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Cluster Munitions in Albania and Lao PDR

The Humanitarian and Socio-Economic Impact

Rosy Cave, Anthea Lawson and Andrew Sherriff

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About the cover

The cover image shows a Federal Republic of Yugoslavia KB1 submunition. These devices account for the overwhelming majority of submunition contamination in Albania.
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UNITED NATIONS PUBLICATION

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INTRODUCTION

Rosy Cave

In August 2005, the United Nations Institute for Disarmament Research (UNIDIR) was commissioned by the UN Working Group on Cluster Munitions[1] to conduct a research project on the impact of cluster munitions. The objective of the project was to identify possible action to effectively address the humanitarian and socio-economic impact of cluster munition use—and the results of which would feed into the Secretary-General's statement at the Meeting of States Parties to the Convention on Certain Conventional Weapons (CCW) in November 2005.[2]

Cluster munitions[3] have been identified as a particularly dangerous weapon type in need of international attention, in that they have a serious and long-lasting humanitarian and socio-economic impact.[4] Cluster munitions are designed to have an effect over a wide area and are often inaccurate and unreliable. Their use results in civilian death and suffering both during and after conflict. After use, when unexploded cluster submunitions remain, they form part of the larger category of explosive remnants of war.[5] Mine action programmes are tasked with clearing these submunitions, along with other explosive remnants of war and landmines; they also raise awareness about the dangers of submunitions and provide survivor assistance.

Cluster munitions have been used in combat in at least 21 countries.[6] Thirty-four countries are known to produce them and at least 73 countries—nearly 40% of the world—stockpile them. Worldwide, stockpiled submunitions number in the billions.[7] There is also a real threat of proliferation to and use by rogue states and non-state armed groups.

Unlike landmines, cluster submunitions are designed to kill. As such, those that survive are likely to suffer severe injuries, such as loss of limbs, loss of sight, or metal fragments in the torso or internal organs. Many survivors also suffer from psychological trauma, which may affect men,

women, boys and girls differently.[8] Many adults are unable to resume their former work, having to retrain or remain unemployed. Children suffering from injuries and psychological trauma find it difficult to participate fully at school—if they can return at all. The loss of income and educational opportunities has a wider impact on family members and the community, as well as the local economy.

Cluster munitions as a specific weapons category are not being dealt with politically at the international level, although the international community is addressing the problems caused by explosive remnants of war within the framework of the 1980 UN Convention on Certain Conventional Weapons. The CCW's Protocol V on explosive remnants of war, adopted in 2003 and entering into force in November 2006, deals with post-conflict measures to limit the impact of explosive remnants of war. Discussions continue within the CCW on preventive measures for explosive remnants of war and the implementation of existing principles of international humanitarian law.

However, concerns remain about the adequacy of existing international humanitarian law to sufficiently deal with problems associated with the use of cluster munitions. There are increasing calls from civil society, non-governmental organizations and international organizations to do something about the humanitarian impact of cluster munitions, and there are actions being taken by states. This has been accompanied by a growing body of literature on the short- and long-term effects of cluster munition use on civilian populations. This publication is designed to add to that pool of knowledge, providing short case studies from two affected countries—Albania and the Lao People's Democratic Republic (Lao PDR).

The studies presented here provide additional input to the cluster munitions debate.[9] Together, the case studies present a picture of the short- and long-term humanitarian and socio-economic impact of cluster munition use. Furthermore, the two cases provide examples of use by a variety of actors, employing different types of munitions. The case of Lao PDR shows the continual harm—even more than thirty years after the fact—caused by large-scale cluster munition use, while the case of Albania illustrates that even recent, limited cluster munition use can cause harm no less profound.

These case studies reveal the often overlooked humanitarian and socio-economic impact of cluster munitions on rural regions, as these munitions can be no less devastating in less populated areas. In Albania and Lao PDR, people still interact with these munitions out of economic necessity, even if they are aware of the dangers involved. For example, contaminated land often must be used for farming, and submunitions are deliberately handled to extract scrap metal and explosives for sale, as seen in countries such as Cambodia, Lao PDR and Viet Nam.

Field research in affected countries can be challenging. Many countries lack comprehensive data on cluster munition casualties, and there is a paucity of quantitative research on the socio-economic impact. Data on submunition accidents is not always disaggregated from accidents caused by other unexploded ordnance or landmines and indeed, survivors do not always know what exactly caused their accident. In addition, not all incidents are reported and some victims never make it to medical facilities. However, where formal clearance operations take place, there is generally more reliable data about the proportion of submunitions among the total unexploded ordnance cleared.

In order to inform the Secretary-General's statement in a timely manner, the field research in Albania and Lao PDR was conducted over 10-day periods during September 2005. Thus they are not exhaustive analyses of the situation in these affected countries. The content and approach of the two case studies also differs, due to variations in information and resources that were available in each country.

Regardless of the limitations, these case studies nevertheless demonstrate the devastating impact cluster munitions have had and continue to have on civilians. They provide additional evidence from the field that stronger action needs to be taken to reduce the impact these munitions have on lives, livelihoods and societies.

Further research is required to better understand the humanitarian impact cluster munitions have both at the time of use and after conflict. For instance, better data on cluster munitions incidents is needed. This would guide the development and implementation of survivor assistance programmes, and would inform risk education programmes so they can correspond more accurately to the needs of affected communities. As well, a more comprehensive knowledge of the socio-economic impact of cluster

munitions would provide a better picture of the longer-run effect of these weapons, as well as helping to see if current mine action efforts are sufficient.

Notes

1 This Working Group, a sub-group of the UN Inter-Agency Coordination Group on Mine Action, is chaired by the UN Mine Action Service and includes representatives of the United Nations Development Programme, the United Nation Children's Fund, the UN Office for Project Services, the UN Department of Political Affairs, the UN Department for Disarmament Affairs, the UN Office of Legal Affairs, the United Nations High Commissioner for Refugees and the World Health Organization.

2 "Secretary-General's message to the 2005 meeting of the States Parties to the Convention on Certain Conventional Weapons", Geneva, Switzerland, 24 November 2005, <www.un.org/apps/sg/sgstats.asp?nid=1798>.

3 There is no commonly accepted definition of cluster munitions at present, but in simple functional terms a cluster munition can be described as a container that holds a number of submunitions, ranging from a few to hundreds. It can be air-delivered or ground-launched, releasing "bomblets" or "grenades" respectively.

4 Geneva International Centre for Humanitarian Demining (GICHD), *Explosive Remnants of War (ERW): a Threat Analysis*, 2002, p. 8; Human Rights Watch, *Survey of Cluster Munition Policy and Practice: Memorandum for Delegates to the Fourteenth Session of the CCW Group of Governmental Experts,* June 2006.

5 Following Protocol V to the 1980 Convention on Certain Conventional Weapons, Article 2, "Explosive remnants of war" means unexploded ordnance and abandoned explosive ordnance. "Unexploded ordnance" means explosive ordnance that has been primed, fused, armed, or otherwise prepared for use and used in an armed conflict. It may have been fired, dropped, launched or projected and should have exploded but failed to do so. "Abandoned explosive ordnance" means explosive ordnance that has not been used during an armed conflict, that has been left behind or dumped by a party to an armed conflict, and which is no longer under control of the party that left it behind or

dumped it. Abandoned explosive ordnance may or may not have been primed, fused, armed or otherwise prepared for use.

6 Human Rights Watch, *Global Overview of Cluster Munition Use, Production, Stockpiling, and Transfer,* March 2006.

7 Human Rights Watch, *Global Overview of Cluster Munition Use, Production, Stockpiling, and Transfer,* March 2006.

8 United Nations Mine Action Service (UNMAS), *Gender Guidelines for Mine Action Programmes*, 2005, p. 12.

9 A third case study on Lebanon was conducted by Landmine Action (UK) based on field research conducted earlier in 2005. This research was subsequently published as Richard Moyes and Thomas Nash, *Cluster Munitions in Lebanon*, Landmine Action, 2005.

CLUSTER MUNITIONS IN ALBANIA[1]

Andrew Sherriff

CLUSTER MUNITION USE IN ALBANIA

BACKGROUND

Albania has never used, produced, stockpiled or transferred cluster munitions.[2] The cluster munitions and submunitions found in Albania are exclusively a result of the Kosovo conflict of 1999.[3] Both the North Atlantic Treaty Organisation (NATO) forces and the armed forces of the Federal Republic of Yugoslavia used cluster munitions during this conflict. The affected areas are the districts of Kukës, Tropojë and Has in the northern Kukës region of Albania directly bordering Kosovo.[4] At the time this region was home to a large number of ethnic Albanian refugees fleeing from Kosovo, as well as the indigenous population. There were also a number of reports that the Kosovo Liberation Army (KLA) was operating there.

Since 1999, the Albanian Mine Action Executive (AMAE) under the Albanian Mine Action Committee is responsible for the National Mine Action strategy (which also addresses unexploded ordnance, and therefore cluster munitions). The AMAE is responsible for oversight, quality control and record-keeping with regard to mine action in Albania and has offices in Tirana and the town of Kukës.

