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Robert Keeley
UNDP Tajikistan

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**Outcome Evaluation for Mine Action Programme
UNDP Tajikistan
November – December 2008**



**Robert Keeley
RK Consulting Ltd**

January 2009

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All images by the author except where noted

Glossary

CIIHL	Commission for the Implementation of International Humanitarian Law
CESCD	Committee for Emergency Situations and Civil Defence
EC	European Commission
EOD	Explosive Ordnance Disposal
FSD	Swiss Demining Federation
IMAS	International Mine Action Standards
IMSMA	Information Management System for Mine Action
KAP	Knowledge, Attitude, Practice
MRE	Mine Risk Education
NGO	Non Governmental Organisation
OSCE	Organisation for Security and Cooperation in Europe
QA	Quality Assurance
QC	Quality Control
SALW	Small Arms and Light Weapons
TA	Technical Advisor
TMAC	Tajikistan Mine Action Center
TRC	Tajikistan Red Crescent
UN	United Nations
UNDP	United Nations Development Programme
UNICEF	United Nations Children’s Fund
UXO	Unexploded Ordnance

Executive Summary

During a country wide survey undertaken by Swiss Foundation for Mine-action (FSD) between 2003-05 it was determined that approximately 50 km² of land was contaminated with mines and Un-exploded Ordnance (UXO). However, during the past 5 years, various activities such as Land Release (LR), Technical Survey (TS) and Clearance, has reduced the SHAs level to approximately 15-17 km². UNDP hired Dr Robert Keeley of RK Consulting Ltd (the 'Consultant') to undertake an Outcome Evaluation of the Country Programme Action Plan (CPAP) 2005-2009, Outcome # 6 to "Create a sustainable national institution to plan, coordinate and implement comprehensive mine action." The Consultant identified four key issues recurring in the literature and in initial discussions with key informants. These were:

- Institutional Framework issues
- The need to scope the problem and develop an exit strategy. A review of technical survey and land release techniques that will be critical in meeting clearance targets in the context of Ottawa Convention commitments
- The potential for a shift of focus and scope for Mine Risk Education (MRE)

Detailed findings, conclusions and recommendations are set out in the main body of the report. However key findings are:

- The landmine problem in Tajikistan can be seen in two distinct elements; a mid-term requirement to clear minefields and a long term, residual requirement to deal with isolated reports of unexploded ordnance (UXO).
- Work is going reasonably well and much has been done to establish a coordination body, the Tajikistan Mine Action Centre (TMAC) with implementation being done by a partnership between the Swiss Demining Foundation (FSD) and the Ministry of Defence.
- TMAC should be recognized as a 'directly executed' (DEX) project given its dependence on UNDP support. Its lifespan can be limited to the length of the landmine clearance project which is estimated (by the Consultant) at 10 years at current planning levels
- The UXO contamination should be dealt with by a sustainable capacity within the Committee for Emergency Situation and Civil Defence (CESCD) established by a train and equip project with recurrent operational costs then being met by the government.
- The landmine problem in Tajikistan can further be broken down into areas that have socio-economic impact and those that don't have such an effect. Donors are more likely to support the former, and the report contains an overview of techniques that could be used to identify the scope of the problem in economic terms. It may be possible to establish a trade-off with stakeholders whereby donors help clear the high-impact areas whilst the government of Tajikistan undertakes to fund the clearance of the remaining areas towards the end of the program life.
- There are a number of techniques being used in Tajikistan to help improve productivity. The Consultant endorses the technique known as "land release" but recommends a workshop to review the efficacy of the technique known as "technical survey" in particular its dependence on a partial sampling of suspected hazard areas.
- There is a working mine risk education (MRE) program largely undertaken by the Tajikistan Red Crescent Society. There is room to re-evaluate the MRE program in detail to establish just how much effort should be made and the relative effort spent in either mass communication techniques or community-based approaches.

Background and Methodology

Background

Mine/UXO problem

During a country wide survey undertaken by Swiss Foundation for Mine-action (FSD) between 2003-05 it was determined that approximately 50 km² of land was contaminated with mines and Un-exploded Ordnance (UXO). However, during the past 5 years, various activities such as Land Release (LR), Technical Survey (TS) and Clearance, has reduced the SHAs level to approximately 15-17 km².

TMAC estimates that by means of LR, TS and manual mined area clearance, Tajikistan could clear all the SHAs by early 2015. Therefore, the overall mine risk in Tajikistan is contained but will require several more years to eradicate. It is unlikely that Tajikistan will be able to meet its obligation as signatory to the International "Ottawa Treaty" to eliminate all known mines by 2010.

TMAC and Partners

The Tajikistan Mine Action Center (TMAC) was established in June 2003 by agreement between the Government of Tajikistan (GoTaj) and UNDP. TMAC oversees all aspects of the mine action programme in Tajikistan in collaboration with the mine action operators, relevant ministries, local authorities/communities and in consultation with UNDP. Although TMAC operates under a National Execution (NEX) modality, UNDP closely monitors and controls finances, human resources, international travel and procurement related tasks of TMAC.

FSD are currently the only active international organisation working on landmine clearance in Tajikistan, though OSCE are also assisting in capacity development and training of EOD technicians. OSCE have also been a major funding conduit for FSD in recent years.

Methodology

Original Terms of Reference (TOR)

UNDP hired Dr Robert Keeley of RK Consulting Ltd (the 'Consultant') to undertake an Outcome Evaluation of the Country Programme Action Plan (CPAP) 2005-2009, Outcome # 6 to "Create a sustainable national institution to plan, coordinate and implement comprehensive mine action." This evaluation will cover the period from the start of the current CPAP in 2005 to the present. The scope of consultancy shall include the following components of the mine action programme in Tajikistan and include recommendations for improvement or changes for future guidance:

1. Undertake a Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis on the existing working modalities between UNDP and TMAC and make appropriate recommendation for improvement and/or amendments given the prevailing circumstances. A draft UNDP TMAC Programme Document (2009-2011) may be a good starting point to review the working modalities;

2. Undertake a SWOT analysis on the performance of TMAC as a national entity to oversee all aspects of mine action programme in Tajikistan and its perceived role to represent the programme in all relevant national and international events. Review TMAC's organizational structure and capacity of TMAC staff in order to make specific recommendations for improvement and/or amendments. A relevant document to review in this respect is the findings of a recent SWOT analysis done on TMAC by the International Capacity Building Consultant (1st April – 30th September 2008) ;
3. Review the commitments and/or tangible initiatives of the GoTaj in addressing its mine action problems and make recommendation for UNDP to pursue with the GoTaj for increased national ownership and/or contributions.
4. Under Article 5 of the Ottawa Convention Tajikistan is obligated to eliminate all known mines by April 1, 2010. Given the existing resources with and/or the commitment of FSD, MoD, OSCE, UNDP and GoTaj, is it feasible to clear all the SHAs (32 km²) by 1st April 2010. If not, how much more resources would be needed and how to get it.
5. Review the Mine Action and Small Arms Light Weapons (SALW) integration process in Tajikistan and make recommendations for improvement and/or amendments.

Methodology used in the evaluation

The methodology used in the evaluation consisted of three distinct techniques:

- Review of existing literature and documentation. A list of key documents is included at Annex A. It consists of documents provided by the UNDP Country Office and documents obtained during the evaluation by the Consultant.
- Stakeholder interviews. A cross section of stakeholders were interviewed using informal or 'semi-structured' interview techniques. The five main groups of stakeholders were:
 - Tajikistan government agency representatives
 - Donor representatives
 - UNDP country office staff
 - TMAC personnel
 - Implementing agency personnel

A list of all of the institutions represented in these interviews is at Annex B.

- Field trip. A field trip was undertaken by the Consultant to Vanj on the Tajik-Afghan border.

The draft report was then returned by the Consultant for review and comment by the UNDP Country Office in Tajikistan. As agreed in the review of the Inception Plan, the draft amended in the case of any factual errors discovered during the review process and took note of other comments from TMAC.

OECD Development Evaluation Criteria

The organisation for Economic Cooperation and Development (OECD) has developed a set of evaluation criteria for development projects¹. These criteria and their definitions are reproduced in Table 1 below and are used in this evaluation.

No.	Criterion	Definition	Rule of Thumb
1	Relevance	The extent to which the aid activity is suited to the priorities and policies of the target group, recipient and donor	Does it fit development and/or poverty reduction plans?
2	Impact	The positive and negative changes produced by a development intervention, directly or indirectly, intended or unintended. This involves the main impacts and effects resulting from the activity on the local social, economic, environmental and other development indicators.	Does it have a positive effect on the intended beneficiaries?
3	Effectiveness	A measure of the extent to which an aid activity attains its objectives.	Does it meet its targets?
4	Efficiency	Efficiency measures the outputs -- qualitative and quantitative -- in relation to the inputs. It is an economic term which signifies that the aid uses the least costly resources possible to achieve the desired results. This generally requires comparing alternative approaches to achieving the same outputs, to see if the most efficient process has been adopted.	Does it meet its targets in a cost-effective manner?
5	Sustainability	Sustainability is concerned with measuring whether the benefits of an activity are likely to continue after donor funding has been withdrawn.	Will the government take on funding?

