



Explosive Remnants of War: A Case Study of Explosive
Ordnance Disposal in Laos, 1974-2013

Anna F. Kemp

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the University of Greenwich for the Degree of Doctor of
Philosophy

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DECLARATION

I certify that this work has not been accepted in substance for any degree, and is not concurrently being submitted for any degree other than that of Doctor of Philosophy being studied at the University of Greenwich. I also declare that this work is the result of my own investigations except where otherwise identified by references and that I have not plagiarised another's work.

Anna Kemp

Student

Date

Professor Christopher Bellamy

First Supervisor

Date

Dr Christopher Ware

Second Supervisor

Date

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ABSTRACT

This thesis examines one man-made disaster, resulting from the plethora of Unexploded Ordnance (UXO) in Laos, to clarify the performance of post-conflict humanitarian aid and development until 2012. This is achieved through case study field work in Laos. The time period studied is from 1954, the beginning of the political background to the war in Laos, through to the work carried out by the national agency UXO Lao in the field to 2012. The academic disciplines driving this research are War, Conflict and Security Studies, including Post-Conflict Studies, plus aspects of International Relations and Disaster Management. It is not a Law thesis although of necessity it touches on aspects of International Law and particularly the subsequent Protocol V to the 1980 Treaty on Explosive Remnants of War (ERW) and the 2008 Convention on Cluster Munitions (CMC).

In nine years from 1964-1973 the U.S.A. dropped 260 million cluster bomb submunitions on Laos. It is estimated that 30 percent of the cluster munitions failed to detonate. It is not known exactly where they were dropped and rivers and rain cause them to move. The effect of UXO in the most affected provinces has made them unsuitable for expansion in tourism and agriculture. Analysis of responses to this situation shows that efforts to educate people about the dangers of UXO have often been ineffective and victim assistance is lacking, although now covered by the CMC.

The U.S.A. bombing, remained shrouded in official secrecy, and Laos's Communist status precluded overt aid. Laos was therefore a forgotten war but one which has profound implications for warfare and subsequent peace-building. Clearance remained a low priority, in part because it was a low priority for the Lao Government which was not much interested in the welfare of the rural communities affected. The National Regulatory Authority (NRA), the agency within the Laotian government responsible for UXO and EOD requires in FY 2013 \$30 million, for UXO clearance with substantial additional increases over the next ten years. The U.S.A. is now committed diplomatically and financially to assist Laos in its bomb removal effort, after President Barack Obama signed a Presidential Determination in 2009 declaring that Laos was no longer a Marxist-Leninist Country and thus facilitating U.S.A. and other international aid. New technology may finally unlock the solution to this 50-year old problem. The distribution of GPS to farmers would enable them to report locations of any UXO they found, for immediate attention, greatly increasing the speed and effectiveness of response.

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Glossary and list of Acronyms

ACM	Air Chief Marshal (equivalent to four-star general)
ALNAP	Active Learning Network for Accountability and Performance
AFP	Agence France Presse (French-based International News Agency)
ALOS	Advanced Land Observing Satellite
ARVN	Army of the Republic of Vietnam (South Vietnam)
ADME	Assessment, design, monitoring and evaluation
ASEAN	Association of Southeast Asian Nations
AP	Associated Press (U.S.-based International News Agency)
Bombie	Laotian phrase for a sub-munition, dispersed from a carrier munition
Bot	An automated software programme that can execute certain commands when it receives a specific input, like a ro-‘bot’ ¹
CIA	Central Intelligence Agency
CP	Civil and Political
CPC	Communist Party of China
COPE	Cooperative Orthotic and Prosthetic Enterprise
CBU	cluster bomb unit (aerial bomb)
CEM	Combined Effects Munitions
CCW	Certain Conventional Weapons
CCM/CMC	Convention on Cluster Munitions (refer to the same convention of 2008)
CADTM	Committee for the Abolition of Third World Debt
CPJ	Committee to Protect Journalists
CRISE	Centre for Research on Inequality, Human Security and Ethnicity
CW	Chemical Weapon(s)
DFID	Department for International Development (UK)
DEC	Disasters Emergency Committee
DRI	Disaster Risk Index
ESC	Economic, Social and Cultural
ERW	Explosive Remnants of War

¹ ‘Bot Definition’, accessed 1 September 2013, <http://www.techterms.com/definition/bot>.

FIA	Freedom of Information Act (U.S.)
GAO	Government Accountability Office (U.S.)
GDP	Gross Domestic Product
GNI	Gross National Income
GPR	Ground Penetrating Radar
HIB	Handicap International Belgium
HDI	Human Development Index
HDR	Human Development Report
HERBS	Herbicide Reports Systems
HIV	Human Immunodeficiency Virus
HPI	Human Poverty Index
JAXA	Japan Aerospace Exploration Agency
JMA	Japan Meteorological Agency
JMAS	Japan Mine Action Service
ICM	Improved Conventional Munition
IDP	Internally Displaced People
ICT	Information and Communication Technology
ICRC	International Committee of the Red Cross
ICVA	International Council of Voluntary Agencies
ICBL	International Campaign to Ban Landmines
IFRC	International Federation of Red Cross
INCB	International Narcotics Control Board
IO	International Organisation
Lao PDR	Lao People's Democratic Republic
MSF	<i>Médecins sans Frontières</i> , an International, independent organisation for medical humanitarian aid
MDG	Millennium Development Goals
MIA	Missing In Action
MPI	Multidimensional Poverty Index
MLRS	Multiple Launch Rocket Systems

NIDA	National Institute of Development Administration (Thailand)
NRA	National Regulatory Authority
NRC	National Rehabilitation Centre
NGO	Non Government Organisation
NVA	North Vietnamese Army (officially PAVN)
NPA	Norwegian People's Aid
OCHA	Office for Coordination of Humanitarian Affairs
OECD	Organisation for Economic Co-operation and Development
OXFAM	Oxford Committee for Famine Relief. UK aid agency founded in 1942
Pathet Lao	Left-wing nationalist group that was ultimately victorious. in the Laotian civil war that began in the mid-1950s. The name was first used in 1950 by Lao forces after they joined the Viet Minh's revolt against the French, and it became the generic term for the Lao Communists. In 1956 an official party, the Neo Lao Hak Sat (Lao Patriotic Front) was formed. In the 1960s and early 70s, the Pathet Lao fought the U.S.-supported government and finally won control of Laos in 1975
PDR	People's Democratic Republic [of Laos]
POJ	Plain of Jars
PRC	People's Republic of China
PTSD	Post-Traumatic Stress Disorder
POW	Prisoner of War
REACH	Renewed Efforts Against Child Hunger
RLAF	Royal Lao Air Force
RLG	Royal Lao Government
ROW	Remnant of War
RTG	Royal Thai Government
SEOD	Senior Explosive Ordnance Disposal
SEATO	Southeast Asia Treaty Organisation
SLORC	State Law and Order Restoration Council
SPDC	State Peace and Development Council
SIPRI	Stockholm international Peace Research Institute
SAM	Surface-to-Air Missile

