

ANNEX SIX: EIGHT QUESTIONS OF MINE ACTION

OVERVIEW

The sector of humanitarian and development activity to reduce the impact of landmine and UXO contamination is referred to as humanitarian mine action. A mine action program may be considered to consist of three main activities that generate output. These activities include landmine clearance, explosive ordnance disposal (EOD) and mine risk education (MRE) (see Box 1 below).

Landmine clearance (also called 'demining') involves the systematic, prophylactic clearance of areas believed to be contaminated by landmines or unexploded ordnance.

Explosive Ordnance Disposal (EOD) concerns the disposal of items of unexploded ordnance (UXO) that are discovered or reported by members of the public.

Mine Risk Education (MRE) consists of educational outreach projects intended to teach the public about the risks posed by landmines and UXO and about safe behaviour that can help reduce the risk of injury.

Box 1: Simple definitions of mine action interventions.

The research work on which this Annex is based is built on the premise that the landmine problem can be interpreted as a problem of pollution arising from conflict, with mine action interpreted as the applied remediation to remove the impact of that environmental pollution. Using the definition of economics as the 'science of the allocation of scarce resources,' and noting the imbalance between contamination and remediation resources set out above, the research explored the potential use of economic tools to optimize resource allocation between mine action programs, between mine action activities, and between individual remediation tasks

The research identified the interaction between eight main resource allocation questions and a number of tools identified to help address these questions. These questions can be divided in terms of scope between international, national and regional, and their relationship is represented diagrammatically by the diagram below.