Results of initial documentation review and stakeholder analysis

The Consultant identified four key issues recurring in the literature and in initial discussions with key informants. These issues have been discussed with UNDP Tajikistan staff and it has been agreed that concentrating on these four key issues in the evaluation will provide sufficient insight into the landmine situation in Tajikistan and the resources currently available to address it. These four key issues, and their attending research questions, are described below.

1. Institutional Framework

- What is the actual structure of the TMAC project (DEX or NEX)?
- What are the implications of formalizing a DEX modality?
- Which elements of activity should remain in TMAC core business and which (if any) should be hived off to other agencies?
- What are the options for getting more government ownership of the project now and in the future?
- Which government department may be suited?
- What requirements are there for capacity development within TMAC?

¹ See the OECD introduction to Development Evaluation at http://www.oecd.org/document/22/0,2340,en_2649_34435_2086550_1_1_1_1,00.html which offers definitions of the criteria used in development project evaluation.

- Are there efficiency measures from including mine action under the disaster management portfolio within UNDP?
- What technical assistance might UNDP staff require in the future?
- How should UNDP and TMAC best interface with OSCE activities in Tajikistan?

2. Scoping the problem and exit strategy for UNDP and international funding

- What is the actual remaining landmine and UXO contamination problem in Tajikistan?
- When is this expected to be cleared at current rates?
- What are the means by which priorities for clearance are set?
- What is the significance of an 'impact free' interim target for Tajikistan?
- How can 'urgent' (or 'acute') landmine clearance needs be combined with dealing with 'long term' (or 'chronic') needs for an explosive ordnance disposal/SALW capacity?
- How can the scoping concept be reconciled with institutional framework issues considered above in #1?
- Recommendations for separate projects within future mine action portfolios
- Recommendations for further studies in scoping
- Recommendations for response time analysis of mobile EOD teams

3. Technical survey and land release techniques

The achievement of increased productivity in recent years depends on the efficacy of recent techniques by FSD in the areas of land release and technical survey. Meeting Ottawa targets with existing resource levels depend on their use. However, both of these concepts involve removing (parts of) SHA from the database without subjecting them to full clearance and both of these techniques can be controversial in the humanitarian mine action community. The safety and suitability of these techniques (as used and documented in Tajikistan) will be reviewed by the Consultant and recommendations made if necessary.

4. The potential for a shift of focus and scope for Mine Risk Education (MRE)

If time allows, the Consultant will review the methodology and message used by the TMAC MRE component for effectiveness and relevance, and examine existing data in order to assess efficiency and impact. The Consultant will then make recommendations on the future scope of MRE in Tajikistan, including ideas on how to interact with the mobile EOD/SALW requirement.

Note on Small Arms and Light Weapons (SALW) issues

In the original TOR the Consultant was asked to look at the potential for UNDP/TMAC involvement in SALW issues. Literature review and stakeholder analysis suggests that the SALW problem in Tajikistan is not significant in terms of actual weapons, however it is likely that there will be a problem in abandoned ammunition and UXO. It was agreed in the discussions of the Inception Plan it was agreed that the appropriate approach to ammunition and UXO should be discussed in the context of developing a sustainable Explosive Ordnance Disposal (EOD) capacity in Tajikistan and all subsequent discussion of SALW responses in this Report is done in this context.



Figure 1. Mined areas of Tajikistan (source: TMAC).

Findings

Overview

There are two main points that should be made during a presentation of an overview of the findings of an evaluation.

Firstly, the program as a whole is working quite well. A coordination capacity (TMAC) has been established and is largely effective in achieving its tasks. It is entirely nationally-staffed and its staff have demonstrated a good capacity. A mine clearance capacity has been established with the creation of an effective partnership between FSD and te MOD, and demining is underway, with increasing efficiency and output every year over the five years of operations. Mine Risk Education (MRE) and Mine Victim Assistance (MVA) activities are undertaken by the Tajikistan Red Crescent Society. TMAC is supported by UNDP and the implementers are largely supported bilaterally, although there are occasional funding shortfalls. There are some gaps, particularly in the institutional framework, and it is the nature of evaluations to appear to dwell on these negative aspects. However in this case it is important to place such observations in the context of the successes, and it is hoped that these observations will be seen as they are meant, as constructive points intended to further improve the existing process.

The second main point is that the contamination problem in Tajikistan can be seen in two distinct elements: the largest is an urgent requirement to clear the (largely) anti-personnel minefields in compliance with Tajikistan's Ottawa Convention commitments and a smaller, longer-term problem to deal with the residual contamination, mainly abandoned ammunition and unexploded ordnance (UXO) which can be expected to be found for several decades. Article Five of the 1997 Ottawa Convention requires states party to the convention to clear all known minefields in their territory within 10 years of their ratification of the treaty. For Tajikistan this means completion of the clearance in 2010. It is already understood that this is not feasible and the question facing the Tajikistan mine action program is how to frame an request for an extension, which is allowed under the terms of the treaty. The finite landmine problem lends itself to a time-bound 'project' whilst the open-ended nature of the UXO contamination suggests the need for a sustainable capacity that can be supported by the government of Tajikistan after international funding has ceased. Observations on the institutional framework of the mine action program and on the scoping of the problem should be understood in terms of this duality between these acute and chronic elements of the contamination and the different responses that they require.

Institutional Framework

What is the actual structure of the TMAC project (DEX or NEX)?

The TMAC project is described as a 'nationally-executed' or 'NEX' project. The Consultant is not an expert in UNDP constitutional issues but it is understood that to be a NEX project UNDP would be providing technical and/or financial assistance to a government institution. Alternatively UNDP undertakes DEX projects where no government capacity exists and where the government invites UNDP to undertake the service directly. Although TMAC currently operates under the aegis of the Commission for the Implementation of International

Humanitarian Law (CIIHL), given that the TMAC personnel are paid by UNDP, equipment and services are procured using UNDP procurement procedures, and that UNDP operates the bank account on behalf of the project, TMAC appears to be exhibiting the attributes of a 'directly executed' or 'DEX' project. This 'hybrid' approach is not unique to TMAC (it has been observed in at least two other mine action programs supported by UNDP) but it is problematic, both constitutionally for UNDP (it does not have the degree of oversight one might expect of a DEX project) and for the agency concerned (stakeholders do not know whether to treat TMAC as a government body or a UNDP project). Specifically in the case of TMAC, the plan under the current UNDP Country Poverty Action Plan (CPAP) is for TMAC to be completely 'nationalised' by 2010², which coincides with the current obligation under the 1997 Ottawa Convention for Tajikistan to have cleared all known anti-personnel minefields under its control³. However when interviewed it appears that there is no government ministry or agency able to take on TMAC in its current form.

What are the implications of formalizing a DEX modality?

Given that it appears impossible to fully nationalize TMAC in the time left available in the current CPAP and that the existing hybrid approach is unsustainable, it would appear that formalizing its status as a DEX project would be the most appropriate from an institutional perspective. This would have the advantage of clarifying the UNDP Country Office's role in the management of this project. However, formalizing TMAC's status as a DEX project appears to have two disadvantages. These are set out below.

- A DEX project is 'not sustainable.' One theme that was common in many of the discussions during this evaluation was that making TMAC a 'DEX' project was 'unsustainable'. Whilst concerns about sustainability are understood, they are felt to be unwarranted in this instance, for two reasons. Firstly, as described above, the attributes of TMAC suggest it already is a DEX project, and indeed is *already* unsustainable in terms of the OECD criteria; if foreign funding stopped today TMAC would have to close tomorrow. Secondly, given the main task of TMAC is to coordinate the clearance of anti-personnel landmines in accordance with Tajikistan's Ottawa obligations, the need for TMAC – at least in its current form – ceases with the completion of this finite task. One of the main requirements of a 'project' is that it is definable and time-bound. Clearance of minefields is such an activity and it is therefore suitable for projectisation and operation using a DEX modality.
- Moving to a DEX modality would be a 'retrograde' step in terms of nationalisation. This argument could be made if TMAC were in fact already established within a Tajikistan government institution, but, as described above, this is not actually the case. Formalising a DEX modality would really only be formalizing in a *de jure* sense what is already the *de facto* situation. There is no suggestion that the manager of the TMAC project needs to be internationalized, or even that a full time 'Chief Technical Advisor' (CTA) needs to be re-established within TMAC.

² See CPAP, 2005-2009, Output 11, Page 15

³ See Article Five of the Convention at <http://www.icbl.org/treaty/text>

Which elements of activity should remain in TMAC core business and which (if any) should be hived off to other agencies?

TMAC has a valid role in the coordination of humanitarian mine action activities and this should remain its core business. It is however experimenting with a number of projects which it is (or intending to) implement itself. Discussions with TMAC staff suggest that some TMAC activities could be interpreted that some current activities by TMAC in mine risk education (MRE) and Mine Victim Assistance (MVA) could be interpreted as constituting direct implementation (though feedback from TMAC disagrees with this interpretation). At the time of the evaluation some initial steps were also being taken to form an explosive ordnance disposal (EOD) capacity to deal with unexploded ordnance (UXO) and Small Arms and Light Weapons (SALW) contamination⁴. Whilst all of these activities have a place in a mine action program, the Consultant is of the opinion that attempts to vertically-integrate the coordination and implementation of mine action activities would be a mistake. TMAC (and hence UNDP) are advised not to do this, for two reasons:

- There is not sufficient capacity in TMAC to carry out the implementation of such projects without compromising their efficiency in their coordination of mine action, without significant internal investment. It is the opinion of the consultant that this investment would be better made in implementing agencies.
- The second factor is that having TMAC as an implementer would blur the ‘separation of powers’ between implementer and coordinator, especially given TMAC’s role in quality assurance monitoring of mine action. If TMAC is implementing, who will do the monitoring?