CLUSTER MUNITION STRIKES

Anecdotal evidence and press reports suggest that strikes from Yugoslavian (Serbian) cluster munitions[5] occurred from April to the end of May 1999.[6] A number of places suffered multiple strikes, although determining the exact number is extremely difficult. It has been reported that there were at least six NATO cluster munition strikes on Albanian territory.[7] The resulting contamination from NATO strikes is by Mk118, BL755 and BLU97/B submunitions, and from Yugoslavian (Serbian) strikes

is by KB1 and KB2 submunitions. While the contamination is predominately of Yugoslavian (Serbian) origin, both NATO and Yugoslavian (Serbian) cluster submunitions have killed and maimed in Albania.[8]

It could be contended that the strikes by both NATO and Yugoslavian (Serbian) forces were accidental. Nevertheless, a large number of the Yugoslavian (Serbian) cluster munition strikes were located a considerable distance inside Albania (10–15km). The deepest strike in Albania was near the town of Kukës, which is 17.5km from the nearest point on the Kosovo/ Albanian border.

The intention of NATO and Yugoslavian (Serbian) forces in utilizing these weapons on particular targets in Albania is a matter of speculation. Some Albanians interviewed felt that the Yugoslavian (Serbian) strikes were malicious attempts to target civilians (and refugees fleeing Kosovo) within Albania. Yet there was some military logic to at least some of the strikes. A press report from the time indicates that in at least one instance it was clearly a retaliatory act:

> On April 13, 1999, two cluster bombs "landed in the small border village of Zogaj, killing five cattle" according to the Organization of Cooperation and Security in Europe [sic] (OSCE). According to the Albanian police, the town was shelled after KLA guerrillas tried to stage an incursion from the village into Kosovo.[9]

It has been claimed that the KLA had training camps near the towns of Kukës and Tropojë.[10] While there were cluster munition strikes near these towns it is not possible to determine if these strikes were aimed at the alleged camps. Yet it can be established that it was civilians who suffered at the time and also since. According to the Information Management System for Mine Action (IMSMA) database only 4% of cluster submunition casualties have been military or police, compared to the 96% that have been non-combatants. However, it has to be questioned how legitimate even military targets were in Albania, as the Yugoslavian (Serbian) forces had not declared hostilities on Albania. It can also be speculated why KLA casualties were not noted in the database. Perhaps there may not have been any, or they may simply not have been recorded because of administrative or political reasons. However, even if the KLA did have camps near civilian centres, it would not have altered the Federal Republic of Yugoslavia's responsibilities under international humanitarian law.

While non-cluster NATO ordnance has been found deeper within Albania, NATO cluster munition strikes were either on, or very near, the Kosovo/Albania border. Some speculate that NATO pilots were trying to target Yugoslavian (Serbian) military hardware that was close to the border. There are some stories that Yugoslavian (Serbian) forces deliberately tried to avoid being targeted by NATO by crossing the border a short distance into Albania. It is virtually impossible to substantiate these claims so long after the conflict.

Given the number of refugees from Kosovo and the general chaotic nature of the environment in Northern Albania at the time when the cluster munition strikes occurred, it is fortunate that there were not more casualties, particularly as some strikes were very near the towns of Tropojë and Kukës, and many others near villages and hamlets in the region.

There was no information indicating that the Federal Republic of Yugoslavia had officially acknowledged that they had launched any of these strikes, yet the evidence of their use is overwhelming. Whether NATO members have formally acknowledged that they used cluster munitions in Albania is also unclear.[11]

FAILURE RATES OF CLUSTER SUBMUNITIONS

Both NATO and Yugoslavian (Serbian) cluster munitions and submunitions are found in Albania territory. As various NATO members employed the same types of cluster munitions, it is difficult to identify which NATO members actually were responsible for individual contaminated sites.[12]

None of the cluster submunitions affecting Albania have any kind of self-destruct, self-deactivation or self-neutralization mechanisms.[13] It is difficult to find figures on official failure rates, though the United Kingdom Explosive Ordnance Disposal (EOD) unit of the Multi-National Brigade (Centre) found that the failure rate of BLU97 was 7.1% and BL755 submunitions was assessed at 11.8%.[14] In a reply to a written question in the British Parliament the failure rate of BL755 submunitions was given at 6%.[15] Failure rates for BLU97 and BL755 submunitions have also been put at 20% in other studies, while in Kuwait the failure for the Mk118 was as high as 30–40%,[16] and while in Kosovo the overall failure rate for all types of cluster submunitions has been given at 5% to 30%.[17] In Albania, the

overall failure rate of NATO submunitions was between 20–25% (leaving approximately 30 to 60 unexploded bomblets per munition depending on the type), and between 30–35% for Yugoslavian (Serbian) submunitions (leaving approximately 80 to 100 unexploded bomblets per munition).[18] It should be noted that, when questioned, deminers in Albania were extremely reluctant to specify failure rates of cluster submunitions. A variety of reasons were given by deminers for failure rates, although all cautioned against any blanket assessment of the "average" rate of failure.

Factors mentioned affecting munition failure rates in Albania were:

- Type of terrain at point of impact, for example hard or soft ground, or the presence of trees, bushes or other vegetation;
- Trajectory of impact and of submunition release;
- Poorly maintained ordnance—in the case of Yugoslavian (Serbian) munitions;
- Weather; and
- Whether submunitions had a dual or single fuse.

Danish Church Aid (DCA) reported that in one area of particularly hard ground they found that the KB1 failure rate was 5–6%, whereas an AMAE official involved in clearing efforts while with the Albanian Armed Forces (AAF) noted one locale where the failure rate was as high as 60%.[19] Much of the natural vegetation of the Kukës region is bushes and low-lying trees, and even six years after the conflict, cluster submunitions were still being found tangled in this vegetation.

CASUALTIES AND CLEARANCE EFFORTS

Casualties and incidents

The types of injuries sustained in Albania from cluster submunitions have varied from slight injuries, loss of limbs, internal injuries, eye injuries, abdomen injuries, severe body injuries to loss of life. As of September 2005, the overall number of mine/unexploded ordnance (UXO) casualties was 238 injured and 34 deaths. Of this, the total number of cluster submunition casualties was 54 in 32 separate incidents. Of these, 48 were male (89%) and six (11%) were female. Seven (13%) cluster submunition casualties were under 20 years of age at the time of the accident, with roughly the

same gender distribution. There have been a total of nine cluster submunition-related deaths (eight male and one female)—17% of the overall casualties. When compared to total casualties caused by cluster submunitions, this percentage of fatalities is almost twice that caused by mines (9%).[20] Given the fluid humanitarian situation in 1999 (including the large number of refugees) the total number of casualties is suspected to be higher that those recorded in the IMSMA database for Albania. While the number of casualties is small when compared to other country settings, it should be remembered that Albania was not a party to the conflict that produced the UXO contamination.

It is important to note that an accident during a Battle Area Clearance (BAC) training session on 24 May 2004 has a significant effect on any figures related to the impact of cluster submunitions in Albania. This incident resulted in 20 casualties, including two deaths. This one incident (out of a total of 32 submunition incidents) therefore accounts for 37% of such casualties in Albania. This should be kept in mind when assessing any data associated with cluster submunitions in Albania, including this report.

Cluster submunition clearance

Cluster submunition clearance is a specialized and hazardous task, given the nature of these munitions. For example, an armed KB1 is much more sensitive than most anti-personnel mines.[21] The clearance of cluster submunitions was first initiated by a newly formed EOD unit of the Albanian Armed Forces during 1999 and 2000. Some support and training to the AAF was provided by the NATO Explosive Ordnance Disposal Ammunition and Storage Training Team (EODASTT). During this time 2,759 cluster submunitions were cleared, 97.5% of which were KB1 or KB2.[22] This clearance was a "visual clearance", and thus not to humanitarian standards. However, the AAF's relatively rapid clearance of submunitions in 1999 from some areas certainly assisted in reducing the number of potential civilian casualties.

The Swiss Foundation for Mine Action began clearance activities in 2002 but ceased operations in 2004 due to lack of funds. They utilized two specially trained BAC teams, clearing 837 pieces of UXO, the overwhelming majority of which were submunitions. In 2003 the European Commission funded the Technical Survey Project of the United Nations Development Programme (UNDP). The objective of the project was to clear

high and medium priority areas and to build national demining capacity. Handicap International was awarded the contract to engage in BAC and mine clearance. However, following the training incident of May 2004, activities were suspended until March 2005.[23]

After revision of AMAE's national mine action strategy, a new tender was launched and DCA was successful in winning the contract. This contract included the development of BAC teams specifically targeted at UXO. Quality control and supervision for BAC clearance is under the remit of AMAE. While technical surveys are undertaken to assist in guidance of the clearance of mines, they are felt to be too high-risk and a poor use of resources in relation to dealing with cluster submunitions and nuisance minefields. By 2006 it is planned that Albania will have a sustainable indigenous capacity to deal with UXO and mines; the current AMAE strategy anticipates that all high- and medium-priority areas of mines and UXO will be cleared by 2006 if clearance and handover remains on schedule. The long-term strategy is to have Albania completely free of mines and UXO by 2009.

