (e.g. from a Landmine Impact Survey) but lack sufficient understanding of the underlying social and economic structures to understand the potential **positive impacts of mine action**.

The table on the following page outlines how the strategies and objectives of a mine action programme might change as a country moves from conflict to normalcy, and as the nature of international support evolves.

Try to avoid two common extremes: pursuing a “pure objective” to the exclusion of other considerations, on the one hand, and, on the other, an all-encompassing statement of objectives that gives the impression that a programme can be all things to all people. This can lead to inconsistent priority setting where, for one case, insurance considerations are given the most weight while, for a seemingly similar case, investment for economic growth takes priority. This in turn can lead to charges of favouritism or discrimination, and makes transparency extremely difficult.

A programme’s statement of objectives also forms the basis for its appeal to donors and for an eventual evaluation of its performance. It should be sufficiently clear so that donors are fully aware of the priorities of a programme and whether these are

<b>Mine action programme goals over time (or stage in the conflict/development continuum):</b>			
<b>Phase (Response)</b>	<b>Dominant strategy</b>	<b>Primary goal</b>	<b>Typical actions</b>
Conflict & immediate post-conflict (Humanitarian emergency)	Disaster mitigation	Avoiding mine and UXO incidents	<ul style="list-style-type: none"> <li>• Clear roads to be used by returnees</li> <li>• Clear sites for returnee camps</li> <li>• Clear routes/areas needed by humanitarian agencies</li> <li>• Mine awareness training for refugees and returnees</li> <li>• Emergency medical assistance for victims of conflict</li> </ul>
Post-conflict (Reconstruction)	Insurance	Restoring livelihoods	<ul style="list-style-type: none"> <li>• Document negative impact of mine contamination (e.g. Landmine Impact Survey)</li> <li>• Clear village centres, housing, and social infrastructure</li> <li>• Clear roads and paths to water points and market towns</li> <li>• Clear garden plots and other intensively cropped lands</li> <li>• Mine awareness training to high-risk communities</li> <li>• Basic medical care and physical rehabilitation services for the motor disabled</li> </ul>
Development (Development assistance)	Poverty reduction	Promoting well-being via poverty reduction	<ul style="list-style-type: none"> <li>• Clear productive land to reduce poverty (cost-benefit logic adjusted for poverty considerations)</li> <li>• Co-ordinate within poverty reduction strategy</li> <li>• Mine awareness training via indirect approaches</li> <li>• Physical and psycho-social rehabilitation services for the disabled</li> <li>• Clear productive land based on cost-benefit logic</li> <li>• Co-ordinate within economic development strategy</li> <li>• Mine awareness training via established institutions (e.g. schools, health clinics) and mass media</li> </ul>



consistent with the donor's overall assistance strategy for that country. Clarity will help avoid situations where a programme's approach is to compensate those in affected communities for losses imposed by landmines (i.e. what we term the "insurance" strategy) but then a donor commissions an evaluation based principally on traditional cost-benefit analysis.

## Making it all legal and above board...

Once the objectives and strategic approach have been decided upon, they should be formalised or made official. The national government needs to pass legislation governing its mine action programme. In the absence of internationally-recognised national authorities (e.g. Kosovo), the group of donors supporting UN mine action should officially adopt a set of objectives and a strategy for achieving these. Legislation should outline the broad public policy objectives, establish the national mine action authority and mine action centre and outline their structures, authority, and responsibilities.

If the country is a party to the Ottawa Convention legislation may also be needed to give legal effect to the country's undertakings under that treaty (e.g. to ban the use of landmines, commit to stockpile destruction). The International Committee of the Red Cross ([www.icrc.org](http://www.icrc.org)) has examples of such legislation and has prepared an information kit to assist States in meeting their obligations under the treaty. Even where the country has not signed the Convention, its legislation should ban the possession and use of landmines by civilians and other unauthorised persons.

Because initial planning is almost always done with incomplete information and insufficient experience, and because both the mine contamination problem and the country's social and economic structures will evolve — often rapidly — try to avoid excessive detail or specificity in terms of how the mine action objectives are framed in the legislation. Make sure that it empowers the national mine action authority to adopt supplemental regulations and policies designed to provide more specific guidance for operational planning and decision-making. With such authority, the national mine action authority can adopt and adjust annual work plans, plus policies and criteria guiding priority-setting, without having to seek new laws.

### Box 4. A study of national mine action legislation

UNDP has requested the GICHD to undertake a study of national mine action legislation in some 20 States. The study, which will be completed in early 2003, will lead to the production of an information kit that covers the legal and legislative provisions and structure governing the many different aspects of mine action, including: national co-ordination of mine action; priority setting; mine survey, mapping and clearance; mine awareness; victim assistance and compensation; stockpile destruction; and civilian and military involvement in mine action.