What are the options for getting more government ownership of the project now and in the future?

As mentioned above, the government of Tajikistan has provided a focus for the institutional placement of TMAC under the banner of the CIIHL. It also makes some ‘in-kind’ contributions to the mine action program. However, as also mentioned, there appears to be no scope to make TMAC a fully nationalized project in the time frame of the current CPAP, and (as will be discussed below) by the time the Government is ready to accommodate TMAC it will no longer be needed in its current form. There is however likely to be a longer-term requirement for a coordinating body to deal with residual UXO contamination and this is the capacity that should be encouraged within a government context. This longer-term requirement is discussed in more detail below; however from an institutional context it does appear that an early government commitment to take on full responsibility (including financial commitment) in the longer term for a small, residual capacity would be helpful in encouraging donors to commit to providing the necessary assistance in the medium term, particularly in light of the Ottawa commitment.

⁴ TMAC feedback on the draft of this report says that “it has been decided and agreed among the partners that FSD will establish a team on EOD”. Presumably this was discussed after the evaluation as there was no mention of it during the assignment. Whilst the Consultant agrees that this might solve the short term UXO problem, it can only be a zero-sum approach as, in the short term, as it can only be done by taking resources away from meeting the Ottawa goal of AP landmine clearance, so in the medium term will be counter-productive. Furthermore, as is discussed in more detail later in this report, forming an EOD team within FSD cannot meet sustainability requirements.

Which government department may be suited?

This question can be considered in two parts:

- What is the best place to situate the existing TMAC capacity?
- Where should a long-term, residual capacity be placed?

In the light of the discussions above, the first of these can be discounted. Given the finite, time-bound nature of the anti-personnel landmine problem in Tajikistan, the current institutional framework, once clarified, appears to be sufficient for the time frame necessary to eradicate the landmine contamination.

As for the long term requirement, there are technical elements within both the Ministry of Defence and Ministry of Interior (i.e. the Special Police) currently able to carry out landmine clearance and bomb disposal tasks. Whilst there may be room for further technical assistance to these teams neither is considered to be the most suitable focus for the development of a capacity able to deal with the humanitarian requirement for responding to reports of UXO throughout Tajikistan. The Consultant believes that the Committee for Emergency Situations and Civil Defence (CESCD) may be the most appropriate home for such a capacity, for the following reasons:

- CESCD is a sustainable organisation unlike the current TMAC structure (or indeed any international mine action NGO or company) and the EOD requirement is likely to continue at a residual level for many years
- Many of the organizational attributes for a mobile EOD capacity are also found inside disaster response teams, and so the provision of additional bomb disposal skills should be easier than forming a capacity from scratch
- The CESCD capacity is already established in several locations throughout the country, with existing reporting mechanisms that would facilitate the reporting of UXO and the ensuing response.
- Many donors are likely to find it easier to support a project in CESCD than they would a project established in one of the security forces.
- UNDP already has an established cooperation mechanism with CESCD through its Disaster Risk Management Program, and this should facilitate the development of a capacity development project to establish a longer-term, residual capacity.

What requirements are there for capacity development within TMAC?

As mentioned above, TMAC is doing a good job in the coordination of the various mine action activities in Tajikistan. However the brief time available to this evaluation suggests there are three main areas where there is room for capacity development within TMAC:

- Planning. There is a strategic plan in Tajikistan but it has some shortfalls. For example it contains a number of ideas for prioritization processes but these ideas are not connected within the document: the strategic plan does not say how these ideas are related or how they are 'operationalised'. Indeed, discussions with TMAC staff confirm these ideas have not been internalized within their planning processes and tasking is done in an *ad hoc* manner.

- Financial and budget management. The Consultant was told that until 2007 the financial management of TMAC was done by the Chief Technical Advisor (CTA) provided by UNDP. Procurement of routine equipment, services and supplies is managed through the UNDP procurement system, however at present TMAC does not routinely break down its budget into the three practical outputs of mine action and coordination overheads. Whilst it was possible for TMAC to do this on an *ad hoc* basis for the Consultant it would appear that more work could be done to routinely consider budget issues in this manner.
- Mine Risk Education. There are also potential areas for development in the planning of MRE within the Tajikistan mine action program. These are discussed in detail below.

Are there efficiency measures from including mine action under the disaster management portfolio within UNDP?

At the time of the evaluation, the UNDP Country Office had one international and one local staff member each assisting with the oversight of the TMAC project on a part-time basis, plus assistance as required from various specialist elements within the Country Office such as the procurement and travel office sections. It is the opinion of the Consultant that several of the administrative and organizational problems within the TMAC project are as a result of this amount of management oversight being insufficient or possibly ineffective. It is felt that one person within the Country Office should have full time responsibility for the mine action portfolio, especially if TMAC is indeed recognized as having the attributes of a DEX project. In the recent structure this would require additional expense, especially if an international program officer were to be used. However, if TMAC is combined with the disaster management portfolio within the UNDP Country Office, it might be possible to obtain some efficiencies, with perhaps the section head being supported by two local staff desk officers, one looking at the conventional disaster management elements and one focusing on the mine action program. Communication aspects would be streamlined as both of these projects would be dealing with the same government department. The disaster management project is also a DEX project so this would help address institutional issues of TMAC described above.

What technical assistance might UNDP staff require in the future?

The questions raised during the course of this evaluation highlight the problem of 'asymmetric information' faced by the UNDP Country Office in terms of the specialist nature of humanitarian mine action, especially in technical issues. Without access to independent technical advice, UNDP Country Office staff will find themselves having to make judgments on questions where they do not have a background in the subject. Conversations with stakeholders also suggest that (a) the engagement of donors in the mine action program has not been actively sought by either UNDP or TMAC (with the exception of a conference in November which was widely regarded as having been useful). Many donor representatives reported that they had been in station for over a year before being approached for assistance. It appears that this rather poor effort in resource mobilization is an artifact of the hybrid nature of TMAC's current status in that both TMAC and UNDP seem to have considered this to have been each other's responsibility. Stakeholders have also reported that they would appreciate impartial technical advice on project proposals that they have received from implementers. However, this does not mean that UNDP need take on the additional expense of reinstating a full-time CTA position. It may be possible for UNDP to make occasional use of a technical advisor on a part-time basis. This idea is developed below in the 'Recommendations' section of this report. This advisor could also be used to help with the three main capacity development questions discussed above.

How should UNDP and TMAC best interface with OSCE activities in Tajikistan?

One of the most complicated issues encountered in the evaluation was how UNDP and TMAC is currently interfacing with OSCE activities in Tajikistan. It is understood that relations were better in the past, but there is no doubt that there is room for improvement at the moment. Putting aside this relationship issue, detailed examination of the activities of OSCE in mine action is outside the scope of this report, but it is worth considering them in outline for completeness. The Consultant understands the following to be the main mine action activities identified for possible future support by OSCE in Tajikistan:

- Support to ammunition stockpile destruction
- Capacity development of Tajikistan landmine clearance capacity within the Ministry of Defence
- Surveying of a safe path for border security patrols on the Tajik-Afghan border

It is understood from senior OSCE staff that, at present, funds for these three program elements have not been formally approved by OSCE headquarters in Vienna.

Whilst there is potential for overlap or gaps in both the first and second activities with others being coordinated by TMAC, these are both manageable if all organizations continue to observe the primary role of TMAC in coordination of such activities. However the third activity is potentially more serious (especially for Tajikistan's ability to meet its Ottawa Convention responsibilities, which are discussed in more detail in the following section of this report) for mine clearance in Tajikistan. It is understood that OSCE staff intend to take some of the elements of the MOD capacity currently on loan to FSD to use as a basis for their safe – path survey (which will not actually clear any mines and thus will not assist in meeting the Ottawa Convention targets). Whilst the size of this planned asset redistribution had not been quantified at the time of writing this report, it would appear to be at best a 'zero-sum game' and at worst could potentially jeopardize the only organisation currently assisting Tajikistan with meeting its Ottawa Convention targets (one of the key duties of TMAC and hence germane to the TOR of this evaluation).

It is also understood that there is some discussion in OSCE about inviting the International Trust Fund (ITF) to become involved in Tajikistan. Whilst the inclusion of competitive tendering processes such as those used by the ITF may be useful to encourage competition and thus help improve value for money (although this would require at least one more implementing agent in country to provide that competition), it is worth noting that ITF is not a new donor: it is merely an alternative modality for funds provided by existing donors (i.e. those governments who provide funds to ITF). If ITF can find a way to provide additional funds for Tajikistan it would be welcome, however a re-vitalised fundraising effort by UNDP may be sufficient, especially considering the comparatively small sums required (when compared to other mine action programs).