SIDA	Swedish International Development Cooperation Agency
Ton	Unless otherwise stated ‘ton’ as referred to in U.S. official documents, is a U.S. ‘short ton’ of 2000 pounds, as opposed to a metric tonne (2205 lb) or an Imperial ton (2240lb). Where ‘long’ (Imperial) tons are used, this is clearly stated.
TI	Transparency International
TCG	Tripartite Core Group
TB	Tuberculosis
UEFA	Union of European Football Associations
UN	United Nations
UNCT	United Nations Country Team
UNDHA	UN Department of Humanitarian Affairs
UNDP	United Nations Development Programme
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations International Children’s Emergency Fund
UNESCAP	UN Economic and Social Commission for Asia and the Pacific
UNMAS	UN Mine Action Service
UNOCHA	United Nations Office for the Co-ordination of Humanitarian Affairs
UNODC	United Nations Office on Drugs and Crime
U.S.	United States of America
USOM	United States Operations Mission
USSR	Union of Soviet Socialist Republics
UXO	UnExploded Ordnance - any explosive projectile, designed to explode after deployment, which fails to detonate
UXO Lao	National Agency of the Lao Government
VAPE	Victim Assistance Phase 2 Enumerators
VC	Viet Cong
WVMF	War Victims Medical Fund
WFP	World Food Programme
WV	World Vision, a Christian humanitarian organisation dedicated to working with children, families and their communities worldwide

Chapter 1. Introduction

1.1. Background

On 12 June 2009 U.S. President Barack Obama issued a Presidential determination that the Lao People's Democratic Republic had ceased to be a Marxist-Leninist country.¹ The Presidential memorandum are read as follows:

THE WHITE HOUSE

Office of the Press Secretary

For Immediate Release

June 12, 2009

June 12, 2009

Presidential Determination

No. 2009-21

MEMORANDUM FOR THE SECRETARY OF STATE

SUBJECT: Presidential Determination for The Lao People's Democratic Republic Under Section 2(b)(2) of the Export-Import Bank Act of 1945, as amended

Pursuant to the authority vested in me by section 2(b)(C) of the Export-Import Bank Act of 1945, as amended (12 U.S.C. 635(b)(2)(C)), I hereby determine that The Lao People's Democratic Republic has ceased to be a Marxist-Leninist country within the definition of such term in section 2(b)(2)(B)(i) of that Act.

You are authorized and directed to publish this determination in the *Federal Register*.
BARACK OBAMA

The Determination was then released to the press department for publication.² This document marked a change in U.S. policy, that had, according to former U.S. Ambassador Ravic Huso,³ been years in the making.⁴ What significance would this have on U.S./Laos, international

¹ Barack Obama, 'Presidential Determination for The Lao People's Democratic Republic' (The White House, 12 June 2009), www.whitehouse.gov/the_press_office/Memorandums_from-the-President-regarding-Cambodia-and-Laos.

² Kathy Kiely, 'Laos, Cambodia No Longer "Marxist-Leninist," White House Says', *USA Today*, 12 June 2009, <http://content.usatoday.com/communities/theoval/post/2009/06/68045195/1#.UUT9ahew27x>.

³ U.S. Ambassador to the Laos 2007 to 2010, and deputy chief of mission in Bangkok, Thailand 2001 to 2004, when the King of Thailand conferred the Order of the White Elephant, for his contributions to U.S./Thailand defense relations.

⁴ An important aspect of leadership is to initiate change. A key function of global leaders is to lead global change efforts. Allan Bird and Gary Oddou, *Global Leadership: Research, Practice, and Development*, ed. Mark E Mendenhall (London: Routledge, 2012), 163–182; Joyce S. Osland, Allan Bird, and Gary Oddou, 'The

relations (IR) and the explosive remnants of war in Laos? It lifted a ban on Laotian companies attaining financing from the U.S. Export-Import Bank and is intended to apply to the way that the economy is run.⁵ Laos, officially, is a one-party democracy – only members of the Communist Lao People’s Revolutionary Party are allowed to contest elections. The United States’ official re-definition of Laos and the consequent opening up of trade opens the door for funding UXO clearance work. That in turn will contribute to post-conflict development, thus having a long term benefit for the rural poor, who are the people most directly affected by the UXO problem. This ‘Presidential Determination’ is an important document for research on post-conflict development in Laos, because it officially recognises that there was a barrier to U S funding of Laos because of the opposing ideologies. This thesis investigates how much of a barrier it was to the U.S. helping to remove the explosive remnants of war which it dropped on Laos between 1964 and 1973. That barrier has now been removed,⁶making this thesis timely.

Trade itself is the prime motivator for this change, not just the exchange of commodities, but serious engaged exchanges, in technological advancements and manufacture through import and export. However, that will in turn, lead to further exchanges between people in education as well as commerce, and in the particular case of Laos, advances in the clearance of explosive remnants of war.

Now, half a century after the bombing began in 1964, and nearly three generations on from the beginning of the war, this thesis aims to explore the context of post-conflict⁷ development, and provide the background to the origins of the problem, that led to the U.S. air campaign and ‘secret war’ on Laos.⁸ It analyses the political complexion of Laos (then in the late 1960s and now in 2013), and to a lesser extent, that of its neighbours (Thailand/China/Vietnam). It then assesses the general extent of the problem and volume, and identifies the type of and distribution of UXO in affected areas, through the organizations involved (Mine Action Group and Handicap International) but with a principal focus on UXO

Context of Expert Global Leadership’, *Advances in Global Leadership* 7 (18 April 2012): 107–24, doi:10.1108/S1535-1203(2012)0000007009.

⁵ Thomas Fuller, ‘Communism and Capitalism Are Mixing in Laos’, *The New York Times*, 17 September 2009.