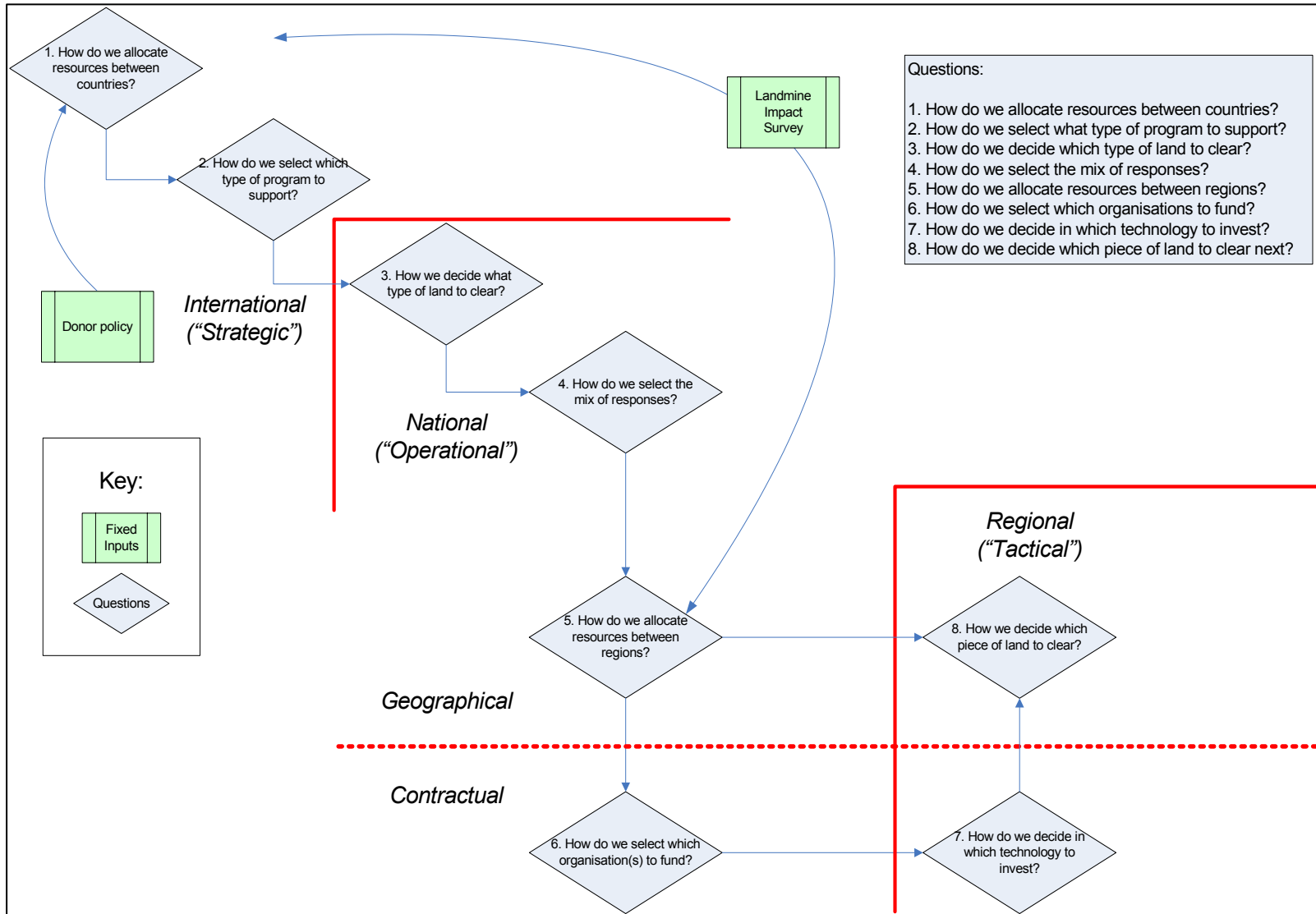


Figure 1: The relationship of the eight questions. The various resource allocation questions can be arranged into a flow chart that ranges from the international perspective at the top left to the local/regional at the bottom right.

In addressing these questions, the research identified a number of economic tools that appear to offer a means to address each of these questions. These tools – and their relationship to the eight resource allocation questions introduced above – are superimposed on to the original flow chart above. A brief description of the questions and the related tools is outlined below.

QUESTION ONE: HOW DO WE ALLOCATE RESOURCES BETWEEN COUNTRIES?

The first question, faced at an international level by donor representatives responsible for making resource allocation decisions, is: how to allocate resources between countries. Interviews with a number of donor representatives revealed that this crucial question is largely addressed in a wholly subjective manner at present, the current focus being on planning questions at a national level. However, it is the contention of this research that, unless thought is given to resource allocation at a global level there is little chance that a national mine action program will have the correct resources provided.

QUESTION TWO: HOW DO WE SELECT WHAT TYPE OF PROGRAM TO SUPPORT?

The second question faced by donor representatives at an international level is: how to select what type of program to support. Mine action interventions are not commoditised; there is a large degree in variation in approaches to even the smallest questions (for example, over how many people should be in a mobile EOD team) and there is a range of approaches to how national mine action programs are approached; some programs are based on the minimum amount of international intervention while others depend much more on international organizations, NGOs and commercial demining organizations, often with little national involvement at any managerial level. The research explains how, at present, this variation is as much due to the doctrinal and political perspectives of the stakeholders as it is to any program design methodology.

QUESTION THREE: HOW DO WE DECIDE WHICH TYPE OF LAND TO CLEAR?

The third question is the first that considers mine action at a national level and is the first addressed in detail by this Project, namely: how to decide which type of land to clear. The research looks at the possible use of cost benefit analysis techniques as a means of processing the data provided by landmine impact survey (LIS) and other, more common development interventions (such as food security, poverty vulnerability and agricultural mapping) to establish what land is actually worth clearing and what land is it appropriate to simply mark, fence and avoid until the value of the land changes or developments in technology – dynamic efficiency – provide a more cost effective means of clearing the same land.

QUESTION FOUR: HOW DO WE SELECT THE MIX OF RESPONSES?