Photographs

These pictures have been chosen to illustrate various observations made during the evaluation. See the text of this report for more detailed discussion.



Figure 2. Evidence of terracing on the hillside in the middle distance. Terracing is typical in areas where there is little flat land available for agriculture. This picture was taken on the road between Dushanbe and the Tajik-Afghan border.



Figure 3. A benchmark for a completed minefield clearance task. The river beyond marks the border with Afghanistan.



Figure 5. An FSD briefing map showing the different areas of their current task cleared by either full search by manual clearance (red), full search by dogs (yellow) and technical survey (chequerboard).



Figure 4. A demonstration of dog search techniques.



Figure 6. A typical minefield on the Tajik-Afghan border. The undulating ground and large rocks will be problematic for mechanical clearance/ground preparation devices.

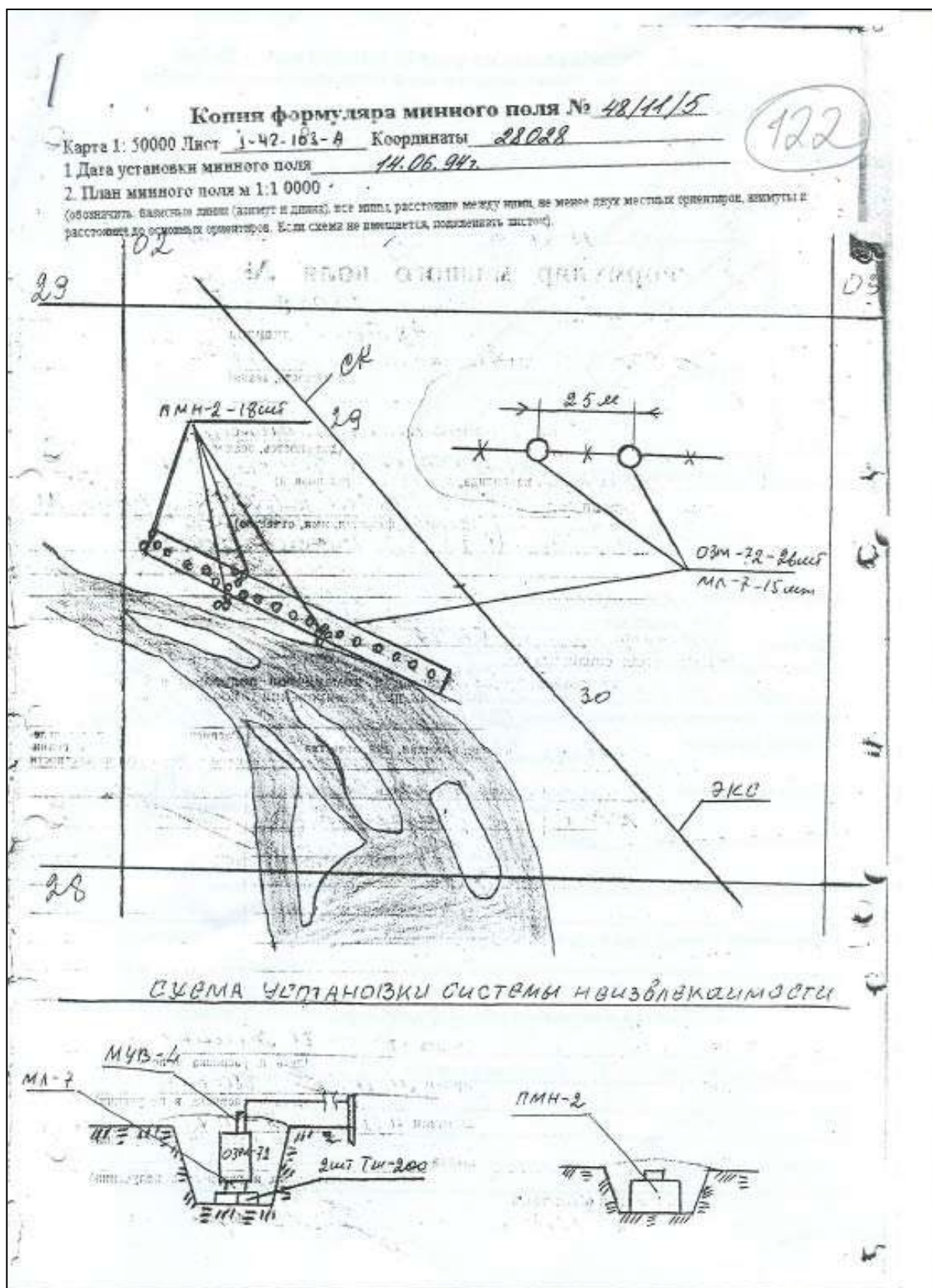


Figure 7. This Soviet minefield record, held by TMAC, is regarded as being typical of such records in Tajikistan and is held as being reasonably accurate. There is therefore little option for area reduction in such areas, particularly on the Tajik-Afghan border.

Scoping the problem and exit strategy for UNDP and international funding

What is the actual remaining landmine and UXO contamination problem in Tajikistan?

- | | |
|---|---|
| • <u>Contamination suspected areas:</u> | 52,522,025 m ²
(approximately 6,000,000 m ² along Tajik Afghan border is not surveyed yet) |
| • <u>Cleared:</u> | 2,141,357 m ² |
| • <u>Reduced SHAs:</u> | 40,850,268 m ² |
| • <u>Land Release:</u> | 42,991,625 m ² |
| • <u>Remaining Land:</u> | 9,530,400 m ² + 6 000 000 m ² un-surveyed
= <u>15,530,400 m²</u> (663 SHAs & Mine Fields) |

Box 1. Estimate of remaining clearance requirement provided by TMAC (based on TMAC presentation dated 20 Nov 2008).

The data in Box 1, provided by TMAC, sets out the amount cleared since operations began and shows the remaining land yet to be cleared. It does NOT include any suspect hazard areas on the Tajik-Uzbek border⁵. It is understood that most of the land included in the 6,000,000m² on the Tajik-Afghan border is in formal minefields in which land-release techniques might not release much land; therefore whereas by these statistics 80% of the other area (i.e. the 9.5 million square metres not on the Afghan border) might be subject to area reduction⁶, most of the areas on the Afghan border will not be reduced.

In such a situation:

Area requiring clearance: $6,000,000 + (9,530,400 \times 20\%) = 7,906,080 \text{ m}^2$

Area released by area reduction: $9,530,400 \times 80\% = 7,624,320 \text{ m}^2$

Total: $= 15,530,400 \text{ m}^2$

However, in a presentation prepared by UNDP (and presumably using data from TMAC) dated 5 November 2008 (i.e. only 15 days before the date of the presentation referred to in Box 1) the total contaminated area is described as “approximately” 17,426,040 m². The variance is significant in that it cannot be explained by the 15 days between the dates of these two presentations. The calculations in the remainder of this report will take the variance in

⁵ Although a cursory inspection of the map provided by TMAC suggests these are on the Uzbek side of the border.

⁶ This calculation was refuted by TMAC in comments on the draft of this report. TMAC reports that they believe that only 10-15% of the area not on the Afghan border may be suitable for further area reduction. The Consultant is fully prepared to accept a misunderstanding of the briefing from TMAC but this may have further bearing on the ability of Tajikistan being able to meet its Ottawa commitments. See discussions below.

this data into account. It was initially thought possible by the Consultant that part of the problem lies in the use of the Information Management System for Mine Action (IMSMA) which is understood to be problematic. However it is understood that the Geneva International Centre for Humanitarian Demining (GICHD) is helping TMAC improve the functionality of the IMSMA program, and feedback from TMAC states that this discrepancy is not due to IMSMA but was due to new data being incorporated in the interim period from ongoing survey data (which would suggest that the lower figure of 15m m² was more correct. However the TMAC commentary contradicted itself when it went on to say that the EARLIER and GREATER figure of 17m m² was correct. TMAC are encouraged to sort out this reporting problem. It is recommended that annual figures are used (i.e. reports issued throughout 2009 should say that “x million m² were cleared as at the end of 2008”) and that interim updates should be avoided to avoid such confusion.

When is this expected to be cleared at current rates?

In the five years of operations (i.e. 2004-2008) the total clearance (not including land release has been just over 2,000,000m²⁷, giving an average clearance rate of 400,000 m² per year. Given the numbers set out above there is approximately 8,000,000m² to clear (i.e. not including area subject to land release) this suggests there is 20 years of work to do at current clearance rates. However this calculation may be unfair as the clearance rates in the earlier years are much lower. Taking an approximate average over the last two years of 800,000m² per year this suggests there will be some 10 years of work to do. If the larger figure in the 5 November presentation is more representative then this suggests there will be some 15% more work to do (i.e. a total of approximately 12 years). At current clearance rates therefore it is impossible for Tajikistan to meet its current target of 2010 and it is unlikely that clearance would be completed within a 10 year extension. The current draft extension request being prepared by TMAC for the government of Tajikistan is intended to ask for a five year extension. The calculations above suggest that this is unfeasible, but there are a number of assumptions made by TMAC which need to be considered before this conclusion can be finalized. An analysis of the draft extension request is included at Annex C to this report.

What are the means by which priorities for clearance are set?