Currently DCA BAC teams in Albania consist of ten personnel including a team leader, deputy team leader, medic, medic assistant/driver and six searchers, of whom two are EOD qualified to undertake marking, excavation and destruction. The clearance of submunitions in Albania is complicated by the terrain, the fact that other UXO may be found in areas of cluster munition strikes, overlapping strike zones, and cluster strikes in areas also affected by mines. In the case of the latter situation, normal mine clearance procedures, rather than BAC procedures, are adopted.

HUMANITARIAN AND SOCIO-ECONOMIC IMPACT

The Kukës region is one of the very poorest in Europe. In 2001 63,046 people, constituting 56.59% of a total regional population of 111,393, received social aid; the Albanian average is 22.06%.[24] Unemployment in the region is very high and there has been significant migration from the region to the rest of Albania and elsewhere in Western Europe.[25] Generally, economic opportunities even for the most able are extremely limited. As such, cluster submunitions are a threat not simply because of the physical harm they inflict, but also because of the extra socio-economic burdens

they place on families and communities—by crippling the able-bodied or by denying access to resources.

Aside from the direct threat posed to the people of the Kukës region, cluster munitions have primarily had economic impact by killing or injuring livestock, denying access to land (for example for grazing, crops, or resources), and denying access to water.

Indeed, not counting the casualties resulting from the May 2004 training accident, over 80% of submunition injuries in the Kukës region were sustained while people were engaged in economic, mainly agricultural, activities.

A case in point is Cahan, a remote mountain farming community close to the border with Kosovo in the Has province of the Kukës region. It was visually cleared of UXO by the Albanian Armed Forces in 1999, and at the time of writing was being cleared by two DCA BAC teams. Two people had been killed and seven people injured by KB1 or KB2 from 1999 to 2002. Submunition contamination has also hindered maintenance of the local well, which supplies water to a large area around the community. A total of 35 livestock had been killed or injured by submunitions in the area. Currently, KB1 and KB2 contamination denies access to grazing and hay-collection areas for 12 families. The families must seek alternative land and hay, at considerable cost for the household.[26]

It should be noted that socio-economic conditions affect the level of caution taken when an area is known to be contaminated with mines/UXO, including submunitions. There are indications that 70% of those living near contaminated areas have knowingly entered these areas, primarily because of economic need.[27]

At the time of writing, Danish Church Aid was scheduled, by the end of 2005, to complete Impact Surveys of all mine/UXO-affected areas, with AMAE responsible for oversight and final quality control of these surveys. With these full Impact Surveys, it should be possible to determine in more detail the actual effect of submunition contamination on socio-economic conditions in affected areas. Nevertheless, it is already acknowledged that while UXO contamination further complicates a difficult socio-economic situation, any attempt to improve the conditions of the region must be significantly more encompassing than those aimed at submunition survivors

or even mine/UXO survivors more generally. The overall economic situation also affects the success of retraining efforts, as doing so in a failing economy is always challenging. The current approach adopted by AMAE and UNDP is to see mine action mainstreamed into the overarching framework of the Kukës Regional Development Strategy.

SUPPORT ACTIVITIES

MEDICAL AND SOCIO-ECONOMIC ASSISTANCE

VMA (Victims of Mines and Weapons Association) is the lead and primary local non-governmental organization involved with mine risk education and survivor support throughout the region.[28] VMA, as with all such organizations, does not discern between casualties of mines and submunitions. VMA runs programmes for the socio-economic reintegration of survivors and the improvement of community-based social services for survivors.

VMA uses a variety of criteria to assess the medical, social and socio-economic needs of casualties. VMA currently has a Mine Victim Officer, himself a mine survivor, with overall responsibility for socio-economic reintegration and community engagement, and who regularly visits survivors in their own communities.

Along with mine survivors, a few submunition survivors received lump-sum payments from the Albanian government immediately after the conflict.[29] Apart from these payments, specific assistance for mine/UXO survivors has not been forthcoming from the government, though it has spent an estimated US$ 1,833,000 on mine action and explosive ordnance disposal since 1999, either directly or through in-kind payments to mine action initiatives.[30] VMA and AMAE continue to lobby the Albanian government to do more for mine/UXO casualties.

Extreme poverty, lack of an alternative economy to near-subsistence farming, and the general poor level of education make socio-economic reintegration of survivors extremely difficult in Albania. Also, the financial burden they place on their families is severe. The burden is further compounded if family members must provide care in the home or are themselves unavailable for work.

The provision of survivor support faces considerable logistical challenges. Poor quality roads make immediate medical care difficult and the distance of the survivors from one another complicates ongoing assistance. Even the regional hospital in the town of Kukës can be several hours' drive from the more remote areas of the region. Such facts have led some to contend that support (for example, medical and economic reintegration) would be better provided by grouping survivors together in one site or purpose-built complex.[31] The AMAE aims to build the capacity of the regional hospital in the town of Kukës to be able to serve as a level three medical facility[32] for casualties of mine/UXO accidents. However, the amount and quality of government services on offer is, in general, highly limited in the health, social services or economic development fields. For example, there is one qualified physiotherapist whose remit extends to the entire population of the region, not just mine and UXO casualties.

Part of AMAE's survivor assistance strategy is to establish and strengthen local services, particularly in the area of medical capacity. For example, 30 local nurses are being trained by the Slovenian Institute of Rehabilitation to provide support for mine and UXO casualties. They form the basis of a Community-Based Rehabilitation Network that will provide physiotherapy, rehabilitation and counselling to mine/UXO survivors and also others in need. Also, AMAE coordinates annual medical prosthetics triages for mine/UXO casualties with support from the National Prosthetics Centre and the Slovenian Institute of Rehabilitation. In Kukës hospital, a technical centre for prosthetics has been established by UNDP and AMAE, yet this is limited to repairs and routine maintenance. A recent independent assessment mission contended that there was a need for a full-service prosthetics centre.[33] In 2005, AMAE and VMA organized a medical triage for sight-impaired mine/UXO survivors at a private Russian eye clinic in Tirana, and they have supported a number of survivors in acquiring medical assistance in Tirana.

There is now an emergency assistance fund for mine/UXO survivors to assist them with medical expenses and with any short-term financial difficulties immediately following their accident. Over the longer term, VMA has a system to prioritize socio-economic assistance to those in greatest need. It assesses and prioritizes those casualties (or the families of those killed) based on physical impairment and economic need. However, economic potential and geographic location are also factored in. Assistance so far has predominately been interest-free loans for livestock, which are

paid back over two years. The idea is that the system itself is self-sustaining and that it provides a resource (livestock) with which the majority of people from the region have experience. An important part of this programme is that survivors themselves were involved in the purchasing process.[34] A total of 30 of the 34 submunition casualties (not including the training accident casualties) were assessed using this system, with many of them now eligible to receive interest-free loans for livestock. Overall, from September 2003 to September 2004, 32 mine/UXO survivors were assisted. In the period 2005–2006, this project will aim to assist another 30 mine/UXO survivors in establishing home-based economies. VMA's other socio-economic reintegration activities include English language courses and training in beekeeping. In the longer term, VMA wants to establish a vocational training centre and support home-based economies for women mine survivors and women related to mine survivors.

Mine risk education

National and international agencies working in Albania on mine clearance, mine risk education (MRE) and survivor support fully and seamlessly integrate action aimed at cluster submunitions. In other words, aside from some specialist BAC teams and some disaggregated data collection, submunitions are dealt with in the same way as mines and other UXO.

The first mine risk education activities began in November 1999 and were conducted by Care International with support from the United Nations Children's Fund (UNICEF). The Albanian Red Cross (ARC), with support from the International Committee of the Red Cross (ICRC), also began MRE around this time. It is important to note that, even though the AAF had already conducted some clearance operations, many people had fled the region during the conflict; they were thus unaware, upon their return, of the hazard posed by residual UXO and cluster submunition contamination.

VMA and ARC are implementing community-level mine risk education, with oversight and quality control provided by AMAE, and which includes specific information on cluster munitions and submunitions.

Mine risk education conducted by VMA incorporates a number of different elements including posters, leaflets and assistance in organizing

school-based activities. A theatrical show with a mine risk message is delivered by local actors and comedians to communities under the auspices of VMA. There are two types of shows, one aimed at adults and the other at children. They have proven to be very popular and well received. The shows are given to each mine-affected community twice a year. In addition, ARC provides direct presentations to people living in mine-affected villages.

In each of the 39 communities known to be affected by mines/UXO, there is an anti-mine committee comprised of members of the community, such as the village leader, the school chief and the district nurses. VMA is informed about mine/UXO incidents (even after clearance) by the committees or by their members. This information is supplemented with visits by VMA staff, DCA, and AMAE.

It is important to note that 25 submunition casualties occurred before any formal mine risk education was undertaken in Albania. At least eight of these casualties were actually within areas marked by the AAF in 1999 and 2000. UNICEF had supplied pickets for marking, though some of these metal pickets were removed by local residents for other uses, such as to make agricultural implements.

The drop in submunition incidents since 1999 (again excluding the training accident of May 2004) is attributed by those in Albania to two factors: mine risk education, which presently is provided to the 39 mine/UXO-affected communities; and, the effective prioritization and clearance of mine/UXO-affected areas.[35] While demonstrating a causal connection is difficult, it is nevertheless impressive that since MRE has been instituted there have been no more than four submunition incidents a year.[36] Mine risk education will continue to be a central part of AMAE and VMA strategy for the region in the future.