⁶ Although previously the Wisconsin and Minnesota Senate delegations had opposed suspending duties and normal trade status to Laos, because they believed this would be a reward to a government that had been responsible for a litany of human rights abuses against its Hmong minority. Martin Vaughan, ‘Trade Bill Headed For Senate Passage; Haiti Hopes Dim’, *CongressDaily*, 19 November 2004, 6–7.

⁷ Graham Brown, Arnim Langer, and Frances Stewart, *A Typology of Post-Conflict Environments: An Overview* (Oxford UK: Centre for Research on Inequality, Human security and Ethnicity, December 2008).

⁸ R. Warner, *Back Fire: The CIA’s Secret War in Laos and Its Link to the War in Vietnam* (Simon & Schuster, 1995).

Lao – the national team. It analyses funding and EOD equipment, technology, training and education. It systematically examines why more was not done and why mine awareness programmes have been ineffective. It analyses the origins of the six ambassadors' letter to U.S. Secretary of State Hillary Clinton 8 July 2011, and the requests and conditions therein, (see Chapter 5).⁹

As a result of a successful Freedom of Information Appeal by the U.S. National Security Archive, an important document was finally released in August 2009 as part of the official history series *The Air Force in Southeast Asia*. A volume prepared by the Air Force historians, Victor B. Anthony and Richard R. Sexton *The War in Northern Laos 1954-1973* is a document with alarming new evidence about the campaign, which led to the ongoing man-made disaster in Laos. It shows how the Joint Chiefs of Staff created a plan for U.S. military intervention in Laos as early as 1959, almost two years before commentators had previously thought. The use of nuclear weapons¹⁰ had already become so tightly interwoven into Air Force doctrine and training that both the contingency plan and the bomber deployment envisioned the possible use of nuclear weapons.¹¹ Only eighteen years earlier one bomber, a B-29 the *Enola Gay* had dropped the enriched uranium bomb called 'Little Boy' on the city of Hiroshima on August 6 1945, and then the second atomic bomb was dropped on Nagasaki on August 9. In the two nuclear attacks an estimated 213,000 died.¹² As it turned out nuclear weapons were not used in Vietnam but two other new types of area weapon were. These were defoliants and Improved Conventional Munitions (ICM), the lethal legacy of which was not foreseen or acknowledged – cluster munitions. The fighting in Vietnam escalated¹³, and spilled over the borders of South and North Vietnam to embroil Laos and Cambodia. As Martin Stuart-Fox points out, while the suffering may have been less extreme than that inflicted on Cambodia by the civil war there and the Khmer Rouge, it was more protracted and damaging in its impact on the fragile social structure and economy of Laos. This was chiefly because Laotian territorial integrity was violated with impunity by the two protagonists, North Vietnam and the U.S., with complete disregard for the Lao people caught

⁹ Legacies of War, 'U.S. Funding for UXO Sector in Laos' (Legacies of War, 06 2011), https://legaciesofwar.org/files/FAQ_June16.pdf Accessed 2011-07-08.

¹⁰ Philip Nash, 'Nuclear Weapons in Kennedy's Foreign Policy', *Historian* 56, no. 2 (1994): 285.

¹¹ Victor Anthony and Richard Sexton, *The War in Northern Laos 1954-1973* (United States: Centre for Air Force History, 1993).

¹² Warren Kozak, *Lemay: The Life and Wars of Curtis Lemay* (Regnery Publishing Inc, 2009), 254–255.

¹³ Milton Leitenberg and Richard Dean Burns, eds., *Wars in Vietnam, Cambodia and Laos, 1945-82: A Bibliographic Guide*, Subsequent (ABC-CLIO Ltd, 1984).

up in the fighting.¹⁴ These events are covered in the historic perspective in section 3.3. U.S. intervention was part of the ‘limited containment’ strategy which was the U.S. doctrine during this part of the nuclear age.¹⁵ All in the name of revolution against imperialism or freedom from communism respectively, neither of which had much meaning for the great majority of the Lao people.¹⁶ According to the U.S. Census Bureau, Laos in 1963 had a population of 2,460,321.¹⁷ The casualties at the time - one million Laotians were killed wounded or made homeless - will be covered through Branfman’s referenced work.¹⁸

According to the Stockholm International Peace Research Institute (SIPRI)¹⁹ the human consequences of war bombing and shelling stem from the following categories; (a) loss of human life, injury, disease, and displacement; (b) devastation of urban and industrial areas and of the associated artifacts; (c) disruption of rural areas – both the agricultural and the more natural ones – natural resources (raw materials). Indeed, the impact of the high-explosive munitions on the once largely rural peoples of Indochina has been profound by any conceivable measure.²⁰ The country of Laos was subject to bombing with munitions, many of which failed to detonate and which still pollute and endanger the landscape and substrate of the country today. The impact of this appalling legacy of warfare is to stultify the country denying it the opportunity to be self sufficient and to move forward economically. This research and the outcomes of this project will ultimately provide a contemporary analysis of UXO and human development in Laos. The post-conflict casualties will be analysed through the Victims and Accidents Unit (VA), which began its support programme for the prosthetics service in Lao PDR in October 1995 and the actual numbers of people requiring prostheses.²¹ Power conducted a nationwide survey of those in need of mobility with its interest in education of blind and deaf children. The National Survey of Disabled People (NSDP) was

¹⁴ Martin Stuart-Fox, *A History of Laos* (Cambridge University Press, 1997), 135.

¹⁵ Kozak, *Lemay*.

¹⁶ Stuart-Fox, *A History of Laos*, 135.

¹⁷ ‘International Data Base - Country Rankings - U.S. Census Bureau’, 2009, online, <http://www.census.gov/cgi-bin/broker>.

¹⁸ Fred Branfman, ed., *Voices from the Plain of Jars: Life under an Air War*, 1st ed. (Harper & Row / Harper Colophon Books, 1972).

¹⁹ SIPRI is an independent institute for research into problems of peace and conflict, especially those of disarmament and arms regulation. It was established in 1966 to commemorate Sweden’s 150 years of unbroken peace. The Institute is financed by the Swedish Parliament. The staff, the Governing Board and the Scientific Council are international. Stockholm International Peace Research Institute, ‘SIPRI PUBLICATIONS 1966 TO 2006 — SIPRI’s 40th Anniversary’, accessed 25 June 2012, http://anniversary.sipri.org/book/book_html/app/sipri-publications-1966-to-2006.

²⁰ Arthur H. Westing, *Warfare in a Fragile World: Military Impact on the Human Environment* (Stockholm, Sweden: Stockholm International Peace Research Institute, 1980), 93–94.