As mentioned above, the strategic plan⁸ has a number of possible prioritization mechanisms but does not provide guidance on how they inter-relate or how they can be used. The Consultant understands from discussions with TMAC staff that prioritization is currently done on an *ad-hoc* basis. Whilst this apparently involves consultation with local authorities the lack of clear criteria means the process is not able to be evaluated. The Consultant recommends the development of objective and quantitative criteria for allocating priorities.

What is the significance of an ‘impact free’ interim target for Tajikistan?

In the context of the Ottawa Convention an “Impact Free status, as defined in Box 2, is an interim target on the way to the full clearance requirement as described in Article Five of the treaty. One implication of an Impact Free target is

“Impact free” could be defined as being the point where there is no economic demand for the land left uncleared, and where all reasonable and practicable steps have also been taken to prevent casualties in the areas that remain contaminated.

Box 2. A possible definition of ‘impact free’.

⁷ Actual figure is 2,141,357 m² (Source TMAC presentation dated 20 Nov 08)

⁸ Five-year strategy For the Tajikistan National Mine Action Programme ver 2.0 dated 6 April 2006

that it is more easily to combine in an holistic manner with general humanitarian and development targets. Discussions with donor representatives in Dushanbe suggest that it would be easier for individual donors to support landmine clearance that has a direct impact on the population than the clearance of those mines that might not make an impact at present. Clearly it makes sense for clearance of those minefields that have the most impact to be cleared first. Discussions also suggest that if donors were told that the government of Tajikistan undertook to pay for the clearance of these non-impact minefields at the end of the clearance program it would help them (the donors) justifying funding the clearance of the higher-impact areas. The definition of what constitutes 'impact' free in the context of Tajikistan needs to be developed with a 'scoping' exercise, using a form of standard cost-benefit analysis (CBA) techniques⁹. Discussion about how to set these principles out in a program is set out below.

How can 'urgent' (or 'acute') landmine clearance needs be combined with dealing with 'long term' (or 'chronic') needs for an explosive ordnance disposal/SALW capacity?

To use a medical metaphor, the anti-personnel landmine problem in Tajikistan can be considered as an 'acute' problem that requires immediate, short term attention to deal with a finite problem. However, experience from other areas of former conflict we can expect to see a longer term (or 'chronic') problem from unexploded ordnance (UXO) and small arms and light weapons (SALW). Experience in Europe suggests that this chronic problem can last for decades. One can imagine caches of abandoned ammunition or isolated finds of unexploded ordnance turning up in former areas of conflict in Tajikistan for some time to come.

Economists define 'the short term' as "the period before changes can be made to the current production line" and in that sense the current structures in Tajikistan are suitable for dealing with the acute problem of anti-personnel communication in the short to medium term, where we might define 'short term' as the period covered by the current CPAP (which is concurrent with the current Ottawa Convention deadline) and 'medium term' as the period required within an Ottawa Convention extension to deal with the remaining anti-personnel landmine contamination. Similarly, 'long term' can be used to describe the activities needed to deal with the UXO threat.

As stated above, the current structures are suitable for dealing with the anti-personnel landmine problem, but there is a capability gap in dealing with the long term UXO problem. Both of these issues can be addressed concurrently but the UXO problem will certainly outlast the landmine problem, especially if resources continue to be provided to meet Ottawa Convention landmine removal targets. This raises questions of sustainability which are addressed below.

⁹ Existing documentation makes the point that the landmine contamination has an economic impact by denying access to the limited available terrain suitable for agricultural production in Tajikistan. However the documentation does not quantify this problem. A scoping exercise would compare the cost of clearance with the potential benefit of releasing land and identify which types of land would be worth clearing at current costs, and also which land would be worth clearing if costs could be reduced.

How can the scoping concept be reconciled with institutional framework issues considered above?

Actually, the finite nature to the landmine contamination problem provides a solution to the institutional problems described above. Because the landmine problem is finite (and largely defined) there is no need to form or maintain a *sustainable* landmine clearance capacity. Sustainability (in the OECD definitions set out above) is achieved from the sustained future use of the land once it is cleared. Priority of clearance should therefore be aimed at clearing land that suffering the most *impact* from the contamination. This means also that there is no need to maintain either TMAC (at least in its current form) beyond the time needed to clear the mines, so there is no particular need to seek a home for TMAC within a government ministry or agency: it could be maintained as a UNDP project under the aegis of a government agency in very much the same way as it is now (with the appropriate UNDP oversight of a DEX project mentioned above).

In the same way, given the finite clearance requirement the work currently being undertaken by FSD (essentially as a contractor) there is no need to develop a sustainable landmine clearance capacity in any greater sophistication than that already achieved in order to meet Ottawa Convention targets in Tajikistan. There may be a need to *expand* capacity to meet targets, but this is a separate issue and is discussed in Annex C in the context of meeting Ottawa Convention targets. This means that clearance activities can also be undertaken as projects. There is a potential role for UNDP to re-vitalize its fund-raising elements for such implementation projects within a mine action program portfolio, using its cost-sharing agreement modalities to establish a form of local trust fund. Experience from other mine action programs suggests that, in order for UNDP to be an attractive vector for such funding it must show that it provides a 'value added' service. The recommendations for development of the institutional framework set out below, especially in terms of providing impartial advice to donors on the requirements and establishment of mechanisms to provide technical and financial oversight, should largely address the requirements to make a UNDP portfolio attractive. Improvements in the proactive engagement of stakeholders by UNDP would also assist.

Projectization of TMAC and of clearance activities therefore deals with the landmine contamination problem, but what of the longer time requirement? It would be possible to conduct a 'train and equip' project (often described as a 'build operate train and transfer (BOTT) project) to procure equipment, provide formal training and continuation ('on the job') training to an EOD capacity (located within CESCDC). It would be possible to establish a clear, mutually-agreed handover for funding purposes whereby the government of Tajikistan would agree to take on the continued, recurrent costs of this capacity in the longer term once the training is complete.

Recommendations for separate projects within future mine action portfolios

These activities could again be projectized within a portfolio of projects which could also include mine victim assistance and mine risk education projects implemented by the Tajikistan Red Crescent Society). It may also be possible to conduct other projects in parallel within the portfolio. For example, it may be possible to arrange train and equip an military demining team within the MOD to be made available for assistance in demining for United Nations peacekeeping operations. The UN Department of Peacekeeping Operations (DPKO) has previously coordinated such programs in Sudan.

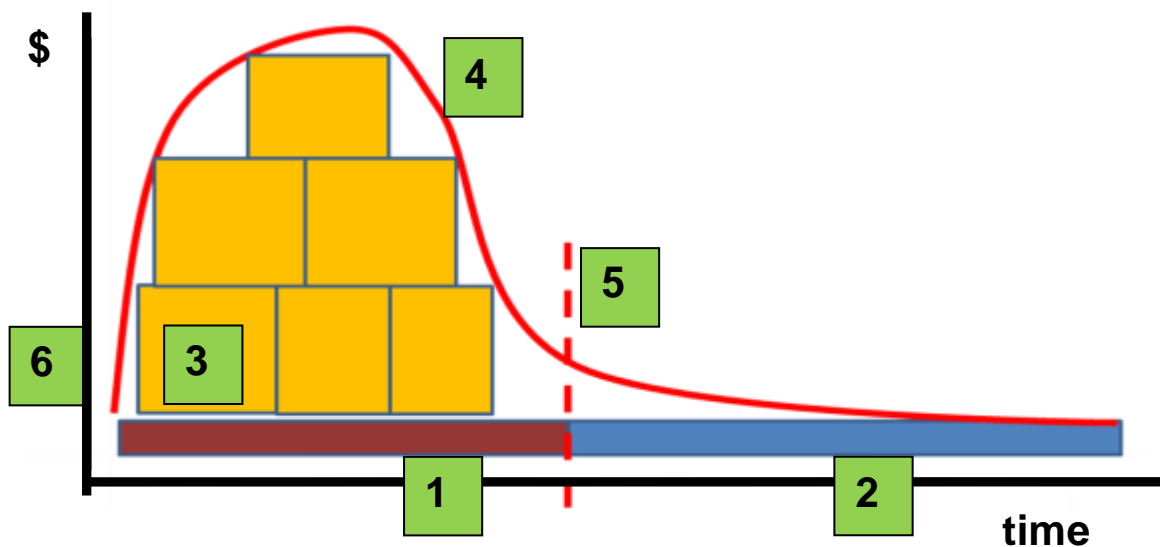


Figure 8. The 'hump' concept shows how different projects can be combined to deal with mid-term needs plus the establishment of a sustainable capacity to deal with residual contamination in the longer term.

It is possible to depict the structure of such a portfolio graphically, with the medium term activities being represented by a 'hump' and the sustainable, residual capacity represented by a 'tail'. This 'hump' concept has been tested in a number of other mine action programs by the Consultant in the last year and is described below.

The 'hump' concept

The diagram in

Figure 8 above shows how the different requirements could be combined in an overall program. The key elements are described below:

1. Training and equipping phase for a sustainable capacity to deal with residual contamination, built and operated with donor support
2. Continued operation of the sustainable residual capacity using Tajik resources
3. One of a number of different mine action projects (FSD and other operators) operated in the mid term with donor support.
4. The 'hump' defines the total requirement of the program in terms of overall resources, based on an objective scoping exercise (such as the one outlined in this evaluation).
5. The point at which donor funding ceases. This is the basis for an 'exit strategy' for international assistance.