## Chapter 4.

# Setting operational priorities

### Guiding principles

The core of a priority-setting system is the method or approach used to assess the alternative tasks, then ranking or categorising these in order of priority. A good system for deciding how to commit mine survey and clearance assets will have at least the following two characteristics:

**Effectiveness** — The system for setting priorities should help managers choose those alternatives most likely to promote the objectives of the programme or project and, more fundamentally, to promote development in the country.

**Consistency** — It would also make it more likely that different managers will make the same decision when facing the same alternatives, thus fostering fair and equal treatment for all citizens and communities affected by mine and UXO contamination.

In addition, the following features are desirable:

**Responsiveness** — Managers obtain and consider the desires expressed by affected citizens and communities (self determination), and those of other stakeholders (e.g. the national government and representatives from sectoral ministries, state or provincial governments, district/local governments, local and international NGOs operating in contaminated areas, and donors).

**Transparency** — The criteria used to assess alternatives are known to and understood by the stakeholders and there is regular reporting on the decisions taken, thus demonstrating there is no hidden agenda influencing decisions.

**Comprehensiveness** — Ideally, all mine and UXO contamination tasks should be considered when setting priorities.

**Cost-effectiveness** — The benefits obtained should outweigh the costs involved in collecting and analysing the data required for prioritisation.

Unfortunately, trade-offs are often required among these desirable characteristics. For example, we might be able to improve the effectiveness of our decisions by using very sophisticated techniques of analysis, but this requires more and better quality data (hence higher costs) and may also result in a system that stakeholders do not understand, thereby reducing transparency. As a result, there is no such thing as an ideal system for prioritisation. Different mine action programmes and, sometimes, individual implementing organisations need to develop prioritisation systems that are right for them in a particular country at a particular time.

## Determining the criteria

In practical terms, a mine action task under consideration should be valued by its potential:

- To reduce needless death and suffering and, more generally, enhance protective security;
- To promote economic growth and economic equity (including equity for future generations);
- To promote social development and social equity,
- To enhance the country's capacity to address its contamination problem, thus contributing to political development, and
- To address the contamination in a transparent manner.

Thus, prioritisation really comes into its own for mine clearance at the level of "operational" decision-making, or deciding where to commit the operational survey and demining units. In mine clearance, this typically means which hazards are selected for technical survey and/or clearance this year and which are left for some future time. Because of the nature of mine action and the progressive collection of data through a sequence of surveys, such operational decisions are often made in two stages, as follows:

- First, decisions are made which create a long list of hazards or contaminated communities which, based on the available data (usually, general survey data), seem to be priorities.
- Second — usually following a second survey, often of a technical nature — decisions are made to clear specific hazards within a specified time.

In rough terms, the first stage dictates the assignment of technical survey teams while the second leads to the assignment of mine clearance teams. (For national programmes in which the implementing partners or, sometimes, funding channels have a significant degree of independence, such as in Bosnia and Herzegovina, there

may be a third stage in which the clearance organisation decides which of the technically surveyed tasks on the priority list it will demine.)

## The decision-making process

Remember, prioritisation does not imply that all possible alternatives are assessed, or that they are assessed at the same time or by the same person or group. Rather, it implies that a number of alternatives are assessed before all the survey or clearance assets are committed. For example, different provincial programmes might work over a period of months to assess possible tasks for the coming year (as is done in Laos) as a prelude to an annual work plan that documents the decisions taken to clear specific hazards.

### *Qualitative versus quantitative approaches*

Broadly, methods can be quantitative or qualitative. Quantitative approaches compute a numeric score for the alternatives, usually by assessing each alternative against all the indicators employed and calculating a total score. Pure qualitative methods do not compute a numeric score. As such, many are not objective in the sense of being unambiguous, where different people will almost certainly agree with the conclusions. It may be unclear what factors led the decision-maker to attach a high priority to a specific task, and whether all the alternatives were assessed against the same standards or criteria. In such cases, the decision-making process lacks transparency, which could cause friction with donors or other stakeholders if there is any suspicion that tasks are being selected to serve private or partisan political interests. Therefore, use of qualitative approaches puts a burden on transparency.

Most “quantitative” approaches, however, have, at some level, qualitative aspects and subjective value judgements concerning the weight given to various criteria and indicators must always be made, given the need to combine dissimilar measures (e.g. lives saved and economic values) into a single scale. For example, the Impact Score developed through a Landmine Impact Survey computes a numeric score based on a variety of criteria, but most of these criteria are themselves measured in a qualitative manner (e.g. the criterion “access to some rain-fed crop land was blocked” is scored as one or zero depending on whether the statement is true or false for a specific community, and the score does not vary according to how much crop land is affected). Based then on the numeric scores, communities are put into broad categories — typically, low, medium, or high contamination impact.