²¹ Mike A Boddington B, and Bountao Chanthavongsa, *National Survey of UXO Victims and Accidents* (Vientiane Laos: National Regulatory Authority for UXO/Mine Action Sector in Lao PDR, 2008).

planned in the last two months of 1995, with the assistance of WHO and UNICEF, with agreement that it should be implemented through the Extended Program of Immunisation whose immunisers regularly visit every village in the country. The intention was that immunisers would ask village chiefs for details of people in the village with certain disabilities, through a mainly pictorially illustrated questionnaire form. The survey was carried out from February 1996 and reached a total of 9,274 of 11,778 villages that were recorded by the census of 1995.

The map below (Figure 1) illustrates the area of study and where Laos is situated, and also the geographic proximity of its larger neighbouring countries, to the North West Myanmar (Burma), to the North China, to the West Thailand, Vietnam to the East and Cambodia to the South.



Figure 1. The Study Area (Southeast Asia)²²

²² Google Earth Pro, 'Southeast Asia' (Southeast Asia, 2011), <http://maps.google.com/maps?ll=13.214487,96.662356&z=4&t=h&hl=en> Accessed 1/04/2011.

The Lao government established the Lao National Unexploded Ordnance Programme (UXO Lao) with the support of UNDP, UNICEF, and other stakeholders in 1996. The author was able to do research with a Senior EOD officer of UXO Laos, Mr. Phommachanh Khammanichanh, who was trained at the International School of Explosives Engineers, where the author met him whilst on her Introduction to Explosives Course²³. On subsequent visits in Laos, she was invited to travel with him and his team, to some of the most heavily bombed villages and provinces. This would have been complicated to access alone and researching it is also difficult in many ways. Travelling with representatives of the National Regulatory Authority, I was able to see at first-hand some of the conditions in villages and the dangers villagers have to face daily.

The donor community has particular responsibilities for policies towards fragile countries because, by definition, the governments in fragile states are usually either unable or unwilling to take the necessary policy stance.²⁴ Analysis of policy requirements points to the need for and identification of (1) the source of fragility and (2) the major causes of the failures in each of its three ‘dimensions’ defined by the Oxford based Centre for Research on Inequality, human Security and Ethnicity (CRISE).²⁵ The three dimensions are: Authority Failures, Service Failures, and Legitimacy Failures. Given that the policy environment in most fragile states is particularly challenging, donors must be sensitive and imaginative in their procedures.²⁶

1.2. Thesis Aim

A candidate for a PhD is required to critically investigate and evaluate an approved topic resulting in an independent and original contribution to knowledge and demonstrate an understanding of research methods appropriate to the chosen field.²⁷

The aim of this thesis is to analyse the legacy of explosive remnants of war (ERW) from the secret war in Laos and also the adjacent Vietnam War (1964-73), and the

²³ The author attended the International School for Security and Explosives Education, Wiltshire, U.K. in July 2005, for one week intensive training, and was awarded the City & Guilds Certificate in Explosives Foundation. The author covered characteristics and properties of explosives; explosive trains, military, commercial and homemade explosives, explosive effects, demolition and procedures, and was a First Aid Appointed Person.

²⁴ Krista Hendry, ‘Failed States Index | The Fund for Peace’, *The Fund for Peace*, 2011, online, <http://www.fundforpeace.org/global/?q=fsi>.

²⁵ Frances Stewart and Graham Brown, ‘Fragile States’, *CRISE*, Overview, 3 (June 2010), WWW.CRISE.OX.AC.UK.

²⁶ According to the Failed States Index, Myanmar is listed at 18, Laos 46, Thailand 78, out of 177 States. (14/10/2011 Hendry *Op.Cit.*)

²⁷ University of Greenwich, *University of Greenwich, Academic Regulations for Research Awards 2008-09*, Regulations (University of Greenwich: University of Greenwich, 2008), A14, p8.

performance of NGOs and aid agencies guided by the United Nations (UN) framework of humanitarian aid, in dealing with this legacy and the prospects for finally solving the problem.

1.3 Research Objectives and Questions

The research objectives contributing to this aim define the research questions. These are:

- Why did the United States use Cluster Munitions (CM) in such numbers and why were they so unreliable?
- What explanations are there for the United States' conduct and tactics of withdrawal?
- To what extent did Laos's status as a Marxist-Leninist country until 2009 inhibit U.S. and other international help in dealing with the Unexploded Ordnance (UXO) problem?
- What is the scale of the disaster?
 - a. The geographical extent of UXO.
 - b. The number of people potentially affected and the number of victims to date.
 - c. Even with modern computing power, and the information released by the U.S. authorities, even establishing the precise tonnage of bombing is far from accurate, and the task of establishing the number of UXOs and their distribution is formidable.
- How are the Lao government and the diplomatic community, and other organisations responding to remnants of war?
- How has Laos accessed and used external resources (financial, technical and human) to deal with UXO?
- How has the management of UXO and EOD in Laos changed, and what have been the drivers of these changes?
- Why has technology been inadequate or not been used to its full potential in the past?
- What types of technology are just becoming available, and are likely to become available in the imminent future?
- What could they potentially achieve?
- What are they unable to achieve? What planning will be necessary to 'target' the use of the new technology?
- What are the problems with supplying metal detectors to local people – training and managing the operation so that metal detectors are used in the optimum places?

- What will they cost?
- What does this study add to the existing literature in War, Conflict, Peace and Security Studies and on Disaster Management?

These questions are addressed through the extant record of written sources and fieldwork in Laos including meetings and semi-structured interviews with leading EOD operators and the UXO and U.S. diplomatic and commercial community.

The author does not mean to suggest that the current EOD work is hopeless. In fact, she argues that it is only the *ad hoc* nature of the work and diversity of terrain that impedes their progress, given the nature and difficulties of the enormity of the problem, whilst this thesis does not aim to solve the problem, it does take a closer look at suggestions for a solution which might lead to speeding up the process.

The research focuses on the causes, nature and consequences of a man-made disaster – the bombing of Laos. It therefore comprises an historical analysis of the policy and strategic decision to bomb a country adjacent to that where the conflict was focussed; the operational and tactical conduct of the bombing, its extent, and the operational (or management) and tactical issues of clearing up UXO up to half a century after the munitions were dropped. The fact that the U.S. was defeated in Vietnam and the ensuing *realpolitik* of dealing with a Marxist-Leninist Laos meant that the U.S. was precluded from effectively facilitating a clear-up. The thesis therefore also has to touch on any moral responsibility the U.S. Government may have felt for doing this, either immediately or in the wake of subsequent international agreements. The fact that it was a ‘secret war’ makes the enquiry more challenging, and, as the thesis demonstrates, this opacity has further contributed to the difficulties of finding a solution. From this essential political and military-historical background, the thesis then climaxes with an analysis of the practical UXO and EOD issues that the author has witnessed first hand.