At a seminar involving all stakeholders in 2002, it was decided that there was no need for international agencies to undertake MRE and that VMA and ARC should be the lead implementing agencies. The overall MRE strategy from 2002 will be revised after a seminar in November 2005 addressing current successes and challenges and once again involving all stakeholders, including representatives from affected communities.

Notes

1 This report was limited by the amount of time available to complete it. Yet even with additional time, certain information about cluster munitions in Albania—for example, a full survey of the socio-economic impact of submunition contamination—would not have been available. As such, this case study is not presented as an exhaustive treatment of the problem in Albania, but rather as an overview.

2 Various interviews with Albanian Mine Action Executive and the United Nations Development Programme officials confirmed this. Albania is also not listed as a producer of cluster munitions in Human Rights Watch, *Worldwide Production and Export of Cluster Munitions*, Briefing Paper, 7 April 2005. In addition, Albania completed the destruction of its stockpile of mines as required by the Mine Ban Treaty in 2002.

3 Civil unrest and looting of ammunition dumps in Albania in 1997 led to other munitions casualties. However, none of these were related to cluster munitions.

4 Kukës is the name of a town, district, and also the wider region. The region compromises the three districts of Kukës, Has and Tropojë, which directly border Kosovo.

5 Meaning "Federal Republic of Yugoslavia cluster munitions". The formulation "Yugoslavian (Serbian)" will be used throughout this study.

6 See Virgil Wiebe, *Cluster Bomb Use in the Yugoslavia/Kosovo War*, Mennonite Central Committee, 1999.

7 Republic of Albania: Ministry of Defence, *Article 7 Report for the Year 2004 to the Secretary General of the United Nations on the Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on their Destruction*, 30 April 2005, <www.amae.org.al/Publications/Albania Article 7 Report 2004.pdf>.

8 It was reported that the air force of the Federal Republic of Yugoslavia also used cluster munitions of type BL755 in Kosovo. See Richard Moyes (ed.), *Explosive Remnants of War and Mines other than Anti-Personnel Mines: Global Survey 2003–2004,* Mine Action, Actiongroup Mine.de and Mines Action Canada, 2005, p. 98. However, deminers interviewed for this study felt that the BL755 found in Albania were of NATO origin. Also, one of the most deadly incidents had involved a NATO BLU97.

9 Quoted in Virgil Wiebe, *Cluster Bomb Use in the Yugoslavia/Kosovo War*, Mennonite Central Committee, 1999.

10 See James Anderson and James Phillips, *The Kosovo Liberation Army and the Future of Kosovo*, Heritage Foundation, Backgrounder #1280, May 1999; and "Kosovo Liberation Army [KLA/UCK]", *Federation of American Scientists*, 24 May 1999, <www.fas.org/irp/world/para/kla.htm>.

11 NATO did provide technical support to the Albanian Armed Forces explosive ordnance disposal team, but it is unclear whether they formally and officially acknowledged the use of cluster weapons in Albania. NATO has acknowledged the use of cluster munitions in Kosovo, and some NATO strikes straddled the border with Albania, with all others being very close to it.

12 For example Belgium, Germany, the Netherlands and the United Kingdom were known to have BL755 in their inventory at the time of the Kosovo conflict. Many have since withdrawn this weapon from their inventories. See Reinhilde Weidacher, Siemon Wezeman and Micha Hollestelle, *Cluster Weapons: Necessity or Convenience?*, Pax Christi Netherlands, 2005, p. 26.

13 Interview with Arben Braha, Director, Albanian Mine Action Executive (AMAE), 16 September 2005.

14 See "Cluster Bombs", *GlobalSecurity.org*, 27 April 2005, <www.globalsecurity.org/military/systems/munitions/cluster.htm>. Other figures place the failure rate nearer 20%, see Elizabeth Neuffer, "Unexploded US Bomblets Mine Villages", *The Boston Globe*, 20 January 2002.

15 UK House of Commons, *Hansard*, vol. 404, 29 April 2003, column 315W.

16 See Reinhilde Weidacher, Siemon Wezeman and Micha Hollestelle, *Cluster Weapons: Necessity or Convenience?*, Pax Christi Netherlands, 2005, p. 32; and Titus Peachey and Virgil Wiebe, *Clusters of Death: The Mennonite Central Committee Global Report on Cluster Bomb Production and Use*, Mennonite Central Committee, 2000, chp. 1.

17 Titus Peachey and Virgil Wiebe, *Clusters of Death: The Mennonite Central Committee Global Report on Cluster Bomb Production and Use*, Mennonite Central Committee, 2000, chp. 1.

18 These figures are predominantly derived from an interview with Arben Braha, Director, Albanian Mine Action Executive (AMAE), 16 September 2005. Arben Braha also had previous experience clearing cluster munitions while a member of the Albanian Armed Forces in 1999 prior to becoming director of AMAE.

19 Interview with Derek Frost, Programme Manager, Danish Church Aid (DCA), Kosovo, 14 September 2005; and interview with Sali Salihi, Operations Director, Albanian Mine Action Executive (AMAE), 15 September 2005. Sali Salihi undertook clearance operations of cluster submunitions while a member of the Albanian Armed Forces in 1999 and 2000.

20 This data was provided by AMAE.

21 Colin King, "Demining: Enhancing the Process", *Journal of Humanitarian Demining*, vol. 2, no. 2, 1998.

22 Figures provided by the Albanian Mine Action Executive, September 2005. The majority of these were KB1, rather than KB2.

23 See <www.undp.org.al/?projects,25>.

24 Kukës Regional Council and United Nations Development Programme (UNDP) Albania, *Kukës MDG Regional Development Strategy*, UNDP Albania, 2003, p. 7.

25 In Kukës, the unemployment rate was 40% in 2002. See, Hermine De Soto, Peter Gordon, Ilir Gedeshi and Zamira Sinoimeri, *Poverty in Albania: A Qualitative Assessment*, World Bank, Technical Paper No. 520, March 2002, p. 108.

26 This is reported in Danish Church Aid's Impact Survey for the town of Cahan, completed 14 May 2004. All Impact Surveys for all mine/UXO (including cluster submunitions) affected areas were scheduled to be completed by DCA and verified by AMAE by the end of 2005.

27 Survey undertaken by AMAE and CARE International, quoted in Richard Moyes (ed.), *Explosive Remnants of War and Mines other than Anti-Personnel Mines: Global Survey 2003–2004*, Landmine Action, Actiongroup Landmine.de and Mines Action Canada, 2005, p. 18.

28 The Albanian Red Cross has run activities for mine and UXO survivors as well as MRE in the past. VMA is currently the lead partner for AMAE for survivor assistance and MRE.

29 AMAE and VMA are in the process of collecting data and consolidating databases to have a full picture of all the assistance that casualties of mine/UXO (including cluster submunitions) have received from all the various providers since 1999.

30 Information provided by AMAE.

31 Interview with Jonuz Kola, Executive Director, Victims of Mines and Weapons Association (VMA)-Kukës, 13 September 2005.

32 According to the International Mine Action Standards (IMAS), a level three medical facility is one that can provide life- and limb-saving surgery.

[33] The Polus Center for Social and Economic Development conducted the assessment from 28 May to 4 June 2005.

[34] VMA-Kukës, "Mine Survivors and Mine Affected Communities", leaflet, no date [2004].

[35] The Polus Center for Social and Economic Development felt that there could still be some improvements in MRE and particularly marking.

[36] Again, this does not include the training accident of 24 May 2004.

CLUSTER MUNITIONS IN LAO PDR[1]

Anthea Lawson

INTRODUCTION

The Lao People's Democratic Republic (Lao PDR) has the dubious distinction of being the most heavily bombed country in the world. Not only did Lao civilians suffer indiscriminate attacks during the second Indo-China war, but they are still suffering thirty years after the end of the conflict.

US military records show that between 1964 and 1973, US planes flew more than 558,000 sorties, dropping more than two million tons of ordnance on the country.[2] This is roughly equivalent to a full B-52 load of ordnance, every eight minutes, for nine years.[3]

The most heavily bombed areas were the north-eastern and southern provinces. There were few military targets as such. The bombing in the north-east was intended to prevent the use of territory, particularly the Plain of Jars, by the communist Pathet Lao forces and North Vietnamese forces who were using it as a diversionary theatre of combat;[4] and in the south, to cut Vietnamese supply lines, particularly the Ho Chi Minh Trail which crossed the border into the east of Lao PDR.

The north-east of the country in particular was also used as a free drop zone—planes which had taken off from bases in Thailand and had been unable to deliver their bombs as intended would drop their ordnance over Lao PDR on the way back.[5] Twenty percent of villages in the country reported intense aerial bombardment, with 8% being bombed more than 50 times during the course of the war.[6]

Cluster munitions featured heavily among the ordnance dropped, although many other types of unexploded ordnance (UXO) have been and continue to be found.[7] More than 80 million submunitions—bomblets, or "bombies" as they are known locally—were dropped, with an estimated

failure rate of between 10 and 30%, leaving between 8 and 25 million unexploded submunitions.[8] It has been suggested that 80% of casualties at that time were civilians.[9]

Yet, as the *Global Survey 2003–2004* of explosive remnants of war notes,[10] there was little discussion about the long-term consequences or the high failure rate of cluster submunitions at the time of their use.