Most mine action programmes currently use qualitative methods for establishing priorities, and none as yet uses mathematically sophisticated quantitative methods. There is nothing inherently wrong with using qualitative approaches and, indeed, it normally is an advantage to include some types of qualitative data (e.g. community

opinion) when deciding on mine action priorities. **It is better to be approximately correct than exactly wrong.**

## **Qualitative approaches**

### **Screening tasks**

Using criteria as a screen typically is done in a qualitative manner: for example, screening out tasks that are not located within communities or permanent agricultural fields. This approach is very common as the first stage in the two-stage priority-setting processes used in many mine action programmes. For example, the system in Bosnia and Herzegovina, which has a “hazards” and not a “community” focus, screens out any minefields that are not in “*locations in regular civilian use or needed for refugee/IDP return or needed for reconstruction and development projects*”.

### **Whole task ranking**

This is a simple method that can be used when there are a reasonably limited number of alternatives available for consideration — up to 20 or so. As such, it could be used in final task selections are being made (i.e. the second in a two-stage process) for:

- New programmes initiating clearance programmes, before large numbers of minefields have been technically surveyed;
- Quarterly or semi-annual work planning at a sub-regional or district level;
- Programmes with a community focus, to do priority-setting within those communities that have multiple hazards.

It appears this method has yet to be used within the mine action community, but it holds promise both as a systematic means of setting priorities among a limited number of choices and, more generally, as a simple test for any programme to identify (1) the criteria and indicators decision-makers are taking into account and (2) consistency (i.e. are all decision-makers taking the same things into account in the same way?). Variations of the whole task ranking approach have often been used in “participatory development” approaches (e.g. getting communities to rank the value of community improvement projects), and are very widely used in disparate fields such as job evaluation. There is, however, an understandable reticence to change radically existing approaches to prioritisation.

The steps are simple. There needs to be a summary description of each task, ideally using the same format for ease of comparison, plus a sheet on which the tasks can be listed in rank order. The basic steps then are as follows:

1. Select the highest priority task, and write the task number at the top of the ranking sheet;

2. Select the lowest priority task and write the task number at the bottom of the ranking sheet;
3. Select the 2nd highest priority task, and write its number below the top priority;
4. Select the 2nd lowest priority task, and write its number above the lowest priority;
5. Continue until all the tasks are ranked.

Commonly, with any list of alternatives, a few stand out at both ends of the spectrum. Whole task ranking is a means of quickly identifying these to allow attention to focus on the more difficult choices. The technique can be used by a small committee based on discussion and consensus. However, this will give different results in different countries. Some societies — and some organisations — are strongly hierarchal, and subordinates will generally defer to the most senior manager in open discussions. In such cases, there may appear to be consensus when, in fact, the situation is simply not conducive for obtaining a range of opinions. Other countries and organisations have higher tolerances for open disagreements among individuals, and group discussions are likely to be more illuminating. As well, people in any society or organisation may have hidden agendas, and may use committee meetings to promote certain priorities for reasons other than they voice in the meeting.

Whole task ranking can be used with or without explicit indicators. If common indicators have been defined, these should be used in the summary descriptions for each alternative. These indicators could be qualitative (e.g. is access to any crop land blocked?) or quantitative (e.g. how many hectares of crop land are blocked?). However, the alternatives are not scored or ranked against the individual indicators — rather, the “whole tasks” are ranked against one another. Where indicators have not yet been defined, a whole task ranking session provides an excellent opportunity to begin this task. After the priority-setting committee has ranked a set of alternatives, a facilitator can lead a discussion to systematically review the tasks and the reasons for the rankings, using questions such as:

- What are the characteristics of the highly-ranked tasks that make them top priorities?
- Why are the bottom-ranked tasks at the bottom?
- For middle-ranked tasks, how is (say) number 10 different from number 11?

This will identify those criteria decision-makers are actually taking into account. The programme can then list these and attempt to identify relevant indicators for each.

Whole task ranking also provides a simple means of testing for consistency among decision-makers and for identifying the range of factors different decision-makers take into account in setting priorities. This can be done by having the members of the priority-setting committee individually rank the same set of alternatives (say 10

### Box 5. Annual work planning in Laos

Given the highly-decentralised nature of Lao public administration, and the desire to maintain overall coherence for a programme implemented in conjunction with six international partners, UXO LAO headquarters devised a standard system of annual work planning for all provincial operations, starting in mid-1998. The work planning system has the following features:

All activities must correspond to the agreed priorities for UXO LAO and the Trust Fund, namely: “... programmes shall be carried out for peaceful purposes only and according to the following order of priority: humanitarian purposes; economic purposes, for the expansion for agriculture and rehabilitation, reconstruction or development projects”. For clearance activities, the priorities enunciated for 2000 were:

#### Roving clearance:

- Emergency requests - where ongoing work is halted or daily life is affected due to the presence of UXO.
- Areas where people have already found and marked ordnance.
- Ordnance on the surface in the village or agricultural land.