6. Pre-cursor activities necessary to establish the hump concept.

The 'hump' concept of projectization also allows for the potential of using other demining organizations additional to FSD to compete for funds *if* calculations suggest that more resources are needed to meet clearance targets. Competition may be important as a way of improving value for money and/or encouraging further donor support.

Technical survey and land release techniques

The achievement of increased productivity in recent years depends on the efficacy of recent techniques by FSD in the areas of land release and technical survey. Meeting Ottawa targets with existing resource levels depend on their use. However, both of these concepts involve removing (parts of) SHA from the database without subjecting them to full clearance and both of these techniques can be controversial in the humanitarian mine action community. The safety and suitability of these techniques (as used and documented in Tajikistan) will be reviewed by the Consultant and recommendations made if necessary.

There are two main types of techniques being used in Tajikistan. The first, and most effective in terms of area processed, is described as 'land release'. This is an analytical process to remove land that has been included in the original survey process¹⁰ that identified suspect hazard areas (SHA) but that has been in continuous use by the local population, where there have been no casualties and where there are no other indications of contamination. It is essentially a refinement of the original survey process. The land release technique has been increasingly in use since first being suggested in Cambodia in 2004¹¹ and there is some literature on the process. The Consultant finds that there is no problem with this process in Tajikistan; however it is nearly complete and will not be usable against the recorded minefields on the Tajik-Afghan border.

The second technique is referred to as 'technical survey'. Technical survey is a controversial issue in international mine action, not least because there is no standard taxonomy to define and differentiate between the various techniques that are each described as 'technical survey' at present. However the common theme in all discussions of technical survey is the aspiration to more tightly define the perimeter of SHA identified by the original survey.

There are three issues with the technical survey as conducted by FSD in Tajikistan. The first of these is that it is based on a grid sampling pattern that covers approximately 20% of the SHA. This may be effective in identifying the perimeter of formal minefields (where the mines are laid in defined patterns) but it would appear largely unnecessary in circumstances where good minefield records exist (such as the Russian-laid minefields on the Tajik-Afghan border). On the other hand, where mines are laid without a pattern the statistical confidence in the results appears more problematic, especially where the density of such contamination is low. There appears to have been no scientific design behind the technical survey and as such the statistical confidence in the results cannot be determined¹².

The second problem with the technical survey techniques being used in Tajikistan is the amount of effort required to set out the 20% grid pattern. Discussions with FSD field staff suggest that whilst technical survey is faster than a full search pattern, the amount of effort to set out the grid means that it is only 10-15% faster. Given the greater confidence from full search, it is difficult to see the justification for the technical survey technique.

¹⁰ The technique commonly used to establish the existence of contamination is referred to as 'landmine impact survey' and is based on social science techniques similar to participatory rural appraisal. As such it is comparatively inaccurate and it only produces approximate boundaries.

¹¹ See http://www.gichd.org/fileadmin/pdf/evaluations/database/Cambodia/Mine_Action_Evaluation_2004_volume1.pdf

¹² It is understood that there have been no casualties in areas 'released' by technical survey techniques in Tajikistan. However this could be because (a) there were no mines in the area to begin with or (b) there is no demand for the land that has been released.

Thirdly, the most efficient search technique in Tajikistan appears to be the use of dogs. However the current processes (as demonstrated to the Consultant by FSD) involve the use of a unit of two dogs directly supported by one deminer. Whilst one dog is working, the other dog (and the deminer) are not, and when the deminer is checking an indication by one of the dogs, neither of the dogs are working. An adjustment of working processes to allow all three of these to work in echelon should make their use more efficient, and might make full search by dogs as fast as the 20% technical survey search grid, without the concerns about the statistical confidence described above.

The potential for a shift of focus for Mine Risk Education (MRE)

There is an existing MRE program in Tajikistan, with most activities conducted by the Tajikistan Red Crescent (TRC) Society. It is understood that a range of MRE activities have been undertaken, including mass media, community based presentations and school based presentations (supported in the past by UNICEF). There is also a coordination capacity in TMAC consisting of one UNDP-employed person and two TRC staff members. There has been no attempt to assess the efficiency and impact of the various activities. In order to do this it would be necessary to undertake some benchmarking activities, using established techniques such as 'knowledge, Attitudes and Practices' (KAP) surveys to identify what, if any, effect has been made by the existing MRE activities on casualty numbers in Tajikistan and which interventions have been the most cost-effective.

Conclusions and Recommendations

Conclusions

Overall, the TMAC project is going well and has achieved much of the goals that might be expected of a mine action coordinating body. The evaluation has identified some positive aspects of the project, including the following:

- A coordination process is established in TMAC and communications are going well with most stakeholders at a technical level
- The landmine problem in Tajikistan is largely quantified and it is possible to estimate how long it will take to clear it.
- Clearance work is already underway through a partnership between the Tajikistan Ministry of Defence and the Swiss Demining Federation (FSD)
- Mine Risk Education (MRE) and Mine Victim Assistance (MVA) projects have been established and activities in both of these sub-sectors are under way.
- Work is already underway to plan for extension to Ottawa Convention targets
- Donors appear to be supportive and have stated their willingness to receive new project proposals.

However, there are also some shortfalls in the mine action program in Tajikistan.

- Tajikistan is not able to meet Ottawa Convention targets without extension of the original 2010 deadline.
- There is limited government ownership of the problem, and this is exemplified by the fact there is little or no government cash contribution to the program
- There are insufficient discussions with donors, which is significant given the resource shortfalls
- There is limited capacity in TMAC planning, though there is a positive attitude and a desire to learn more amongst all TMAC staff
- The impact of contamination is understood on a qualitative level but it has not been quantified and hence it is not possible to conduct a cost-benefit analysis. Donors have said that they would be better able to solicit support from their own headquarters if they could set the landmine contamination issue into a holistic, developmental context.
- No long term EOD capacity has been established. Whilst it is likely that the requirement will be small, it will still be necessary.

- There is lack of access to external technical assistance. Whilst the size of the TMAC project and the existing skill levels suggest that it would not be necessary to revert to having a full time technical advisor, there are still areas where capacity needs to be developed. Furthermore, the staff of the UNDP Country Office need access to impartial technical advice, especially in scrutinizing proposals for expansion of the program and in procurement of specialist technical equipment and services.
- TMAC is getting involved in direct implementation of MRE and MVA projects, and has also attempted to form its own EOD capacity, which has only halted because of confusion between UNDP and OSCE over a joint SALW project. This direct implementation blurs the lines between monitoring and implementation functions, which should be separate.
- Communications with OSCE are not as good as they once were. This has been ascribed by OSCE to the lack of a technical advisor (see above) but, whatever the cause, there are implications in ensuring that Tajikistan optimizes its resources towards meeting its Ottawa Convention obligations.

These observations are summarised in a SWOT analysis in Table 2 below

Table 2: SWOT Analysis of Tajikistan mine action program	
Strengths	Weaknesses
<ul style="list-style-type: none"> • Coordination process established in TMAC • Landmine problem largely quantified • Clearance work underway • MRE and MVA projects established • Work underway to plan for extension to Ottawa Convention targets 	<ul style="list-style-type: none"> • Tajikistan not able to meet Ottawa Convention targets without extension • Limited government ownership • No government cash contribution • Insufficient discussions with donors • Limited capacity in TMAC planning • Impact of contamination has not been quantified • No long term EOD capacity established • Lack of access to external technical assistance
Opportunities	Threats
<ul style="list-style-type: none"> • Donors appear interested in helping Tajikistan deal with significant part of problem • Donors appear interested in establishment of capacity to deal with long term UXO problem if government commits to take on later funding 	<ul style="list-style-type: none"> • TMAC involvement in direct implementation threatens to damage role as coordinator • Relations between UNDP, TMAC and OSCE need to be improved • OSCE plans to remove assets from FSD may threaten plans to meet Ottawa Convention targets

Conclusions of analysis of Ottawa extension

The table at Annex C shows a set of calculations used to assess the validity of the current TMAC/FSD plans in support of a 5 year extension request for Tajikistan. The calculations support the estimates of TMAC and FSD that current capacity will take at least 12 years to complete the task. The analysis also shows that purchasing a machine is more cost-effective than spending an equivalent amount of money on an expanded manual capacity. This estimate is quite robust as halving the estimated cost of an expanded manual capacity is still more expensive than the purchase of a machine.

However the findings in Annex C differ in one important request to those being used at present in Tajikistan; this is in the estimate of how long it will take for a machine and manual combination to complete the task. The calculations based on the TMAC/FSD estimate suggests that the machine must be able to be used on at least 60% of the mined areas. The observations of the Consultant (admittedly based on a short field trip) suggest this is very optimistic. This finding is supported by estimates by TMAC personnel that the machine will only be usable on 20% of the terrain. If this is true then the amount of time required extends until just under 10 years.