Handicap International's 1997 baseline survey of the impact of UXO on Lao PDR found that 2,861 villages—25% of all villages in the country—reported the presence of UXO. Of these, 1,553 villages reported contamination by cluster submunitions, the most common type of UXO found.[11] However, the survey did not visit every part of the country, and it is likely that there are other areas affected by unexploded submunition contamination.

CLUSTER SUBMUNITIONS PRESENT IN LAO PDR

USE

The cluster munitions dropped over Lao PDR were used in both urban and rural areas with little concern for the proximity of civilians to military targets. A refugee survey in 1971 by the United States Information Service showed that at least 80% of the bombing casualties were villagers rather than soldiers.[12] The 1997 baseline survey found that 984 villages reported UXO contamination in the centre of the village, and 2,375 villages reported UXO along paths or roads near the village.[13]

TECHNICAL INFORMATION

The 1997 baseline survey found that the most commonly reported unexploded submunitions found were BLU24, BLU26, BLU3, BLU61, BLU42 and BLU63,[14] all manufactured in the United States. They were air delivered, and none had self-destruct or self-deactivation mechanisms. Handicap International's UXO reference manual lists 19 different types of cluster submunitions found in Lao PDR.[15] It is thought that between 10 and 30% of the submunitions dropped failed to explode.

There are a number of reasons why submunitions may have failed to explode, including:

- Being released at too low an altitude, not giving the submunitions time to arm themselves as they fall;
- Poor strike angles: if the submunition impacts at too shallow an angle the fuse may fail;
- Hitting soft ground such as mud or paddy field or tree canopy;
- Poor storage conditions; and
- Production faults.[16]

HUMANITARIAN IMPACT OF CLUSTER SUBMUNITIONS

CIVILIAN DEATHS AND INJURIES DURING AND AFTER THE WAR

There is no accepted figure for the number of direct casualties from the bombing. But the intensity of the bombing raids, and eyewitness accounts, suggest that the civilian casualty levels were appallingly high.

Describing the attacks on the Plain of Jars in the north-east, a United Nations adviser, Georges Chapelier, wrote:

> By 1968 the intensity of the bombings was such that no organized life was possible in the villages … . The bombing climax reached its peak in 1969 when jet planes came daily and destroyed all stationary structures. Nothing was left standing. The villagers lived in trenches and holes or caves. They only farmed at night.[17]

The first, and so far only, comprehensive survey of the impact of UXO on Lao PDR was conducted by Handicap International in 1997. It found that there had been 11,928 UXO-related accidents since 1973, and that one-third of these had occurred in the first four years following the war (1973–1976) as villagers returned to their homes and land. During these four years there were 1,100 accidents per year, an average of three per day. From 1977 to 1986, the casualty rate declined to 360 per year, and from 1987 to 1996, it was around 240 per year.[18]

Disturbingly, since 2003 the overall UXO casualty rate appears to be on the increase, from 109 reported casualties in 2003 to 194 in 2004, and

133 in the first half of 2005. The Lao National Unexploded Ordnance Programme (UXO Lao), the national clearance organization, ascribes this to an increase in the scrap metal trade and people deliberately handling UXO to collect the metal and explosives.[19]

It should be noted that there is no comprehensive UXO casualties database in Lao PDR. Data is collected in an ad hoc manner, by clearance and survivor assistance organizations in the areas where they happen to be working, and does not always distinguish the type of UXO that caused the accident.[20]

Even organizations that collect fairly detailed information on casualties and what they were doing at the time of the accident—such as Consortium Laos, which pays for medical care, and the Cooperative Orthotic and Prosthetic Enterprise, which provides prosthetic and orthotic devices—do not collect information about the type of UXO, because it is not necessary for their purposes. Furthermore, Consortium Laos points out that some survivors do not know what type of ordnance caused their accident, particularly if they were engaged in agricultural activities at the time.[21]

Thus, there is little data available to show how many of these casualties were due to cluster submunitions. However, various indicators suggest that it might have been about half of them. For example, Handicap International's 1997 survey shows that in the five most heavily UXO-contaminated provinces, the proportion of UXO accidents caused by cluster submunitions between 1973 and 1996 was around 50%. Over the whole country, it was 44%.[22] This is supported by evidence from clearance operators, which record the types of UXO cleared. Clearance figures provided by UXO Lao for 2004 show that 48.7% of the UXO destroyed by area clearance teams were submunitions as were 53.2% of the UXO destroyed by roving teams.[23] In some provinces the figure is higher: in Xieng Khouang, 63.7% of the ordnance destroyed between January and August 2005 consisted of submunitions.[24] Furthermore, the non-governmental organization (NGO) Consortium Laos estimates roughly that between half and three-quarters of the injuries for which they provide funding for medical treatment are caused by cluster submunitions.[25]

Some limited data is available for recent years. Table 1 presents figures provided by UXO Lao on the number of cluster submunition casualties since 1999.

Table 1. UXO casualties since 1999

Year	Casualties from cluster submunitions	Casualties from other UXO	Total casualties	Percentage of casualties from cluster submunitions
1999	21	80	101	21%
2000	49	53	102	48%
2001	64	57	121	53%
2002	25	74	99	25%
2003	46	63	109	42%
2004	84	110	194	43%
Through August 2005	58	75	133	44%

Cluster submunitions are designed to kill, not to maim, and are therefore more likely to kill than some other types of UXO. Given that, in remote areas, deaths may be less likely to appear in the statistics than injuries (the injured *may* reach medical facilities, where they then appear on the records), it is possible that the proportion of cluster submunition accidents compared to all UXO accidents may be higher than is reported here.

Table 2 provides a breakdown of cluster submunition accidents since 1999.[26]

Table 2. Cluster submunition accidents from 1999 to August 2005

		1999	2000	2001	2002	2003	2004	Through August 2005	Total
Cluster bomb accidents									
	Injuries	15	24	44	20	25	48	37	213
	Deaths	6	25	20	5	21	36	21	134
	Total	21	49	64	25	46	84	58	347
Injuries									
Children	**Female**	1	4	8	5	4	4	3	29
	Male	8	11	11	4	8	27	23	92
Adults	**Female**	0	2	7	3	5	3	2	22
	Male	6	7	18	8	8	14	9	70
Total	**Female**	1	6	15	8	9	7	5	51
	Male	14	18	29	12	16	41	32	162
Deaths									
Children	**Female**	0	0	2	0	2	5	1	10
	Male	1	10	5	1	9	21	10	57
Adults	**Female**	1	2	4	2	2	1	1	13
	Male	4	13	9	2	8	9	9	54
Total	**Female**	1	2	6	2	4	6	2	23
	Male	5	23	14	3	17	30	19	111

However, there are reasons to believe that the figures available significantly understate total casualties, perhaps by as much as 50%. Some possible reasons for this, as cited by Handicap International (Belgium), are:

- A lack of systematic collection and dissemination of casualty statistics;
- Existing reporting systems are passive and confined to areas where UXO Lao is currently working (it currently works in nine provinces out of the 15 that are affected);

- The difficulty in obtaining data about UXO accidents in remote areas;
- The fact that Ministry of Health reporting systems do not differentiate UXO accidents from other accidents; and
- Poor overall data management.[27]

GENDER

According to Table 2, 79% of the cluster submunition casualties between 1999 and August 2005 were male. The 1997 survey found that 86% of all UXO casualties were male; this is likely due to the division of labour between the sexes, with men undertaking the heavier agricultural work, such as clearing, ploughing and digging, that are more likely to bring them into contact with UXO. Men are also more likely to deliberately handle UXO. Women are usually the casualties of accidents involving UXO detonated by fires for cooking or burning rubbish.[28]

CHILDREN

The proportion of children among the casualties of all types of UXO is increasing greatly. Between 1973 and 1996 it was around 30%.[29] But by 2003 children represented 45% of casualties, and the following year this increased to 60%, and by August 2005 represented 56%.[30] This may have something to do with the increasing involvement of children in the scrap metal trade, although those working on UXO issues say they do not have clear proof of this.

Of the cluster munition casualties from 1999 to August 2005, children represent 57% of the injuries and 50% of the deaths.[31] A report in 2004 on the impact of UXO accidents on children found that cluster submunitions accounted for 51% of recent child casualties compared with only 28% of adult casualties.[32]

One of the reasons for this may be the particular attraction of cluster submunitions to children. Many of those dropped on Lao PDR were the shape and size of a tennis ball, which perhaps encourages children to play with them.

THE POOREST ARE AFFECTED

The bombing of Lao PDR was concentrated in rural areas. The casualties of cluster submunitions, as of other types of UXO, are overwhelmingly from rural districts, and are usually poor.

Of the Lao population, 80% live in rural areas, and of these, 41% are described as poor. In all provinces except Vientiane Municipality subsistence farming is the main occupation.[33] The need to use the land is one of the main factors that bring people into contact with cluster submunitions. One of the other main reasons for UXO accidents is deliberate handling in order to collect scrap metal; the need to take this risk is dictated by poverty.