#### Area clearance:

- Land to be cleared for agriculture in high-risk area, affecting large numbers of people in poorest villages.
- Contaminated land where a community structure such as school, market, or clinic will be built.
- Land where funded development projects are being delayed by the presence of UXO.

Provincial Steering Committees (SC), chaired typically by the vice-governor, were established, with representatives from key ministries, the UXO LAO provincial coordinator, and from all districts in which UXO LAO is operating.

Proposals for community awareness (CA), roving, and clearance are solicited by the SC and UXO LAO from each of the districts, with assistance from the international implementing partner. These are vetted by the SC for adherence with national priorities and combined with the provincial administration’s own priority task list. A detailed work plan is then prepared showing where each CA, roving, and clearance team will be working for each week in the coming year. As there never are enough resources to complete all tasks put forward by the district and provincial authorities, cuts to the task list are made through an iterative process.

The draft work plan is then signed off by the governor, the UXO LAO provincial coordinator, and (regarding technical feasibility) a representative from the implementing partner. The signed work plan is then submitted to UXO LAO national headquarters where it is vetted and approved by the national SC.

During the course of the planning period, provincial and district personnel have the flexibility to make minor adjustments to the schedule of CA and roving teams based on emerging priorities, weather conditions, etc. They also are allowed to alter the schedule of UXO clearance activities without prior approval from national headquarters. However, they are not allowed to add or delete a UXO clearance task from the task list without prior approval from the national level.

Clearly, this process is designed to establish good annual work plans **and** to do so in a very transparent manner. The focus of attention is on clearance activities, which are very expensive in terms of equipment and labour, and which also provide significant economic benefit to agencies or individuals whose land is cleared. This is where strong incentives exist to substitute private interests for national priorities.

alternatives) and then checking to see if these individual rankings are similar. If the lists are similar there is good consistency, almost certainly based on a deeper consensus about the appropriate criteria and their relative importance at that point in time.

More likely, if this is the first time the programme has conducted this exercise, there will be certain types of tasks on which there is a consensus in ranking, but clear differences over other types of tasks. A group discussion, or having an outside facilitator interview the committee members, will help identify sources of disagreement for further analysis and discussion. For example, a programme might discover that some members of its priority-setting committee systematically place greater weight on poverty issues than do other members. This finding then can be discussed by senior programme managers to see if more detailed guidelines for priority-setting should be issued.

### ***Participatory and other “bottom-up” approaches***

Bottom-up approaches represent attempts to have affected communities or districts identify their own priorities. Typically, a community will submit a simple list of its priorities, perhaps with explanations but rarely with numeric scores that would allow outsider observers to better understand what factors the community has taken into account.

Bottom-up approaches are very responsive when decision-makers actually take the views of the affected populations into account, which is far from universal. However, one must always question, responsive to what? For example, communities may be dominated by small elites who will identify priorities that benefit their households or political factions. In some cultures, women may be excluded from public meetings, so their preferences will not be reflected in the priorities put forward by the community. Local officials may not represent the interests of minority groups, particularly in countries recently traumatised by conflict. In brief, where local political processes could under-represent or systematically exclude the interests of some community members (remember, however, that no political process or form of representation is perfect — there are also dangers in sidelining official or traditional community leaders), bottom-up approaches should be:

- Facilitated by non-community members (ideally, trained in participatory appraisal and planning processes), or
- Guided by the mine action programme which, for example, would provide a list of the criteria each community must consider, or
- Subject to prior approval from the national headquarters, which is less likely to be subject to pressure from local interests, or
- Audited by the mine action programme, to ensure the tasks selected reflect the preferences of the community as a whole rather than just the elite, or



- Assessed for quality using some combination of the above four approaches.

For example, the national headquarters of UXO LAO specifies the criteria applicable to various types of UXO action, which provincial steering committees use to assess priorities identified by the districts, which have in turn obtained “bottom-up” priorities from villages, local ministry offices, etc. Technical advisors facilitate the districts in this task, and must “sign off” on the technical feasibility of all tasks on the final priority list for the province. Finally, national headquarters must approve the provincial priority lists.

Different qualitative methods can often be used in conjunction. For example, village committees could be asked to rank the different hazards present using the whole task-ranking approach to determine community priorities.