1.4. Introduction to the research

The thesis consists of seven chapters including this introduction. The next chapter supplies the underlying philosophy and the academic body of knowledge to which it relates, and to which the study belongs, namely: War, Conflict and Security Studies, International Relations and Post- Conflict Development. It touches on the social science debates in order to understand some of the complexities, and to provide the conceptual tools and framework to conduct the analysis of the study and fieldwork. This is separate from the actual research

methodology, which bridges the gap between the referenced work of others and the author's own field work in Laos.

Figure 1 displays the geographic region of study. The general political and economic characteristics with the country demographics are supplied in the first part of Chapter 3. The second part of Chapter 3 will not attempt to be a comprehensive modern history of the Secret war, but will attempt to provide the historical background and context to further investigate the explosive remnants of war. With this background in place it is possible in Chapter 4 to tackle this investigation of man-made disaster, of unexploded ordnance, and analyse the impact of this disaster. It is based upon empirical observation which concentrates on the aftermath and consequences, and closely examines and explains the effects of UXO. This Chapter describes and traces the work of the national operator UXO Lao. It also highlights the National Regulatory Authority and the work of other UXO NGOs. Chapter 5 assesses mitigation and disaster prevention; Chapter 6 Opens the discussion and analysis: Chapter 7 presents the overall conclusion, and recommendations for action and for further research.

1.5. Significance of the research

As the research will show, the topic is of undoubted importance because it embraces humanitarian aid and human rights in failed or fragile states. Since the 1990s the international community has been firmly committed to intervening in the latter when the first is needed and the second is threatened, or both. At the time of writing, in 2013, the legacy of the disaster in Laos is ongoing. This thesis is therefore also an entry-point into wider issues, such as those concerning politics and post-conflict development. Analysis of the case study highlights the dependence of how aid is received and utilised on the geographical, political, social and economic conditions prevailing in the country and the wider region. It is also critical today and extremely timely in the light of the Convention on Cluster Munitions (CCM) adopted on 30 May 2008 in Dublin and the Presidential Determination of 12 June 2009.

1.6. Limitations

- The principal limitation is that the source materials for this thesis are limited to those published in English. English is one of the principal languages of the United Nations, is the language used by most international aid agencies and by the most reliable and impartial international media. The analysis is the ongoing result of (UXO) from the secret war in Laos and the Vietnam-War (1964-1973) and the letter from six former

U.S. Ambassadors to Laos to Hillary Clinton (8 July 2011), but limited to only one former Ambassador's response. The cut off date for information for this thesis was 14th February 2013. The final phase of fieldwork was limited to six months, and submission was 19th September 2013.

- An additional limitation relates to official CIA material on the Laos bombing released under the U.S. Freedom of Information Act that has been, in part, 'redacted' (edited). This material is analysed in Chapter 3. Although the author was able to glean some important information from these primary sources, much has been blacked out. However, future historians may be able to re-visit these archives and gain a more complete picture (see Recommendations for Further Research in Chapter 7.4).

1.7. Summary

Following this introduction which covers the aim, objectives, research questions, significance and limitations, Chapter 2 presents the study methodology, then the philosophy that constitutes the conceptual grounding of the thesis, followed by the review of related academic work in related disciplines. Chapter 3 is organised into several sections providing relevant background analysis of Laos. Chapter 4 is based on the impact of the UXO and empirical observation of EOD which concentrates on the aftermath and consequences, and explains the effects. Chapter 5 addresses the mitigating actions and disaster prevention to the effects of the UXO discussed in Chapter 4. Chapter 6 discusses the Future Development of the Region and the importance of dealing with the UXO problem. Chapter 7 presents the conclusions to be drawn from the case study, recommendations and recommendations for further research.

Chapter 2. Conceptual Framework and Literature Review

2.1. Outline

This chapter places the present study in the context of the relevant academic disciplines driving this research and identifies the key writings which have defined them. In later chapters, the thesis then analyses disaster prevention and management in explosive ordnance disposal and its influence on post-conflict development. The second type of literature analysed is the primary source material of the data, and also literature commenting on the behaviour of the different Governments, patterns of interaction and future trends and prospects. This includes the work of International Relations commentators such as Robert Kaplan²⁸ and Joseph Nye.²⁹ The literature is reinforced and validated by the author's own fieldwork.

2.2. Conceptual Framework for this Research

This thesis, in its focus on post-conflict development, is philosophically at home within the social sciences and the interrelationship of the politics of aid and international relations. It lies specifically within the field of Peace, War, Conflict and Security Studies, and also the Post-Conflict Literature.³⁰ As Demmers has observed, multidisciplinary is key.

‘Conflict Studies is a field of study, not a discipline. As such, the view is widely held that violent conflict is a complex social phenomenon that can only be understood and explained from a multidisciplinary approach. In practice, however, scholars largely remain within their disciplinary boundaries.’³¹

Although the case-study of EOD and RoW in Laos clearly belongs to the field of ‘Post-Conflict Studies’, most of the literature in this field addresses very different cases. Michael Pugh and Neil Cooper, two of the most prolific authors in this field, have focussed on the immediate consequences and management of civil wars, in many of which there has been external intervention, and the ensuing issues of régime change, governance and security sector reform.³² The field is dominated by issues of peace-keeping and peace-building.³³ The

²⁸ Robert D. Kaplan, *Monsoon: The Indian Ocean and the Future of American Power* (Random House, 2010).

²⁹ Joseph Nye, *The Powers to Lead: Soft, Hard, and Smart* (OUP USA, 2008).

³⁰ Alan Collins, *Contemporary Security Studies*, 3rd ed. (Oxford: Oxford University Press, 2013).

³¹ Jolle Demmers, *Theories of Violent Conflict: An Introduction* (London ; New York: Routledge, 2012), 2.

³² Neil Cooper, ‘What’s the Point of Arms Transfer Controls?’, *Contemporary Security Policy* 27, no. 1 (2006): 118–37, doi:10.1080/13523260600603188; Neil Cooper, ‘Chimeric Governance and the Extension of Resource Regulation’, *Conflict, Security & Development* 6, no. 3 (2006): 315–35, doi:10.1080/14678800600933498.