The problem is exacerbated by the fact that the TMAC/FSD plan is based on a whole series of assumptions, including the amount of land that the machine will be able to process in one day and the amount of downtime that the machine will incur. Discussions with FSD also confirm that the machine will need to be followed by a manual clearance team to prove the processed ground. The cost of this small manual team is included in the FSD cost estimates but the team will need to work several times faster than the established capacity in order to keep up with the machine. This is not possible unless FSD are allowed to adopt a sampling technique to check this cleared land. This is again quite a controversial concept at present.

A copy of the table at Annex C has been provided separately so that variations in the planning figures can be modeled. All of these assumptions are serial in effect; the calculations of productivity are simple mathematical products of the baseline planning figures and thus a reduction of one or an increase of the other is translated directly into an effect on the 'bottom line'. From a risk management perspective this is quite significant as all the assumptions are 'single points of failure'. A failure in one assumption (such as the amount of downtime) will mean an extension, possibly a significant one, in the amount of time required. Given that the TMAC/FSD plan is already "a close run thing" it is likely that an extension of five years will probably not be sufficient.

Recommendations

As a result of the evaluation, a number of recommendations can be made, These are set out as bullet points below for ease of reference and are grouped within the four categories used during the evaluation.

Institutional framework

- TMAC should be recognized by UNDP as a DEX project, provided with the appropriate level of oversight and included within the Country Office team dealing with disaster management portfolio. This should be seen in the light of the scoping concept discussed in this evaluation and the recommendations made on the scoping of the program set out below.
- UNDP should consider the establishment of improved cost-sharing agreement processes to raise money and act as a local trust fund to support the portfolio of projects suggested within the recommendations on scoping below, to operate alongside bilateral funding arrangements developed by implementing agents.
- UNDP should encourage the government to commit to take on the ‘downstream’ costs of the mine action program, as set out in the scoping recommendations below.
- UNDP should establish a local staff post for a full time project officer as a single point of contact for the TMAC project.
- UNDP should arrange to provide periodic technical assistance to deal with three main capacity shortfalls (i.e. strategic and technical planning, budget planning and programming of MRE) and provide independent technical advice to the UNDP Country Office and other stakeholders. There is no need to re-establish a full-time CTA post.
- UNDP should encourage OSCE to support its border survey project through the provision of additional resources to the Tajikistan Ministry of Defence, rather than through the reallocation of resources currently provided to FSD to clear landmines in support of Tajikistan’s Ottawa Convention commitments.

Scoping the problem and exit strategy for UNDP and international funding

- The government of Tajikistan and all other stakeholders in the mine action program are encouraged to recognise that the landmine and UXO problem in Tajikistan can be divided into two distinct components:
 - The clearance of minefields in support of Ottawa Convention commitments
 - Removal of items of abandoned ammunition and unexploded ordnance (UXO) as these are discovered and reported
- Stakeholders should also recognise that whilst the first of these can be measured, defined and thus treated as a finite ‘project,’ experience in Western Europe shows that a small residual capacity will be needed to deal with UXO for decades to come.

- The data on the minefields needs to be cleaned up and one standard set of information used for briefing purposes. The further assistance of GICHD in developing the effectiveness of the IMSMA information management system should be encouraged.
- It is the opinion of the Consultant that there are too many risks associated with the planning of future clearance in Tajikistan to commit to clearance within five years. It is therefore recommended that Tajikistan should ask for a 10 year extension.
- As a way of spreading the risks, Tajikistan should consider inviting a second international agency to operate in parallel with FSD to encourage competition and optimize value for money, especially if calculations showing that Tajikistan may not meet Ottawa Convention targets within the timeframe of a single extension period are confirmed.
- Some donors have expressed interest in helping Tajikistan clear those mined areas that can be shown to have a quantifiable impact on the local population. In order to do this it is recommended that a scoping study be undertaken. The study should use cost-benefit analysis techniques to compare the potential agricultural benefit from cleared land to the costs of clearance. Clearance of land that would have a positive benefit would help Tajikistan become 'impact free' as an intermediate stage towards a mine-free end state.
- It is recommended that a project be initiated to train and equip a mobile EOD capacity within CESCDC with the ability to respond to reports of isolated caches of abandoned ammunition and UXO. A feasibility study should be conducted to confirm the appropriate size of such a capacity and the resource requirements.
- A possible role for Tajikistan MOD deminers within UN peacekeeping missions should be investigated.
- The completion of clearance of those mined areas which have an impact on local communities, plus the establishment of a sustainable mobile EOD capacity, should be recognized as the main exit point for international involvement in mine action in Tajikistan and the end date for the UNDP TMAC project.
- The government of Tajikistan is encouraged to take on the subsequent costs of getting Tajikistan from 'impact free' to 'mine free'.
- The government of Tajikistan should be encouraged to accept responsibility for funding of this EOD capacity once training is complete

Technical survey and land release techniques

- The use of land release techniques to remove land currently included in the suspect hazard areas (SHA) but that is in constant use by the local population, where no casualties have been sustained and where there are no other direct indicators of landmine contamination is endorsed.
- The use of sampling as an area reduction technique in areas where there are direct indicators of landmine or UXO contamination is regarded as problematic and its use should be re-Examined. Similarly, the current procedures used in the handling of mine

detecting dogs (MDD) may be inefficient. It may be that some changes in the MDD working practices could make full dog search as fast as the current sampling technique. It is therefore recommended that Tajikistan hosts a workshop on technical survey techniques to establish which changes, if any, should be made to their existing techniques.

The potential for a shift of focus and scope for Mine Risk Education (MRE)

- Work conducted by the Tajikistan Red Crescent in MRE (and MVA) is recognized and both should be encouraged to continue as bilateral projects within the overall mine action program in Tajikistan.
- TMAC should not get involved in direct implementation of MRE (or MVA) projects And should concentrate on the coordination and monitoring of these activities.
- One question that needs to be addressed in MRE is establishing how much intervention is actually required. TMAC should undertake a Knowledge, Attitudes and Practices (KAP) study to determine the level of knowledge in the population and the best intervention for delivery of information and modifying behavior.

Annexes

- A. Key documentation
- B. List of institutions interviewed during this evaluation
- C. Analysis of TMAC draft Ottawa extension request
- D. Description of a possible scoping exercise
- E. Description of a possible EOD project

Annex A. Key documentation

Mine Action Programme Outcome Evaluation 2008

Documents List

#	Document	Comment
1	Outcome Evaluation Terms of Reference	
2	Tajikistan Mine Action Strategy 2006-2010	
3	UNDP Tajikistan's CPAP (2005-2009) http://www.undp.tj/files/reports/CPAP_Eng.pdf	Refer to Outcome #8 on mine action
4	Presentations by TMAC and UNDP for Mine Action Donors' Coordination Committee meeting (Nov 5/08)	2 presentations providing most recent overview of mine action in Tajikistan
5	TMAC Annual Report 2007	
6	TMAC Annual Report 2008	
7	Draft TMAC Programme Document 2009-2011	First draft prepared by TMAC
8	Land Mine Monitor Report – 2007 for Tajikistan http://www.icbl.org/lm/2007/tajikistan.html	Reports for previous years can also be accessed on the website
9	Lutful Kabir, 2008 Capacity Building Consultant: a) "Plan of Action" and b) "Cumulative Progress Report"	
10	"Nationalization: concept & conclusion" (L. Kabir)	Brief assessment of nationalizing mine clearance in Tajikistan
11	"Strengths and Weaknesses of TMAC/UNDP, Findings and Recommendations" (L. Kabir)	Assessment of TMAC and relationship with UNDP
12	Final Project Report: "Capacity Building Support to the Tajikistan's Mine Action Programme" (GPSF 07-247)	Funding from Canada to support capacity building of TMAC.
13	Jonmahmad Rajabov, TMAC Project Manager Service Contract Evaluation (June 2008)	Evaluation conducted by K. Nilsson (former UNDP Programme Analyst responsible for oversight of TMAC)
14	Small Arms Light Weapons (SALW) Project Document	This project was been put on hold. Funds for Outputs 1 & 2 were never transferred to OSCE, and will likely stay with TMAC if it is to implement EOD Rapid Response Team.
15	SALW Consultant's Report and Recommendations	Implementation of EOD Rapid Response Team pending assessment by Outcome Evaluation consultant.
16	TMAC Organigram	
17	Draft Ottawa Treaty, Article 5 Extension Request (TMAC)	First draft prepared by TMAC, with assistance of GICHD

November 6, 2008

Annex B. List of institutions interviewed during this evaluation

Donors

Delegation of the European Commission
British Embassy
Swedish International Development Agency
Swiss Development Corporation
Japanese Embassy

International Organizations

UNDP Country Office
International Committee of the Red Cross
Organisation for Security and Cooperation in Europe

Government Offices

Commission for the Implementation of International Humanitarian Law
Ministry of Defence
Committee for Emergency Situations and Civil Defence

Implementing Agencies

Tajikistan Mine Action Centre (TMAC)
Swiss Demining Foundation (FSD)
Tajikistan Red Crescent Society

Annex C. Analysis of TMAC draft Ottawa extension request

Analysis of Tajikistan Ottawa Extension Plans (FSD)				
Ser	Description	Quantity	Unit	Remarks
(a)	(b)	(c)	(d)	(e)
Manual Clearance rates				
1	Clearance Rate	30	m2	man/day
2	Clearance rate (FSD total)	700000	m2	year
3	Amount cleared by Tech Survey	40%		
4	Amount cleared by demining	60%		
5	Amount left at beginning of 2010	3,500,000	m2	
6	Amount cleared by Tech Survey	1,000,000		
7	Amount left to clear	2,500,000		
8	Amount in Afghan border minefields	6,000,000		
9	Remaining amount	8,500,000		
10	Time required	12.1	years	

Note: the initial assumptions used for these calculations were provided by FSD. The implications of variance in the initial assumptions are discussed in the main text of the report. A copy of the spreadsheet in which the calculations can be observed has been provided separately to the UNDP Country Office.