The research undertaken to answer Question Three is based on the premise that the main way to measure the relative cost and benefit of mine clearance is to consider the value of the land that is being cleared. This leads to a fairly simple measure of price per square meter. As the primary activity of EOD teams - and MRE activity - is to reduce risk to life and limb, this implies a situation of 'incommensurate values'. However, if life can be valued, then it should be possible to compare the value of the outputs of all three mine action activities, and produce a means by which resources could be allocated between each of them. No such mechanism exists at the moment in the humanitarian mine action sector. The research sets out how this might be done, as a new application of existing economic tools.

QUESTION FIVE: HOW DO WE ALLOCATE RESOURCES BETWEEN REGIONS?

The fifth question looks at the next resource allocation decision that must be taken at a national level, i.e. how to allocate resources between regions. As set out above, EOD teams are mobile units that respond to reports of UXO by members of the public. By dealing with UXO promptly, they minimize the risk of injury to civilians exposed to the hazard. Their effectiveness is a function of a number of criteria, including the amount of contamination, the population size, the number of teams available and the size of the area of responsibility for each team or groups of team, which in turn impacts on the possible response time.

Similar criteria might be used to distribute MRE teams, whilst additional criteria, such as the amount of valuable land in the region, might be used to compare the most equitable division of demining teams.

QUESTION SIX: HOW DO WE SELECT WHICH ORGANISATIONS TO FUND?

This six research question considers how contracting issues affect the structures that may be used to implement mine action projects, and it addresses the final question faced at a national level: How do we select which organizations to fund? This section of the research begins with a discussion of the roles of an intermediary acting on behalf of the donors and how this can be a way of reducing transaction costs. It then looks at contractual means for managing risk. Risk can be considered in three ways in mine action. These are:

- The physical risk to the deminer;
- The physical risk to the end user of the cleared land; and
- The financial risk to the donor or customer for the mine action activity.

This research concentrates on the question of financial risk to the donors, and how the use of intermediaries can help deal with the problem of asymmetric information. This is not much discussed in the literature, though is implied in discussions of requirements for quality assurance. The second part of the research shows that the establishment of more objective and measurable tools established in contracting mechanisms will improve the transparency of mine action programs and so could allow donors to assess whether the programs are meeting their objectives.