³³ Jan Selby, ‘The Myth of Liberal Peace-Building’, *Conflict, Security & Development* 13, no. 1 (2013): 57–86, doi:10.1080/14678802.2013.770259; Kristoffer Lidén, ‘In Love with a Lie? On the Social and Political

main case studies, by Michael Pugh and Neil Cooper from the Department of Peace Studies at the University of Bradford,³⁴ and others, have been related to countries torn apart by violent conflict and, in many cases, religious war, and where foreign intervention on the ground has been significant: Mozambique, Bosnia-Herzegovina,³⁵ Kosovo,³⁶ Afghanistan,³⁷ Iraq³⁸ and (potentially), at the time of writing, Syria. The case of Laos has been ignored, and is very different. In Laos there was, admittedly régime change, from a monarchy in the late 1960s to communism in 1975, while UXO has been a major issue in some of the countries examined by the post-conflict scholars, for example, Bosnia-Herzegovina. But the continuing situation in Laos, a full forty years after the bombing stopped, is more long-standing. And it is not taking place against a background of continuing violent conflict or religious tension or under an international mandate. Within the field of post-conflict studies, Michael Pugh has, however, drawn attention to ‘the enrolment of economic, spatial, sociological, and ethnographic studies’, which has ‘enriched the subject area’.³⁹ This case study of Laos embraces all those areas, but because it is a previously unresearched topic, and is therefore a significant original contribution to the field, filling a major lacuna in the literature base. Because of the importance of Protocol V to the 1980 Convention on Certain Conventional Weapons and also the concept of *Jus Post Bellum* (see below, Sections 2.8, pp. 179-80 and Appendix B), the study must also take some note of aspects of International Law. The interaction of the various disciplines **and fields** of study and the place of the present thesis within them is illustrated diagrammatically in Figure 2.

Preconditions for Global Peacebuilding Governance’, *Peacebuilding* 1, no. 1 (2013): 73–90, doi:10.1080/21647259.2013.756273.

³⁴ Neil Cooper, Mandy Turner, and Michael Pugh, ‘The End of History and the Last Liberal Peacebuilder: A Reply to Roland Paris’, *Review of International Studies* 37 (12 May 2011): 1995–2007, doi:0.1017/S0260210511000143.

³⁵ Dominik Tolksdorf, ‘Incoherent Peacebuilding: The European Union’s Support for the Police Sector in Bosnia and Herzegovina, 2002–8’, *International Peacekeeping* 21, no. 1 (2014): 56–73, doi:10.1080/13533312.2014.885710.

³⁶ Joschka J. Proksik, ‘Organized Crime and the Dilemmas of Democratic Peace-Building in Kosovo’, *International Peacekeeping* 20, no. 3 (2013): 280–98, doi:10.1080/13533312.2013.838396.

³⁷ Jonathan Goodhand and Mark Sedra, ‘Rethinking Liberal Peacebuilding, Statebuilding and Transition in Afghanistan: An Introduction’, *Central Asian Survey* 32, no. 3 (2013): 239–54, doi:10.1080/02634937.2013.850769.

³⁸ Adam Roberts, ‘The Law and the Use of Force after Iraq’, *Survival* 45, no. 2 (2003): 31–56, doi:10.1080/00396338.2003.10071606; Adam Roberts, ‘International Relations After the Cold War’, *International Affairs* 84, no. 2 (2008): 335–50.

³⁹ Michael Pugh, ‘Local Agency and Political Economies of Peacebuilding’, *Studies in Ethnicity and Nationalism* 11, no. 2 (1 October 2011): 316, doi:10.1111/j.1399-6576.2011.01113.x; Michael Pugh, ‘The Political Economy of Peacebuilding: A Critical Theory Perspective’, *International Journal of Peace Studies* 10, no. 2 (Autumn/Winter 2005): 23–42; Michael Pugh, ‘Post-War Economies and the New York Dissensus’, *Conflict, Security & Development* 6, no. 3 (2006): 269–89, doi:10.1080/14678800600933464; Michael Pugh, ‘Reflections on Aggressive Peace’, *International Peacekeeping* 19, no. 4 (2012): 410–25, doi:10.1080/13533312.2012.709749; Michael Pugh, ‘Diverse Narratives of War and Peace: An Apprentice’s Memoir’, *Peacebuilding* 2, no. 1 (2014): 1–7, doi:10.1080/21647259.2013.866455.

The literature relating to International Relations is extensive and needs no further amplification here.⁴⁰ This interdisciplinary approach is pursued using two major complementary research strategies: literature-based analysis, and direct observation of the leading NGOs. As demonstrated in the Venn diagram (Figure 2) this study lies at the intersection between Disaster Management and War-, Peace-, Defence- and Security Studies, politics and other social science.

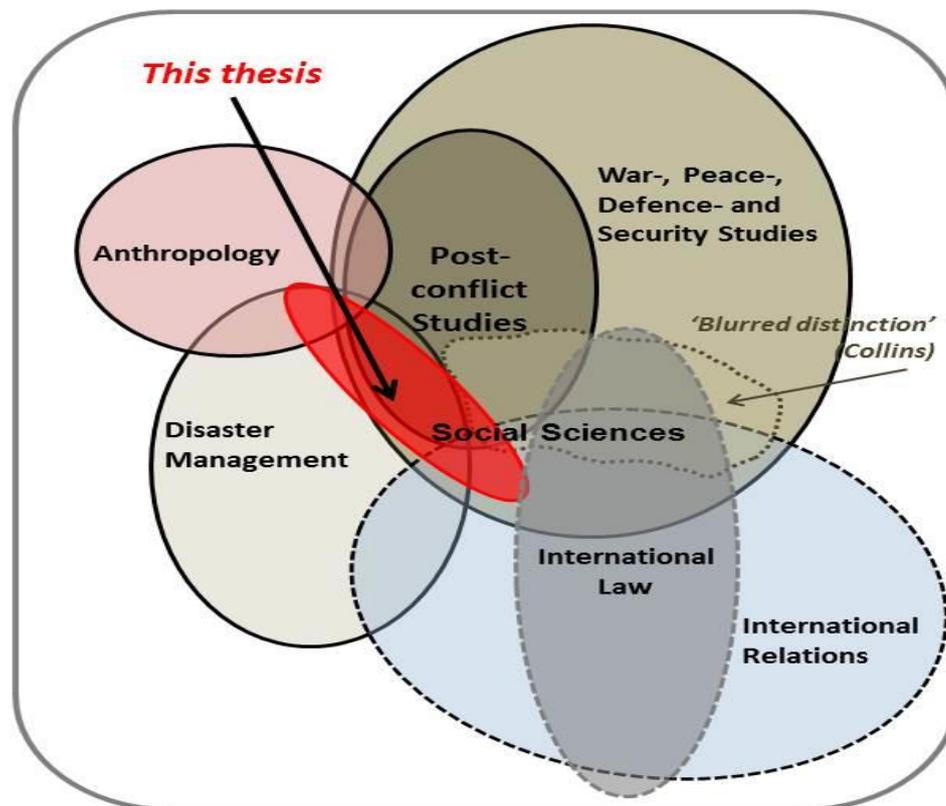


Figure 2. A Venn⁴¹ diagram illustrating the theoretical position which the thesis occupies within the wider scope of Social Sciences