### ***General advantages and disadvantages of qualitative methods***

Qualitative approaches are, in general, simple to administer and flexible. As such, they are appropriate when important issues cannot be quantified because they are inherently complex or intangible (e.g. community opinion) or the necessary data is not available (e.g. accurate measures of contaminated land). They are particularly useful for the first stage in a two-stage priority-setting process, when an important task is to exclude alternative mine actions to obtain a manageable long list of priorities. However, care must be taken to structure qualitative approaches to enhance consistency — particularly for final task selection.

As well, in all cases when using qualitative approaches, efforts must be made to promote transparency so stakeholders can assess whether the decisions were based solely on the official criteria. In some cases, this potential problem can be addressed by having senior officials review and approve the priority lists, but this should be accompanied by wide dissemination of the long list of priorities and the final task selection list, while at the same time opening channels for people or communities to voice any concerns.

### Box 6. Unintended and unanticipated consequences

When considering whether to perform a task, it should be valued by any consequences we can reasonably anticipate irrespective of whether or not those results are covered by or incorporated within the mine action programme objectives. For example, most if not all mine action programmes include an economic objective, which typically is formulated to emphasise the growth of economic production (e.g. increase agricultural production). Assume we must choose between the following two mine clearance tasks:

- Task 1 – Clear two hectares of good rice land in village x;
- Task 2 – Clear the feeder road leading to the same village.

Both tasks will increase agricultural production in the village; the first by bringing an additional two hectares of crop land into production; the second by allowing inputs (fertiliser, better seeds) to be delivered more cheaply, which will increase production a bit on all the crop land currently being farmed. It is possible the two tasks score equally against the programme's economic objective. However, it is unlikely the two tasks will truly have the same economic impact. Clearing the feeder road will also allow consumer goods to be transported to the village, thus benefiting the bulk of the population. It might also reduce the cost of medical supplies to the health clinic, thus lowering public health care costs.

The two tasks will also have different impacts on economic equity. The road will benefit all people in the community, while most of the benefits from clearing the rice land will go to a single household. If this happens to be an extremely poor household in an otherwise prosperous village, clearing the rice land might score higher on equity grounds, but clearing the road would normally provide a more equitable distribution of benefits. Therefore, there are important economic benefits in terms of consumption and equity that are not incorporated within the programme's objectives. We will term such results "unincorporated consequences", which could be positive or negative.

In this case, the two tasks score equally against the programme's economic objective but can be anticipated to have quite different economic impacts. Because these unincorporated consequences can reasonably be foreseen, it makes no sense to ignore them — indeed, ignoring such evidence seems irresponsible. Similarly, the potential negative consequences of a task should be considered, regardless of the fact that the programme objectives make no mention of such a consequence. Mine action evaluations will certainly criticise the programme's management if unincorporated consequences that can reasonably be anticipated are ignored.

Of course, our knowledge of national and community socio-economic structures is always imperfect, and not all consequences of mine action can be anticipated. However, as we gain experience, we invariably learn that certain important consequences, which we had not originally anticipated, occur with some regularity. For example, some programmes found that peasant land would be commandeered by political or military elites after it had been cleared of landmines. Mine action management cannot be faulted for the initial instances of such an unanticipated result. They should be faulted if they did not quickly learn about such an important consequence stemming from mine clearance and did not take reasonable steps to avoid such a consequence once they learned about it.



## Chapter 5.

# Measuring success

### Introduction

There is increasing recognition in the mine action community that merely reporting on number of mines and items of UXO or square metres cleared is not an adequate assessment of work performed as it fails to capture the impact of clearance operations on affected communities. Development agencies have compiled guides for selecting and using indicators to measure the success of development programmes and projects. One of the best is the series from USAID, *Performance Monitoring and Evaluation TIPS*, from which this introduction has been adapted (See [www.dec.org/usaid\\_eval/#004](http://www.dec.org/usaid_eval/#004)). It recommends that the performance indicators selected should have the seven following characteristics:

**1. Direct** — A performance indicator should match as closely as possible the result it is intended to measure. It should not be pegged at a higher or lower level than the result being measured. For example, *contraceptive prevalence rate* is a direct measure of the result *increased use of family planning methods*. But *number of service providers trained* would **not** be a direct measure of the result *improved service delivery*. Just because people are trained does not necessarily mean they will deliver services better.

If using a direct measure is not possible, one or more proxy indicators might be appropriate. Proxies are *indirect* measures that are linked to the result by one or more assumptions. For example, in rural areas of Africa it is often very difficult to measure income levels directly. Measures such as *percentage of village households with tin roofs* may be a useful, if somewhat rough, proxy. The assumption is that when villagers have higher income they tend to purchase certain goods. If convincing evidence exists that the assumption is sound, then the proxy may be an adequate indicator, albeit second best to a direct measure.