Effect of Introducing machine				
11	No of days worked per month	24	days	(Same as present)
12	No of hours machine works per day	6	hours	
13	Average productivity	1000	m2/day	
14	No of months in work season	9		
15	Maximum Amount processed per year	1,296,000	m2/year	
16	Downtime factor	20%		
17	Expected amount processed per year	1,036,800		by machine
18	Total processed (manual and machine)	1,736,800		
19	Total processed by machine over whole time	5,074,159		
20	Total cleared manually over whole time	3,425,841		
21	Time required	4.9	Years	
22	Checksum	8,500,000		should equal F21
23	Assumes machine can work on at least	60%		
Effect of unsuitable terrain				
24	Max area clearable by machine	20%		
25	Max area clearable by machine (m2)	1,700,000	m2	
26	Area needed to be cleared by manual	6,800,000		
27	Time needed with current capacity	9.7	years	

Alternative Assumption: spend money on more manual capacity				
28	Current clearance rate	700000	m2/year	
29	Forecast manual time required	12.1	years	
30	percentage increase	25%		
31	increased manual clearance rate	875000	m2/year	
32	new time required	9.7	years	
33	Cost of current capacity	1,500,000		per year
34	cost of capacity over new length of project	14,571,429		
35	Estimated purchase cost of machine Year 1	500000		
36	Estimated operating costs over length of project	327,932		with machine, will vary depending on suitability (A27)
37	Total machine costs over 5 years	827,932		
38	Cost of larger manual capacity	18,214,285.7		Conservative estimate
39	Cost of current capacity plus machine	15,399,360.7		
40	percentage difference from using machine	85%		

The first section of the table above shows the likely time for completion of targets based on current performance data provided by FSD. It confirms estimates in the main body of the report that this will be 12 years at current rates.

The second section of the table shows the effect of introducing a machine that can be used on at least 60% of the terrain. Such a machine can reduce the clearance time required to just under 5 years with all assumptions intact (assumptions are marked in yellow).

The third section shows the implications of the terrain not being so suitable. If the machine can only be used on 20% of the terrain (based on a TMAC estimate) then the remainder must be done by the slower, manual technique. This extends the time required to just under 10 years (which is, incidentally, the amount of time possible under an extension of the Ottawa Convention).

The fourth section shows the implications of spending the money on a machine on simply expanding the current manual capacity to a size able to meet a 10 year target. Even if the machine can only work on 20% of terrain, the machine is still more cost effective; its cost is 85% of an expanded manual project. The assumptions are discussed in the main text of the report.

Annex D. Description of a possible scoping exercise

Whilst it is comparably easy to come up with a qualitative definition of an ‘impact free’ landmine contamination status, i.e. where the population can go about their lives free from the risk of injury from landmines, it is slightly more complicated to quantify when such a point would be reached.

Use of economic measures is one way to quantify an ‘impact free’ status, which is useful as an intermediate stage on the way to achieving a ‘mine free’ result and helps determine the most urgent phase of clearance. Under an economic paradigm it is possible to define ‘impact free’ in the context of pollution abatement principles, by identifying the point where the marginal benefit of clearance is equal to the marginal cost.

This can be done by taking the yield and market prices of staple crops and thus identifying the net value of agricultural land per square metre; this value is then extrapolated out over the life of potential contamination and controlled for the effect of time on future values to identify the benefit of clearing different types of land.

Area clearance costs are calculated by removing the elements of program budgets applicable to other interventions (i.e. mobile EOD teams, MRE and MVA) to identify the cost per square metre. All land whose potential benefit is greater or equal to the cost of clearance is considered to be land where the contamination has an ‘impact’. It is then possible to identify (a) what resources would be necessary to meet a specific end date or (b) calculate a likely end date based on specified levels of resources.

The Consultant has developed a series of tools to assist in these (and other mine action program design) calculations, which have been tested in Cambodia, Laos, Afghanistan and Angola. The tools were ‘operationalised’ by the Consultant in a project supported by the US Department of State and coordinated by the Survey Action Center.¹³

Cost data can be extracted from the mine action program: agricultural data is typically obtained from WFP and/or FAO data sources and the spatial data is achieved by overlaying the landmine contamination map with land use mapping, with the assistance of a GIS specialist (normally the IMSMA specialist in the mine action centre).

Most time is spent tracking down the data from the various sources. Once the data is obtained the calculations typically take a week to process;

¹³ See http://www.sac-na.org/res_pubs_EDSTools.html

Annex E. Description of a possible EOD project

Concept of operations

As stated in the main body of this report, the concept is the establishment of a mobile EOD capacity in Tajikistan able to deal with reports of isolated caches of abandoned ammunition and items of unexploded ordnance (UXO) in areas of former conflict in Tajikistan. The EOD capacity does not have to be able to undertake area clearance of landmines as this requirement is dealt with by other existing teams already established in Tajikistan. Nor does the EOD capacity have to deal with improvised explosive devices (IED) or other criminal use of explosives, as these are the responsibility of the Special Police within the Ministry of Interior.

The initial plan is to place this EOD capacity within the CESCDC organisation. This would enable the EOD capacity to make best use of the reporting mechanisms. The question is to what extent the existing CESCDC infrastructure can be used to support this new capacity and to what extent new resources need to be provided. To that end a feasibility study needs to be undertaken to quantify the requirement.

It is intended that the capacity will be developed using a 'train and equip' modality, whereby an international agency would be used to provide equipment, provide formal training, and then to provide continuation training through "on the job" guidance. Once the on the job training is complete, the responsibility for funding the teams would be formally handed over to the government of Tajikistan.

The teams will be placed in CESCDC because of the need for sustainability; because of the need to ensure the train and equip methodology is efficient it is intended to contract in a suitable international agency to provide the training and equipment. It is intended to identify the training agency through UNDP competitive tendering processes.

Tasks of the feasibility study

The tasks of the feasibility study are set out below.

- Determine how many teams would be needed to meet reasonable callout requirements taking into account the geography of Tajikistan, the location of current CESCDC facilities and organizational structures and the areas of former conflict.
- Spend time with the organizational headquarters of CESCDC in Dushanbe in order to understand their procedures and how an EOD capacity can best fit in with these existing processes.
- Visit the field locations of CESCDC in the areas of former conflict and make an assessment of what additional infrastructure and equipment, if any, is needed to host an EOD capacity.
- Assess the current structure of the CESCDC capacity to confirm whether the EOD capacity can be achieved by dual training of existing disaster response rescue units, whether wholly new teams need to be raised or if an augmentation of existing units is necessary.
- Establish organizational framework between the EOD capacity and TMAC in its role as coordinator of mine action activities in Tajikistan

- Develop a table of equipment for the EOD capacity, taking into account the number of teams, technical role of the capacity and existing CESCDC infrastructure
- Plan for the formal training requirement and on-the job training requirement to be provided by the implementing agency.
- Plan for the development of a train the trainer component to allow the EOD capacity to be technically self-sustaining once international technical assistance has been withdrawn. This should include a review of any existing EOD training capacity in Tajikistan.
- Develop an indicative budget for the establishment of a BOTT-type project to be conducted by an international organisation with previous experience in similar projects
- Formally confirm willingness of CESCDC to host this capacity and to undertake to provide funding for its continued operations once training is complete
- Use these initial plans to construct tender documentation to allow UNDP to issue a Request for Proposals to potential implementers, including an organizational chart, outline works plan and logical framework diagram and indicative budget for use by UNDP in resource mobilization and evaluation of responses to the RFP.
- Assist UNDP in resource mobilization amongst the donor community in Tajikistan.
- Assist UNDP in the technical evaluation of responses to the RFP.

Resource requirements for the feasibility study

It is expected that the feasibility study will take approximately four weeks in country (see qualifications section below), with approximately 30% of that time spent on field trips to the regions. There will need to be regular access to a suitably equipped, rugged 4x4 vehicle and driver. An additional week should be available if necessary to complete the writing up of project documentation. Time should also be allowed to assist the UNDP Country Office with a desk review of proposals from interested agencies. A week should be sufficient – again this can be done from home rather than requiring a second visit.

Qualifications for the feasibility study

The feasibility study needs to be carried out by a consultant with practical experience in setting up a mobile EOD organisation in a post-conflict environment, including both technical and institutional issues (such as budget development). They need a formal EOD qualification and should be familiar with UNDP mine action programs. Previous experience in Tajikistan would be a benefit as it will reduce the time necessary to be spent in country.

Quality Management

It will be possible to monitor the performance of the training agency by comparing it with the project documentation, particularly the logical framework. UNDP should be able to do this as part of the technical assistance provided to TMAC discussed elsewhere in the main body of this report.