⁴⁰ Stefano Guzzini, 'The Significance and Roles of Teaching Theory in International Relations', *Journal of International Relations and Development* 4, no. 2 (2001): 98–117; Dr Christopher Hart, *Doing a Literature Review: Releasing the Social Science Research Imagination* (Sage Publications Ltd, 1998); Robert Jackson and Georg Sørensen, *Introduction to International Relations: Theories and Approaches*, 4th ed. (OUP Oxford, 2010); Richard Ned Lebow, *A Cultural Theory of International Relations*, 1st ed. (Cambridge University Press, 2008).

⁴¹ John Venn, *Symbolic Logic* (Adamant Media Corporation, 2005) The idea of the 'Venn diagram' has been used to show the interaction of the principal interrelated disciplines impacting on this study.

War Studies, Peace Studies, Conflict Studies and Strategic Studies all fall within the wider field of Security Studies. The subject matter of Security Studies has widened since the innovations of The Copenhagen School from the 1990s and, as Alan Collins has observed, creates ‘a blurring in the distinction between Security Studies and the study of International Relations...’ that in turn ‘...mirrors the wider blurring between International Relations and Political Science’.⁴²

This study deals with a ‘realist’ phenomenon – the United States bombing a country with which it was not at war in order to obtain strategic and military advantage in its war with the Vietcong and later the North Vietnamese Army in neighbouring Vietnam (see Chapter 3). According to Richard Shapcott

‘Realism, of course, refers to the discourse of necessity and the consequential concerns of statecraft. .. According to realists, international politics is the realm of necessity and in warfare any means must be used to achieve the ends of the state. Necessity overrides ethics when it is a matter of state survival or when military forces are at risk. According to realists only the state can judge for itself when it is prudent to wage war and what is necessary for victory.’⁴³

Realism sees states as existing in an anarchic international system where they can act in a unitary way and rely only upon themselves. Therefore they have to manage their insecurity, by balancing the power of other states. ‘They rely primarily on balancing the power of other states and deterrence to keep the international system intact and as non-threatening as possible.’⁴⁴ The case of neutral Laos, seeking to balance the power of Thailand and, later, South Vietnam, is a perfect example of this, and so is the conduct of the United States.

However, fifty years after the conflict started, the solution to the Remnants of War legacy requires something of a constructivist approach. As constructivists believe, national interests change, both in response to domestic factors and international norms and ideas. Constructivists believe that states share a variety of goals and values which they are ‘socialized into by international and nongovernmental organizations’.⁴⁵ This approach certainly applies to dealing with the UXO and ERW problem in the post-conflict environment.

⁴² Collins, *Contemporary Security Studies*, 2,137,143.

⁴³ Richard Shapcott, *International Ethics: A Critical Introduction* (Cambridge, UK: Polity Press, 2010), 155; Karen Mingst, *Essentials of International Relations*, 4th Revised edition (W. W. Norton & Co., 2007), 104–5.

⁴⁴ Mingst, *Essentials of International Relations*, 62–3.

⁴⁵ *Ibid.*, 105.

2.3. Why Laos is a definitive conflict and post-conflict Case Study, and research design

In Social Science one of the methods extensively used is that of case study. As a research strategy, the case study is used in many situations to contribute to knowledge.⁴⁶ Case study has authority because of the depth of insight which can be obtained from intensive research in a particular area, and the material gathered may be typologised by theme.⁴⁷

Yin makes five points about case studies.⁴⁸ A case study is an empirical inquiry that

- investigates a contemporary phenomenon within its real-life context, especially when
- the boundaries between phenomenon and context are not clearly evident.
- copes with the technically distinctive situation in which there will be many more variables of interest than data points, and as one result
- relies on multiple sources of evidence, with data needing to converge in a triangulating fashion, and as another result
- benefits from the prior development of theoretical propositions to guide data collection and analysis.⁴⁹

Based on these ideas, it was possible to eliminate certain approaches and concentrate on the broader issues of research design and philosophy before focusing on the tools and techniques for data collection.⁵⁰ The main thrust of the present research, as in any classic Case Study, is on the impact on people, societies and business.

The case of Unexploded Ordnance and ERW in Laos makes a particularly good case study in security and post-conflict studies because, as noted above, it has not been addressed in the post-conflict literature and differs in many ways from the other areas studied in that field. It is also a classic example of a situation shaped by realist thinking. There are close parallels with a case described by Thucydides in his history of the Peloponnesian War. The Athenians delivered an ultimatum to the small island-state of Melos, along the lines of ‘surrender or be destroyed’. This exemplified the realist claim that in international politics the ‘powerful do what they can and the weak do what they must’.⁵¹ That is, morality does not constrain powerful states or help weak ones. Powerful states will do what they can get away with and weak states must submit to this.

⁴⁶ Dr. Robert K. Yin, *Case Study Research: Design and Methods*., Third Edition (Sage Publications, Inc, 2003), 1.

⁴⁷ Lorraine Blaxter, Christina Hughes, and Malcolm Tight, *How to Research*, 2nd Revised edition (Open University Press, 2001), 71–2.

⁴⁸ Yin, *Case Study Research*.

⁴⁹ *Ibid.*, 13–4.

⁵⁰ Blaxter, Hughes, and Tight, *How to Research*, 79.

⁵¹ Shapcott, *International Ethics*, 62.