**2. Objective** — There should be no ambiguity about what is being measured. That is, there is general agreement over interpretation of the results. An objective indicator is both unidimensional and operationally precise. *Unidimensional* means that it measures only one phenomenon at a time. Avoid trying to combine too much in one indicator (e.g. measuring both access and use). *Operational precision* means no ambiguity over what kind of data would be collected for an indicator. For example, while *number of successful export firms* is ambiguous, *number of export firms experiencing an annual increase in revenues of at least 5 per cent* is precise.

**3. Adequate** — Taken as a group, a performance indicator and its companion indicators should adequately measure the result in question. How many indicators should be used to measure any given result? The answer depends on (a) the complexity of the result being measured, (b) the level of resources available for monitoring performance, and (c) the amount of information needed to make reasonably confident decisions. For some results that are straightforward and have tried and true measures, one performance indicator may be enough. For example, if the intended result is *increased traditional exports*, the indicator *dollar value of traditional exports per year* is probably sufficient. Where no single indicator is sufficient, or where there are benefits to be gained by “triangulation” — then two or more indicators may be needed. However, avoid using too many indicators. Try to strike a balance between resources available for measuring performance and the amount of information managers need to make reasonably well-informed decisions.

**4. Quantitative, where possible** — Quantitative indicators are numerical. Qualitative indicators are descriptive observations (an expert opinion of institutional strength, or a description of behaviour). While quantitative indicators are not necessarily more objective, their numerical precision leads to more agreement on interpretation of results data. However, even when effective quantitative indicators are being used, qualitative indicators can supplement with richer information to bring a programme’s results to life.

**5. Disaggregated, where appropriate** — Disaggregating programme results by gender, age, location, or some other dimension is often important from a management or reporting point of view. Experience shows that development activities often require different approaches for different groups and affect those groups in different ways. Disaggregated data help track whether or not specific groups participate in and benefit from activities intended to include them.

**6. Practical** — An indicator is practical if data can be obtained in a timely way and at a reasonable cost. A rule of thumb is to plan on allocating 3 to 10 per cent of total programme resources for performance monitoring and evaluation.

**7. Reliable** — Can data of sufficiently reliable quality for confident decision-making be obtained? The data that a programme manager needs to make reasonably confident

decisions is not necessarily the same standard a social scientist requires. For example, a low-cost mini-survey may be good enough.

## Economic surplus or cost-benefit approaches

One approach that is gaining wider acceptance is to use economic assessment of the impact of clearance operations to demonstrate effectiveness. The standard approaches used for economic assessments are collectively termed cost-benefit analysis. Cost-benefit analysis is used when both costs and benefits can be estimated in monetary terms. It focuses on the single criterion of maximising the economic surplus (i.e. the net benefit, or benefit minus cost). The basic approach is quite simple:

- First, estimate the benefits — in monetary terms — that will arise over time (e.g. current year, year 1, year 2, and so on) if a task is performed;
- Second, estimate the costs — in monetary terms — over time that will be incurred if the task is performed;
- Third, subtract the costs from benefits to obtain the net benefits for the current and future years;
- Fourth, “discount” (see Box 7: *Discounting and the time-value of money*, below) the net benefits for future years to obtain the net present value (NPV), internal rate of return (IRR), and/or Benefit-Cost Ratio.

### Box 7. Discounting and the time-value of money

If given a choice between receiving money today and the same amount some time in the future, people typically choose to take the money immediately. This phenomenon is termed the “time-value of money”, but it holds more generally for any “good” or benefit: most chocolate-lovers will choose chocolate today over the promise of the same chocolate in a month. Similarly, most people will want to delay a cost (or a “bad”). Put in other words, people “discount” the value of future benefits. The “rate of discount” is calculated by seeing how much more of the future benefit a person would demand to exchange it for the benefit today.

For example, if a person would be just willing to exchange US\$100 today for US\$110 a year from now, her annual discount rate is 10 per cent, and the calculation is  $US\$100 * (1.10) = US \$110$ . The equivalent amount in two years would be  $US\$100 * (1.10)^2 = US\$121$ , and the general formula is  $FV = PV * (1 + r)^y$ , where:

FV = future value

PV = present value

r = annual discount rate

y = number of years in the future

Rearranging, we obtain the basic formula for discounting a future value to calculate the present value:  $PV = FV / (1 + r)^y$ .

The *Study of Socio-Economic Approaches to Mine Action* conducted cost-benefit analysis in both Laos and Mozambique. Based on a cost-benefit analysis of UXO disposal operations in Laos (the mine problem is relatively insignificant), the study found that *future clearance of unexploded ordnance could be justified on economic grounds alone*. Thus, beyond the humanitarian imperative UXO LAO can now go to donors and ask for funds on the basis that not only will there be human and social benefits to funding future clearance but also it will be an effective use of financial resources.

Moreover, the analysis showed that the decision to establish UXO LAO, the national clearance centre, was certainly defensible on economic logic, as future benefits should eventually justify the heavy start-up and capacity-building costs.