ACTIVITIES AT TIME OF ACCIDENT

Of the casualties (or their families) of cluster submunitions interviewed for this case study, two of these were young children, one of 5 years and one of 6. Both were playing with submunitions at the time of their incident. The adults, as well as a boy of ten, said they were either digging in paddy fields or gardens, or building houses. Two casualties, a girl and her mother, were in a vehicle coming back from the fields when it detonated a submunition on the side of the road; UXO Lao staff said that this case was unusual.[34]

The 1997 baseline survey found that the general distribution of activities at the time of UXO accidents was as follows:

- 22% were engaged in agriculture activities;
- 12% were engaged in domestic activities, for example making fires for cooking or burning rubbish;
- 14% were collecting forest products;
- 24% were deliberately handling UXO;
- 11% were playing with UXO; and
- 17% were engaged in other activities.[35]

The survey did not provide such percentages specific to cluster submunition accidents, nor was it possible in the time frame of this study to extract this information from the UXO Lao database.

Of those interviewed, the only casualties who admitted to deliberately interacting with cluster submunitions were the cases of young children who were playing with them. Their parents said that they were too young to know what they were. The mother of a child who was killed when he was five said that the UXO Lao community-awareness team had visited her village, but her son was too young to attend.[36]

It should be noted that two factors might inhibit people from saying that they had been deliberately handling a submunition. The United Nations Children's Fund (UNICEF) points out that there are provincial decrees against the use of metal detectors, in an attempt to control the growing scrap metal trade. Therefore people might not want to admit if their accident had occurred while searching for scrap metal.[37] There is also a reported perception that donors may not be willing to provide funding for treatment if people had been deliberately handling UXO, something that was not within the scope of this case study to investigate further.

Several of the adults interviewed, who were engaged in agricultural activities or digging the foundations of houses when they hit cluster submunitions, said that they knew to avoid the UXO they saw on the surface of the ground, but did not know that it could also be underground. Four adults and two older children had attended community awareness training. Two adults had not, although the UXO Lao community-awareness teams had visited their villages. One did not explain why; the other said that he could not read and write and so did not think the programmes were for him.[38]

Why do people deliberately handle submunitions?

The simple answer to why people deliberately handle cluster submunitions is economics. "They know these things but they need to make money," said UXO Lao's coordinator in Xieng Khouang province.[39] The 1997 baseline survey reported that "farmers always move UXO from their fields as they find them, even if they are afraid of the possible dangers inherent in this action."[40]

However, the issue is also one of familiarity. The Lao people have been interacting with cluster submunitions and other UXO since the end of the war, which means that for three decades they have been moving visible ordnance from their rice fields (the most common form of interaction),

while a smaller number of people, nearly always men, have developed experience in opening them to extract scrap metal and explosives.

The baseline survey also reported that people had different attitudes to different types of UXO, and that, consistently across the country, villagers feared submunitions more than they did other unexploded ordnance. This was because they are small, difficult to see, have a higher chance of killing if they explode, and are more difficult to open safely to extract the components.[41]

VICTIM SUPPORT

Because cluster submunitions are designed to kill, those who survive often have serious injuries, usually to the upper body: amputations, paralysis, burns, loss of eyesight, loss of hearing, and shrapnel wounds. Because the number of casualties of cluster submunitions is only an estimate, and because hospitals do not generally know or record the type of device causing UXO injuries, it is hard to know what proportion of cluster munition casualties receive medical treatment.

Of the limited number interviewed for this case study, all had received medical treatment at district or provincial hospitals; two had also required treatment in the capital. Most had received help with the medical costs (the costs can be several times a family's yearly income), either fully or in part, from Consortium Laos' War Victims Medical Fund.[42] Other funds were found by borrowing from family or neighbours. Most had paid someone with a car to take them to hospital.[43] However, time constraints for the research of this report meant that no one interviewed was more than an hour and a half's drive from a paved road.

Transport costs can be extremely high, and increase with the remoteness of the village. A 2004 survey found that the average cost of transport to a hospital of a child survivor of a UXO accident was US$ 43, but with some families having paid a few hundred dollars.[44]

In the absence of clear figures, anecdotal evidence suggests that many people do not reach medical services: they may live too far away to attempt the journey, or they may die at the site of the accident or on the way to hospital.[45]

Of the survivors interviewed, those who required follow-up medical care had not yet received it because they had not managed to save enough money. One man, who lost his finger to a submunition explosion, needed further operations to remove the shrapnel from his leg. However, his family first had to repay the several hundred dollars that they borrowed from a neighbour for his initial operation. Doctors at Phonsavan provincial hospital in Xieng Khouang confirmed that this is a frequent problem.[46]

None of the survivors interviewed had received physiotherapy or any other follow-up medical care.[47] None had received skill retraining, although the wife of one had been provided with a loom in order to generate income for the family.

Access to physiotherapy and rehabilitation services often depends on whether a survivor lives in an area where an NGO is providing such services. Handicap International has run physiotherapy programmes, and the Cooperative Orthotic and Prosthetic Enterprise (COPE), an NGO providing prosthetics and orthotics, has recently trained 85 local physiotherapists and occupational therapists.[48] COPE supports the National Rehabilitation Centre in Vientiane and four smaller provincial centres. World Concern, Handicap International and the Canadian NGO Garneau International have also run village-based community rehabilitation programmes. The Lao People's Disabled Association provides some vocational training along with its rehabilitation services, although it operates in only 100 villages in the country.[49] However, there is almost no psychosocial support available in Lao PDR for cluster submunition survivors, beyond a couple of limited NGO projects.

RETURN TO WORK OR SCHOOL

None of the adult survivors interviewed had been able to return to the same work they did before. Several of the farmers were now too injured to work at all, having lost their eyesight or limbs. One man, who had shrapnel in his leg restricting his movement, had not been able to continue his job as a security guard at the district government offices. He now helped his wife with the family's farm, but could only work three hours a day.

All the child survivors interviewed had returned to school some months after their accidents, but had found concentration difficult.

Among the reported psychological impacts of UXO accidents on children in Lao PDR are flashbacks, nightmares, sleep problems, poor memory and cognitive problems, fear, anxiety, and behaviour change.[50]

Impact on the family

Beyond the obvious emotional toll, the most fundamental complication from UXO accidents that the family has to deal with is poverty. Those affected are usually poor already—cluster submunition accidents make them poorer. All of the families interviewed had suffered economically, ranging from borrowing money for medical costs, to the complete devastation of losing a breadwinner.

The 1997 baseline survey found that the average age of people having UXO accidents was 26, with the majority of casualties aged between 5 and 35.[51] Cluster submunitions are therefore killing and maiming people in their most productive years, which in a subsistence economy has an appalling effect on the family—a lost worker, an added burden on other members of the family both financially and in terms of care, and crippling medical or funeral costs.

The wives of some of the male survivors interviewed had to work longer hours in the fields. The wife of one young man who had lost the sight in his only eye was not even able to work on the farm herself to sustain the family, because she needed to be in the house to care for her husband. The couple and their child were being supported by his parents, but they did not know how long this could continue because the parents were becoming too old. Several of those interviewed had suffered severely in terms of family finances because of medical costs, but their one priority, after food and clothing, was to keep their children attending school.

Adequacy of risk education in the context of rising casualty rates

The relationship between casualty rates and risk education is not straightforward, because there are other factors—primarily economic need—which drive risk-taking behaviour. Detailed examination of this question was beyond the scope of this report.[52] What is known is that the casualty rate is increasing alarmingly, particularly among children. It is thought that this is connected with the scrap metal trade, which has grown

because of an increase in prices paid for metal and the availability in the last two years of cheap metal detectors from Viet Nam.

Risk education is provided by ten UXO Lao community-awareness teams; by the Ministry of Education in association with Consortium Laos, which has provided curriculum material for schools; and by the Lao Youth Union, which implements the "Sport-in-a-Box" project aimed at out-of-school youth.[53]

The message of most risk education is "don't touch", yet for three decades, people have been developing their own understandings of what is safe to touch and what is not. It is far too simplistic to say that because the casualty rate is increasing, risk education is inadequate, and organizations working in risk education say that they would be very wary of making this link without a comprehensive casualty database. However, they do acknowledge that there needs to be a better understanding of why people take risks before any more money is put into new risk education projects.[54]

SOCIO-ECONOMIC IMPACT

General impact on economy, development and reconstruction

Economics and the impact of cluster submunitions are fundamentally bound together. The fact that these devices are still in the ground hinders development by restricting land use and delaying or adding to the costs of infrastructure projects. And because people are poor, they have no choice but to use the land or to collect UXO for the scrap metal, which then creates the possibility of deeper poverty resulting from UXO accidents.

There is plenty of qualitative and anecdotal evidence for the impact on the local economy. Broadly, it is straightforward to say that, for an agricultural economy, having such widespread contamination is a crippling development handicap. It was estimated in 2004 that 87,213km^2 (38% of the land area of Lao PDR) remained at risk from UXO, with 12,427km^2 considered high risk.[55] All of the literature produced by UXO Lao, or by the United Nations Development Programme (UNDP) in its human development assessments and development assistance frameworks, indicates that UXO contamination:

- Prevents farmers from using arable land;
- Prevents expansion into new land;
- Makes basic farming activities, such as digging or clearing undergrowth, potentially lethal; and
- Delays or increases the costs of infrastructure and development projects.