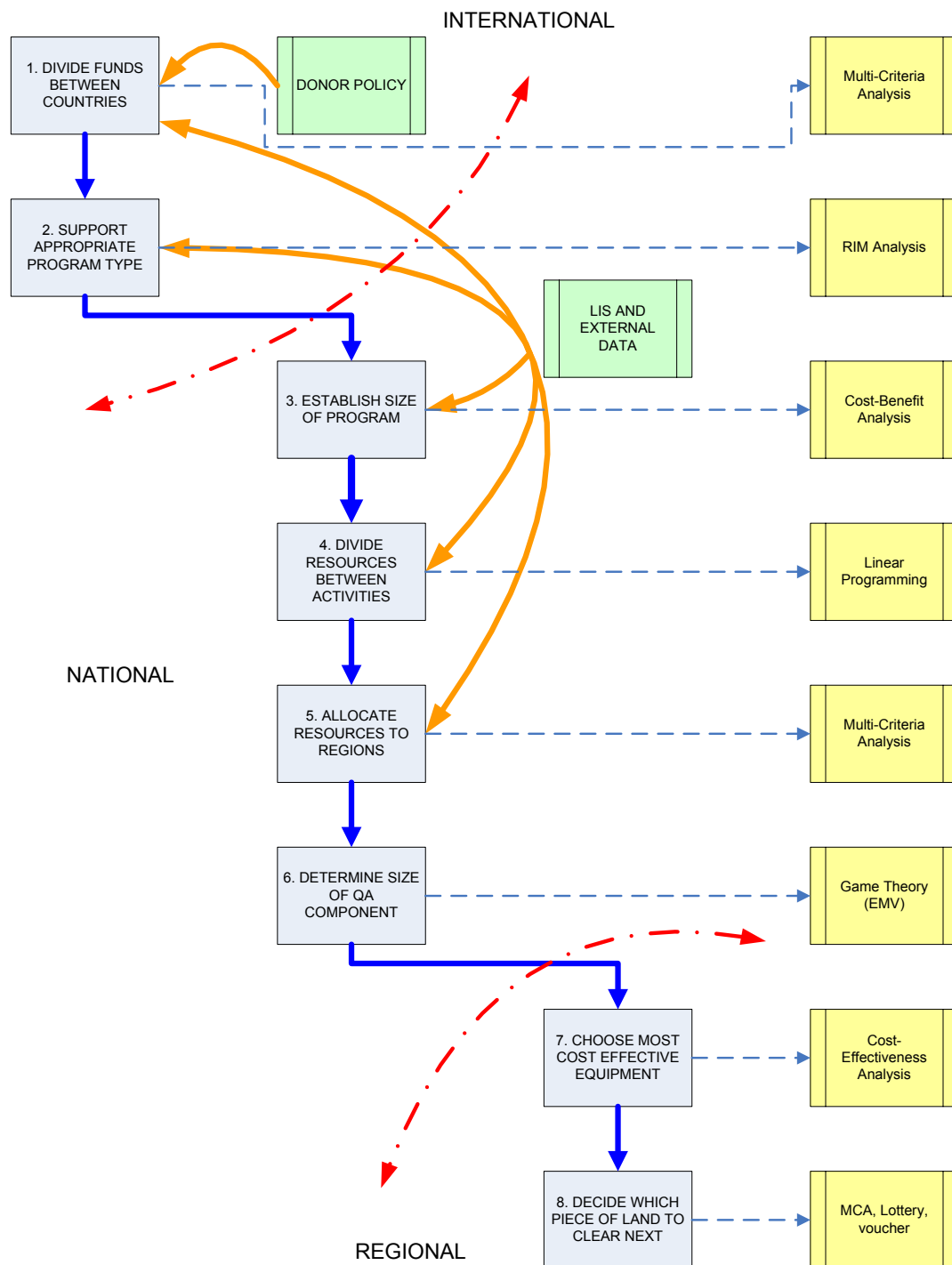
QUESTION SEVEN: HOW DO WE DECIDE IN WHICH TECHNOLOGY TO INVEST?

Question Seven is the first of the two key resource allocation decisions that might be faced by a mine clearance implementing agency that might be operating at only a regional level: how to decide in which technology to invest. The research examines the use of Cost Effectiveness analysis (CEA): can CEA be helped to determine whether it would be more cost effective to use new technology as it becomes available? How may choices be made between competing technologies or machines given that programs have limited resources? The research

examines the question how CEA can help to determine the potential impact of new technology: this is particularly significant given the issues discussed in Question Three, i.e. that demining using manual techniques alone is not always particularly beneficial from an economic perspective. The demining community is already aware qualitatively that demining output can be 'improved' by using new technology, especially by using machines to cut vegetation; however, there are no generally-accepted structures yet in place to measure this improvement in an objective manner.

QUESTION EIGHT: HOW DO WE DECIDE WHICH PIECE OF LAND TO CLEAR NEXT?

The final question identified in this research that addresses a specific resource allocation issue is the question of prioritization: how to decide which piece of land to clear next. The question of 'incommensurate values' which has been examined in the earlier chapters re-emerges as different clearance tasks will have a greater or lesser history of casualties in their locality, whereas other tasks may be regarded as important for economic development. The research examines how prioritization is conducted at present in mine action programs, and looks at the implications of trying to use CBA as a detailed prioritization tool in a humanitarian mine action context. It then examines three possible alternative techniques: multi criteria analysis (MCA), lottery or micro credit. The relative advantages and disadvantages are compared using a meta-MCA matrix to compare each option side-by-side.



The inter-relationship of resource allocation questions in humanitarian mine action and the various economic tools identified to help address them (Keeley, 2006).