Conversely, the analysis for Mozambique suggests that large-scale clearance of mined agricultural land will not, in itself, make a significant net contribution to Mozambique's continued development. A more targeted approach is appropriate, and the study offered two suggestions:

- First, adequate land is generally available in all regions except Mozambique's south. But even there the main vulnerability cited by farmers is drought not a shortage of land. This suggests that economic *and* social benefits would accrue more from investments in water control than general mine clearance, and clearance activities should support small-scale irrigation and other water projects.
- Second, seasonal labour shortages — and particularly women's labour — are typically a more binding constraint on smallholder agricultural production in Mozambique than is land. A 10 per cent increase in the time women have available to tend crops would pay greater dividends than a 10 per cent increase in land available for cropping. Once again, mine action in support of village water projects that reduce the time women spend collecting water would result in higher economic and social benefits than general mine clearance of agricultural land.

The lesson from economic analysis suggests that mine action managers need to understand the principal social and economic features of the mine-affected countries and their communities and identify the specific factors that limit economic growth and bind people in poverty. Mine action that addresses these binding constraints should be accorded priority.

In addition to being a method for evaluating success, cost-benefit analysis is also a forward-looking tool that can assist in prioritisation. If all alternative tasks are analysed as above, they can be ranked in terms of one or more of the cost-benefit measures. This in effect maximises the economic benefits that can be obtained with the available mine action resources. In addition, where the overall mine action programme can be shown to deliver high economic returns, then there is a strong case for donors and the local government to maintain or increase funding. In short, cost-

benefit analysis is an extremely powerful technique many would argue has the strongest logical foundation of any of the individual priority-setting methods.

However, there are practical problems with using cost-benefit analysis for priority-setting within mine action programmes. First, it requires substantial effort in collecting and processing economic and technical data, which often is difficult to obtain in developing countries; particularly those emerging from conflict. Second, it requires significant expertise to analyse the data. Third, there is a danger the process will become “expert-led” and neglectful of inputs from other stakeholders. Fourth, it can be extremely difficult to estimate a financial value for important mine action benefits, such as the reduction in deaths and injuries or the increase in a community’s sense of physical security. Fifth, many people in the humanitarian and development fields find it repugnant to even attempt to put a financial value on human lives and suffering and, therefore, question the legitimacy of this approach (although they do so indirectly when they insure a deminer!). While in theory these problems often can be overcome, this requires refinements that complicate the analysis so that, in practice, the results could easily be manipulated to justify certain tasks which should not be priorities.

Because of these practical problems, cost-benefit analysis is not yet used in any mine action programme as the principal method for setting individual task priorities. However, increasingly it is used in programme evaluations to compare the economic returns accruing to various broad categories of mine action the programme commonly undertakes (e.g. clearance of rain-fed and irrigated rice land in Laos; clearance of crop land, pastures, roads, and residential areas in Afghanistan; clearance of residential land in different-sized communities in Bosnia and Herzegovina). These evaluations have then led to recommendations to adjust priority-setting criteria and/or to modify the strategic direction of the programme (e.g. to reduce clearance of pasture land in favour of road clearance). In the near future however, some mine action programmes are likely to incorporate cost-benefit analysis as one of the criteria used in setting task priorities.

## Measuring outcomes as well as outputs

We started by stressing the central importance for mine action to achieve — and measure — outcomes as well as outputs. Thus, there is increasing recognition in the mine action community of the importance of so-called “Level Four” surveys, which involve a review of the actual use of demined land a number of months or even years after the completion of clearance. Such surveys help to ensure that priority-setting has been carried out correctly and can identify problems faced by communities in transforming the outputs of mine action into sustainable developmental outcomes.

There may be a number of reasons why land is not being used as intended — issues of land ownership, a lack of confidence in clearance, a lack of community inputs, such