As an example of the last point, the NGO CARE reports that the €1 million budget for a recent food security project in Khammouane Province was increased by 50% because of the cost of clearing land contaminated with UXO, and the project was delayed considerably. One of the elements of the proposal was to expand paddy field land, but this in the end could not be completed because of the extensive delays to the project due to UXO contamination. The organization said that a three-year development project takes four to five years if the land is contaminated because of the time required to clear it.[56]

Although there are clearly many factors contributing to poverty in Lao PDR, it is reasonable to assume that the lingering effects of such intense bombardment play a key role. However, little research has yet been done to quantify this impact. It must also be noted that assessing the socio-economic impact of UXO, including cluster submunitions, involves the same problem as assessing the casualty figures: the lack of consistent and accurate casualty data.

Risk-taking and use of contaminated land

When the participants of two village focus groups, one of women and one of men, were asked if they used land contaminated by submunitions, they all laughed. Of course they use the land, they said. They know it is dangerous but they have no choice. One man pointed out that if he cannot use his own piece of land, there is no point trying to use any other piece of land, because it all has the same problem of contamination.

All of the men and many of the older women said that they had moved submunitions. They said that now they have received risk education, they no longer try to move them, but mark them and make a report, through the village chief, to UXO Lao.[57] Such behaviour, which is central to UXO Lao's community-awareness presentations, is predicated on the expectation that UXO Lao (or another operator) will then be available to destroy the marked

ordnance. But, as UXO Lao's coordinator for Xieng Khouang province points out, the organization has limited capacity, and some villages cannot wait, and so they interact with the UXO themselves.[58]

IMPACT ON LOCAL ECONOMY OF LAND DENIAL

Land denial is extremely hard to quantify, and no significant research has yet been carried out on this subject.

Although the focus groups consulted in one village said that they use contaminated land because they have no choice (see above), they also said that they do not have enough land for paddy fields. Now they produce less rice. "Before the war, we had more land. Then we had much much less, now it is slowly increasing. We also lost our animals during the bombing," said one woman. The village chief noted that the population was increasing and so they now needed to expand rice cultivation into new land but could not.[59]

Nationally, population growth is increasing the demand for land, thus leading to the pressure to cultivate contaminated areas. At current growth rates, the population of approximately 5 million is expected to double in the next 25 years, as people under 20, who currently comprise 54% of the population, enter their reproductive years.[60]

The detrimental effects of farmland contaminated by UXO are demonstrated in the fact that the top government priority for clearance tasks is agricultural land.[61]

It is important to note that the presence of cluster submunitions does not result in complete land denial in the way that a minefield does. The 1997 baseline survey found that villagers reported contaminated land as being under-utilized, or not cultivated in the way that the farmer would prefer, for example it might be used for the lower-risk activity of grazing rather than for rice cultivation.[62]

UNDP is currently developing a survey methodology to assess and quantify the economic impact of clearance activities, based on agricultural use, amount of land under cultivation and crop yield. This may permit an understanding of the extent to which the local economy is being held back prior to clearance.[63]

PRIORITIZATION OF LAND FOR CLEARANCE

The community in which focus group interviews and some individual interviews were carried out for this research believed that it had been sufficiently consulted during the surveying, marking, mapping and clearance of the area. However, on the national scale, concerns have been raised in recent years about the transparency of decisions regarding prioritization of land for clearance.

The 2003 National Strategic Plan for the UXO sector in Lao PDR prioritizes types of land for clearance, with agricultural land, roving surface clearance, medical and sanitation facilities, and schools in the high-priority band. Grazing land, forest, religious sites, markets, recreational areas and government facilities are medium priority. Public infrastructure, tourism sites and commercial sites are low priority, intended to be cleared by private sector operators.

UXO Lao clearance activities are based on an annual work plan. Area clearance is decided according to local government development plans. Villages can make requests for roving teams to clear surface UXO; requests are made through the district chief. However, demand is far greater than UXO Lao's capacity, and it is not easy to determine how easily or regularly communities are able to report ordnance, or how long they have to wait for it to be destroyed.

In 2004, UXO Lao cleared 12.6km^2, including 10.8km^2 of farmland, in the nine provinces where it works.[64] Yet, the Minister of Labour and Social Welfare, Somphanh Phengkhammy, stated that clearance of high-priority agricultural land will take 24 years, and complete clearance will take over 100 years.[65]

Notes

1 This chapter offers an overview of the issues rather than a detailed or comprehensive survey. There were limitations on the degree to which casualty data could be pieced together from various sources. The number of civilian casualties from cluster munition attacks during the nine years of bombing, 1964–1973, was not recorded. As well, data on

post-conflict casualties is not exhaustive because of the limitations of the reporting and recording system run by UXO Lao. In addition, there has been very little quantitative research on the socio-economic impacts of UXO, and from the available data it is difficult to separate the socio-economic impact of cluster munitions from the impact of other types of UXO. Lastly, constraints on the timing of the fieldwork meant that several key UXO Lao personnel were not available in Vientiane for interview, including the Director and the two expatriate Technical Advisors. Likewise, there was limited time in the field to collect data from communities about the impact of attacks and the ongoing effects.

2 Lao National Unexploded Ordnance Programme (UXO Lao), *Annual Report 2004*, 2004, p. 6.

3 Interview with Wanthong Khamdala, Deputy National Programme Director, Lao National Unexploded Ordnance Programme (UXO Lao), 19 September 2005.

4 Eric Prokosch, *The Technology of Killing*, Zed Books, 1995, p. 100.

5 UXO Lao and Handicap International, *Living with UXO: Final Report, National Survey on the Socio-Economic Impact of UXO in Lao PDR*, 1997, p. 14.

6 UXO Lao and Handicap International, *Living with UXO: Final Report, National Survey on the Socio-Economic Impact of UXO in Lao PDR*, 1997, pp. 20–24.

7 A total of 186 types of ordnance, including 19 types of cluster submunitions, have been found. See Richard Moyes (ed.), *Explosive Remnants of War and Mines other than Anti-Personnel Mines: Global Survey 2003–2004,* Landmine Action, Actiongroup Landmine.de and Mines Action Canada, 2005, p. 104.

8 Richard Moyes (ed.), *Explosive Remnants of War and Mines other than Anti-Personnel Mines: Global Survey 2003–2004,* Landmine Action, Actiongroup Landmine.de and Mines Action Canada, 2005, p. 104.

9 Fred Branfman, *Voices from the Plain of Jars: Life Under an Air War*, Harper & Row, 1972; Titus Peachey and Virgil Wiebe, *Clusters of Death: The Mennonite Central Committee Global Report on Cluster Bomb Production and Use*, Mennonite Central Committee, 2000, appendix 1, cited in Richard Moyes (ed.), *Explosive Remnants of War and Mines other than Anti-Personnel Mines: Global Survey 2003–2004,* Landmine Action, Actiongroup Landmine.de and Mines Action Canada, 2005, p. 104.

10 Richard Moyes (ed.), *Explosive Remnants of War and Mines other than Anti-Personnel Mines: Global Survey 2003–2004,* Landmine Action, Actiongroup Landmine.de and Mines Action Canada, 2005, p. 104.

11 UXO Lao and Handicap International, *Living with UXO: Final Report, National Survey on the Socio-Economic Impact of UXO in Lao PDR*, 1997, pp. 20–24.

12 Bruce Shoemaker, *Legacy of the Secret War*, Mennonite Central Committee, 1994.

13 UXO Lao and Handicap International, *Living with UXO: Final Report, National Survey on the Socio-Economic Impact of UXO in Lao PDR*, 1997, p. 23.

14 UXO Lao and Handicap International, *Living with UXO: Final Report, National Survey on the Socio-Economic Impact of UXO in Lao PDR*, 1997, p. 77.

15 Interview with Yvon Lehn, Technical Adviser, Handicap International, 22 September 2005.

16 Geneva International Centre for Humanitarian Demining (GICHD), *Explosive Remnants of War (ERW): A Threat Analysis*, 2002, p. 12.

17 Quoted in Eric Prokosch, *The Technology of Killing*, Zed Books, 1995, p. 100.

18 UXO Lao and Handicap International, *Living with UXO: Final Report, National Survey on the Socio-Economic Impact of UXO in Lao PDR*, 1997, pp. 24–25.

19 Interview with Wanthong Khamdala, Deputy National Programme Director, Lao National Unexploded Ordnance Programme (UXO Lao), 19 September 2005. Also, a recent report analysing the scrap metal trade in Lao PDR sheds some light on this question. See Richard Moyes, *A Study of Scrap Metal Collection in Lao PDR*, Geneva International Centre for Humanitarian Demining (GICHD), 2005.

20 The United Nations Development Programme (UNDP) is now developing a proposal to raise funds for a comprehensive database. Interview with Finn Reske-Nielsen, UNDP Resident Representative, 23 September 2005.

21 Interview with Mike Boddington, former Chief Executive Officer, Cooperative Orthotic and Prosthetic Enterprise (COPE), 25 September 2005; e-mail from Barbara Lewis, Team Leader, War Victims Assistance Project, Consortium Laos, 23 September 2005.