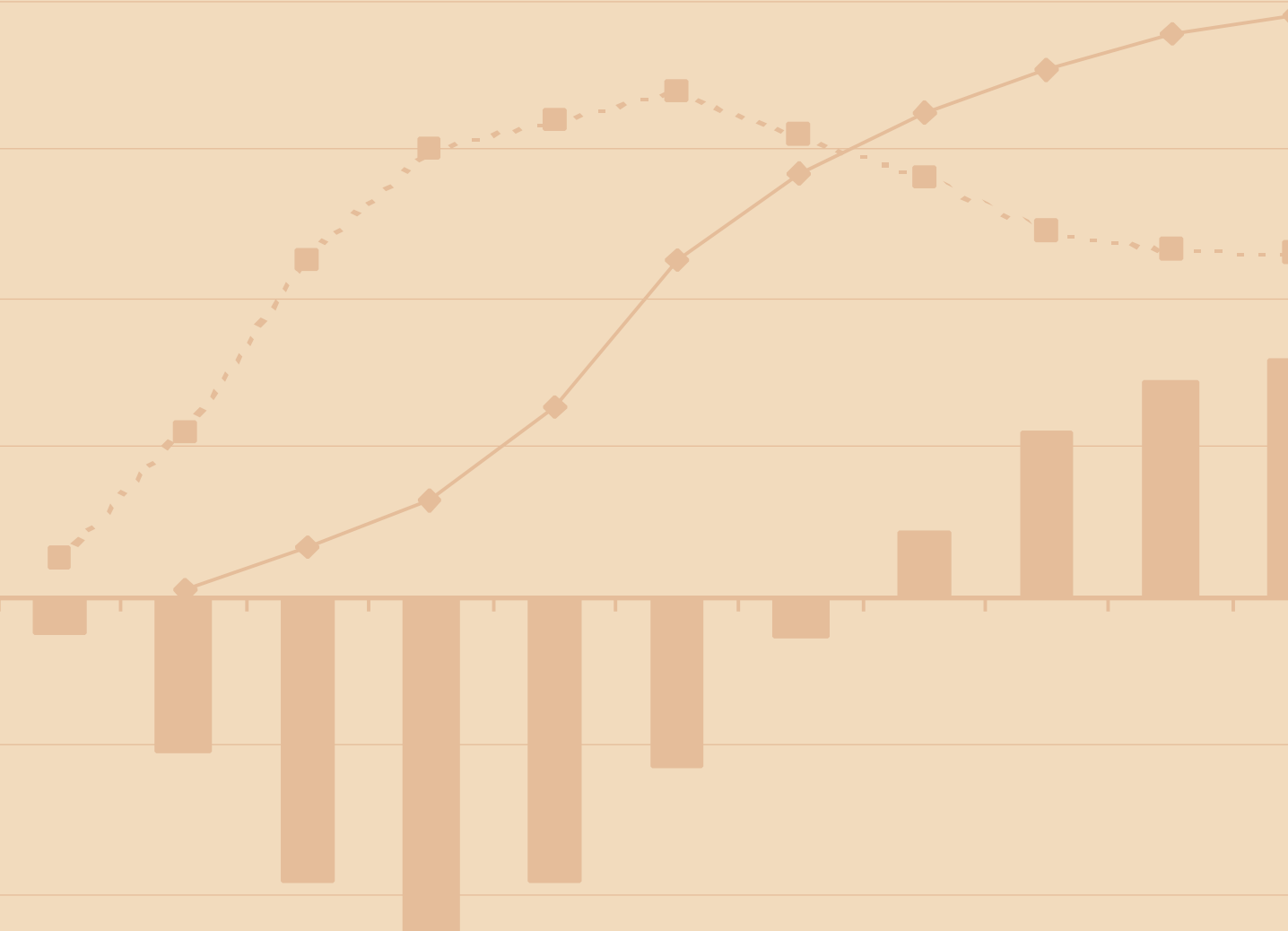
as seeds or fertiliser. Discussions with the local community should swiftly identify the obstacle(s) to successful and sustainable outcomes. You should consider a regular external review of land use (say, every three to five years) with much more frequent internal review. Your quality assurance officer or logistics team will often pass by previously demined sites — they should, as a matter of course, check on how the land is being used and report back. This is a cheap, easy and effective way to measure success.

**Box 8. Socio-economic impact study of Danchurchaid mine action in Kosovo, July 1999-December 2001**

Danchurchaid, a Danish organisation and member of the Action for Churches Together network, commissioned an impact assessment study of the social and economic impact and benefits of its mine action programme in Kosovo ([www.ndrf.dk](http://www.ndrf.dk)). The study used three different instruments to collect the information that informed the analysis: questionnaires, semi-structured interviews, and case studies of specific clearance tasks. Due to the high number of different tasks conducted in the province (more than 750), a simple random sampling method was used to select locations for information collection.

The study records that in a number of areas the local villagers do not use the land cleared. It states that this is “*mainly for seasonal, rehabilitation and economic reasons*”, although it does not provide any further details. It also finds that “*the use of rural land for economic and social use is often complex and varied and difficult and resource-expensive to research long after clearance has occurred*” and accordingly recommends that Danchurchaid track these issues more closely. It further recommends that the organisation collect information on the benefits of additional land opened up for community use by clearance of mined access land and routes.

And although efforts have focused on mine clearance, the principles apply equally to mine awareness and victim assistance. Thus, it is not the number of mine awareness “briefings” that are given that determines the success of the programme, but the effective and sustained changes in behaviour of the target audience. Similarly, it is not the number of prostheses produced and fitted, but the number still being worn by active members of the community six months later that counts.



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