22 UXO Lao and Handicap International, *Living with UXO: Final Report, National Survey on the Socio-Economic Impact of UXO in Lao PDR*, 1997, annex E.

[23] An area team performs the slow task of complete clearance of an area; a roving team responds to requests to destroy surface UXO that has been reported by villages or survey teams. See Lao National Unexploded Ordnance Programme (UXO Lao), *Annual Report 2004*, 2004, p. 9.

[24] Information provided by Kingphet Phimmavong, Provincial Coordinator—Xieng Khouang, Lao National Unexploded Ordnance Programme (UXO Lao), 21 September 2005.

[25] E-mail from Barbara Lewis, Team Leader, War Victims Assistance Project, Consortium Laos, 23 September 2005.

[26] Information provided by Bounpheng Sisavath, Chief of Public Information Unit, Lao National Unexploded Ordnance Programme (UXO Lao).

[27] Handicap International (Belgium), *Feasibility Study into a National Network for UXO Accidents in Lao PDR*, 2004, p. 6.

[28] UXO Lao and Handicap International, *Living with UXO: Final Report, National Survey on the Socio-Economic Impact of UXO in Lao PDR*, 1997, pp. 26–27.

[29] UXO Lao and Handicap International, *Living with UXO: Final Report, National Survey on the Socio-Economic Impact of UXO in Lao PDR*, 1997, p. 26.

[30] Information provided by Bounpheng Sisavath, Chief of Public Information Unit, Lao National Unexploded Ordnance Programme (UXO Lao).

[31] Information provided by Bounpheng Sisavath, Chief of Public Information Unit, Lao National Unexploded Ordnance Programme (UXO Lao).

[32] Handicap International (Belgium), Lao Youth Union and the United Nations Children's Fund (UNICEF), *Life after the Bomb: A Psychosocial Study of Child Survivors of UXO Accidents in Lao PDR*, Handicap International (Belgium) and Lao Youth Union, 2004, p. 3.

[33] United Nations Development Programme (UNDP), *National Human Development Report Lao PDR 2001: Advancing Rural Development*, 2001, pp. 37–40.

[34] Interviews in Phaxay and Pek districts, Xieng Khouang province, 20 and 21 September 2005.

[35] UXO Lao and Handicap International, *Living with UXO: Final Report, National Survey on the Socio-Economic Impact of UXO in Lao PDR*, 1997, p. 26.

[36] Interviews in Phaxay district, Xieng Khouang province, 20 September 2005.

[37] Interview with Amy Delneuville, Assistant Project Officer, Child Protection, United Nations Children's Fund (UNICEF), 23 September 2005.

[38] Interviews in Phaxay and Pek Districts, Xieng Khouang province, 20 and 21 September 2005.

[39] Interview with Kingphet Phimmavong, Provincial Coordinator—Xieng Khouang, Lao National Unexploded Ordnance Programme (UXO Lao), 20 September 2005.

[40] UXO Lao and Handicap International, *Living with UXO: Final Report, National Survey on the Socio-Economic Impact of UXO in Lao PDR*, 1997, p. 34.

[41] UXO Lao and Handicap International, *Living with UXO: Final Report, National Survey on the Socio-Economic Impact of UXO in Lao PDR*, 1997, p. 35.

[42] The War Victims Medical Fund operates in the provinces of Xieng Khouang, Houaphan, Savannakhet and Saravane. For those whom it assists with costs, Consortium Laos also pays for follow-up care and for the necessary transportation. It points out that many of the injuries are abdominal injuries requiring an ileostomy, meaning that three months later the person must return to hospital for the closure of the intestines. E-mail from Barbara Lewis, Team Leader, War Victims Assistance Project, Consortium Laos, 23 September 2005.

[43] Interviews in Phaxay and Pek districts, Xieng Khouang province, 20 and 21 September 2005.

[44] Handicap International (Belgium), Lao Youth Union and the United Nations Children's Fund (UNICEF), *Life after the Bomb: A Psychosocial Study of Child Survivors of UXO Accidents in Lao PDR*, Handicap International (Belgium) and Lao Youth Union, 2004, p. 17.

[45] Interview with Luc Delneuville, Country Director, Handicap International (Belgium), 22 September 2005. Handicap International is now working on a proposal for an emergency victim assistance project.

[46] Interview with Dr Bounphong Phimmachan, vice manager, and Dr Amphone Keomanela, outpatient and operations, Xieng Khouang provincial hospital, 21 September 2005.

[47] Interviews in Phaxay and Pek districts, Xieng Khouang province, 20 and 21 September 2005.

48 Interview with Theptheva Phetsavan, Acting Chief Executive Officer, Cooperative Orthotic and Prosthetic Enterprise (COPE), 22 September 2005.

49 Interview with Mike Boddington, former Chief Executive Officer, Cooperative Orthotic and Prosthetic Enterprise (COPE), 25 September 2005.

50 Handicap International (Belgium), Lao Youth Union and the United Nations Children's Fund (UNICEF), *Life after the Bomb: A Psychosocial Study of Child Survivors of UXO Accidents in Lao PDR*, Handicap International (Belgium) and Lao Youth Union, 2004, pp. 12–14.

51 UXO Lao and Handicap International, *Living with UXO: Final Report, National Survey on the Socio-Economic Impact of UXO in Lao PDR*, 1997, p. 38.

52 See Richard Moyes, *A Study of Scrap Metal Collection in Lao PDR*, Geneva International Centre for Humanitarian Demining (GICHD), 2005.

53 These last two activities are funded by UNICEF.

54 Interview with Amy Delneuville, Assistant Project Officer, Child Protection, United Nations Children's Fund (UNICEF), 23 September 2005.

55 Mines Action Canada, Handicap International, Human Rights Watch and Norwegian People's Aid, *Landmine Monitor Report 2005: Toward a Mine-Free World*, International Campaign to Ban Landmines (ICBL), 2005.

56 E-mail from Geraldine Zwack, Director, CARE International in Lao PDR (CARE Laos), 10 October 2005.

57 Interviews in Phaxay district, Xieng Khouang province, 20 September 2005.

58 Interview with Kingphet Phimmavong, Provincial Coordinator—Xieng Khouang, Lao National Unexploded Ordnance Programme (UXO Lao), 20 September 2005.

59 Interviews in Phaxay district, Xieng Khouang province, 20 September 2005.

60 Government of the Lao PDR and the United Nations, *Millennium Development Goals Progress Report Lao PDR*, 2004, p. 39.

61 Government of Lao PDR, "Resolutions of the Lao PDR Government on National Strategic Plan for the UXO Programme in the Lao People's Democratic Republic 2003–2013: The Safe Path Forward", March 2004, p. 4.

62 UXO Lao and Handicap International, *Living with UXO: Final Report, National Survey on the Socio-Economic Impact of UXO in Lao PDR*, 1997, p. 40.

63 Interview with Mariko Harada, UXO programme analyst, United Nations Development Programme (UNDP), 25 October 2005.

64 Mines Action Canada, Handicap International, Human Rights Watch and Norwegian People's Aid, *Landmine Monitor Report 2005: Toward a Mine-Free World*, International Campaign to Ban Landmines (ICBL), 2005.

65 Mines Action Canada, Handicap International, Human Rights Watch and Norwegian People's Aid, *Landmine Monitor Report 2004: Toward a Mine-Free World*, International Campaign to Ban Landmines (ICBL), 2004.

ACRONYMS

AAF	Albanian Armed Forces
AMAE	Albanian Mine Action Executive
ARC	Albanian Red Cross
BAC	battle area clearance
CCW	Convention on Certain Conventional Weapons
COPE	Cooperative Orthotic and Prosthetic Enterprise
DCA	Danish Church Aid
EOD	explosive ordnance disposal
EODASTT	Explosive Ordnance Disposal Ammunition and Storage Training Team
ICRC	International Committee of the Red Cross
IMSMA	Information Management System for Mine Action
KLA	Kosovo Liberation Army
Lao PDR	Lao People's Democratic Republic
MRE	mine risk education
NATO	North Atlantic Treaty Organisation
OSCE	Organization of Security and Co-operation in Europe
UN	United Nations
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
UNIDIR	United Nations Institute for Disarmament Research
UXO	unexploded ordnance
UXO Lao	Lao National Unexploded Ordnance Programme
VMA	Victims of Mines and Weapons Association

Cluster munitions have been used in combat in at least 21 countries. Thirty-four countries are known to produce them and at least 73 countries stockpile them. Worldwide, stockpiled submunitions number in the billions.

The use of cluster munitions results in civilian death and suffering both during and after conflict. They are a particularly dangerous weapon type in need of international attention, in that they have a serious and long-lasting humanitarian and socio-economic impact where they have been used.

Presented here are brief case studies on cluster submunition contamination in Albania and the Lao People's Democratic Republic. Together, these studies present a picture of the short- and long-term humanitarian and socio-economic impact of cluster munition use. The case of Lao PDR shows the continual harm—even more than thirty years after the fact—caused by large-scale cluster munition use, while the case of Albania illustrates that even recent, limited cluster munition use can cause harm no less profound.

These case studies demonstrate the devastating impact cluster munitions have on civilians. They provide additional evidence from the field that stronger action needs to be taken to reduce the tragedy these munitions bring to lives, livelihoods and societies.