If we compare the Peloponnesian War, the Melians – the inhabitants of the island of Melos (read neutral Lao) did not surrender and were invaded and massacred, and the women and children were sold into slavery. In Laos, civilians were bombed mercilessly from the air. The question the realists pose here is how ethical or moral was it for the Melian leaders (read Lao) to resist the reality they faced by appealing to principles of justice? The morally responsible decision would have been to accept their defeat and avoid the subsequent slavery and genocide carried out against their people.⁵²

The sequence of research in this thesis is as follows:

1. Ontological: What is the nature of the “knowable”? Or, what is the nature of “reality”? This is covered in Chapter 3.1 – the description of the region and what happened.
2. Epistemological: What is the nature of the relationship between the knower (the inquirer) and the known (or knowable)? This is analysed in Chapter 4 which explores the legacy of the effect of the UXO and RoW.
3. Methodological: How should the inquirer go about finding out knowledge? ⁵³ As stated above, the only feasible way to acquire the knowledge was to undertake fieldwork in Laos.

Fay suggests a typology for six political ‘uses’ of research. Through such typology, one can explore the question as to whether there is a necessary relationship between research and use.

Research can be used:

- (1) ‘For *value-free understanding*: The researcher has no larger political intent. The purpose is to understand and explain the social world.
- (2) For *social control*: Here the researcher works with those in power in order to subjugate or otherwise control the “masses”. The assumption here is of a divided society in conflict.
- (3) For *social engineering*: Here the researcher works with those in power to help improve the underprivileged. Here again, a divided society is assumed, but the purpose of the state is to improve the welfare of people.
- (4) To *advocate the underprivileged to the powerful*: While the social engineers work within the government, advocates are outside the system, closer to the people they serve. The powerful are assumed to be ignorant or moderately uncaring but not callous or cruel. Better policies will result from better knowledge provided by researchers.
- (5) To *advocate the underprivileged*: This is part of Fay’s critical position. It assumes that liberation is in the hands of the people, not the powerful, but the first false consciousness must be overcome through research and education. Liberation may be achieved through either individual or collective action.

⁵² Benjamin Jowett, *Thucydides’ Peloponnesian Wars* (Mill Lane, Chalfont St. Giles, Buckinghamshire: Richard Sadler & Brown Ltd, 1966), 179–187; Darien Shanske, *Thucydides and the Philosophical Origins of History*, 1 edition (Cambridge University Press, 2007), 69.

⁵³ Egon G. Guba, *The Paradigm Dialog* (Sage Publications, Inc, 1990), 17–18.

- (6) *To organize the revolution*: This position assumes that the existing social structure must be changed through collective action by those outside the system. The researcher's task is to clarify where changes are needed and how to accomplish them.⁵⁴

The present thesis promises to be of practical value for all six 'uses', although uses 3 to 6 are most relevant; for what is the removal of UXO if not positive social engineering? (4) Because removal of this menace will empower communities who are currently underprivileged, (see Chapter 4 and 5) and because this will in turn lead to better lives and greater prosperity (see Chapters 4, 5 and 6).

Also necessary to constructivist methodology, is to understand what is distinctly human in shared experience; the knower must participate in the known.⁵⁵ The field work conducted for this study is an example of the latter. Paul Diesing looks at what social scientists actually do. He suggests that constructivist methods are guided by the ideal of fidelity to subject matter. That is, they claim no special status for a particular way of investigation, and rather than impose a general set of methodological principles on all forms of experience, the constructivist will adapt both design and method of investigation to the nature of the phenomenon at hand. In the *intensive approach*, the researcher focuses on only *one* specific instance of the phenomenon to be studied. The focus is on the description and explanation of developments *within one case* for example, at the macro level - the largest case would be events affecting a nation state.⁵⁶ In this research, the explosive remnants of war, and the effects on the history and culture of Laos.

In this thesis the author examines the relationships between, and the respective roles of, history of the South-east Asian war and its legacy using the qualitative approach⁵⁷. An example is shown below, Table 1.

⁵⁴ Ibid., 118.

⁵⁵ Ibid., 277.

⁵⁶ Paul Diesing, *Patterns of Discovery in the Social Sciences*, Reprint (AldineTransaction, 2008).

⁵⁷ Stephen D Lapan, Marylynn T Quartaroli, and Frances J. Riemer, *Qualitative Research* (San Francisco: Jossey-Bass, 2012).

Table 1 an example of Interpretive Paradigms from the *SAGE Handbook of Qualitative Research*⁵⁸

<i>Paradigm/Theory</i>	<i>Criteria</i>	<i>Form of Theory</i>	<i>Type of Narration</i>
Positivist/ postpositivist	Internal, external validity	Logical- deductive, grounded	Scientific report
Constructivist	Trustworthiness, credibility, transferability, confirmability	Substantive- formal	Interpretive case studies, ethnographic fiction
Feminist	Afrocentric, lived experience, dialogue, caring, accountability, race, class, gender, reflexivity, praxis, emotion, concrete grounding	Critical, standpoint	Essays, stories, experimental writing
Ethnic	Afrocentric, lived experience, dialogue, caring, accountability, race, class, gender	Standpoint, critical, historical,	Essays, fables, dramas
Marxist	Emancipatory theory, falsifiability, dialogical, race, class, gender	Critical, historical, economic	Historical, economic, sociocultural analyses
Cultural studies	Cultural practices, praxis, social texts, subjectivities	Social criticism	Cultural theory-as criticism
Queer theory	Reflexivity, deconstruction	Social criticism, historical analysis	Theory as criticism, autobiography

According to a 2005 guide to qualitative research, in the future cultural criticism, and new experimental works will become more common.⁵⁹ This is such a work. From the above table, and given the importance of ethnography, it might appear that the chosen stance for this thesis should be a Constructivist paradigm, that assumes a relativist ontology (there are

⁵⁸ Norman K. Denzin and Yvonna S. Lincoln, *The SAGE Handbook of Qualitative Research*, Third Edition (Sage Publications, Inc, 2005), 24.

⁵⁹ *Ibid.*, 26.

multiple realities), a subjective epistemology (knower and respondent co-create understandings), and a naturalistic (in the natural world) set of methodological procedures,⁶⁰ with the rejection of the other plausible options. As Tan, writing specifically in the Asia-Pacific context, noted in 2013, ‘Constructivists are to be admired for their willingness, even boldness, in confronting a field long-dominated, at least perceptibly so, by a realist orientation’.⁶¹ From the initial data collection and analysis, the case study method would be the most appropriate, and that has been chosen. Immanuel Kant, whose work contributed to the origins of humanitarian aid (see 2.7), was also a forerunner of social constructivism.⁶² Kant argued that we can obtain knowledge about the world, but it will always be subjective knowledge in the sense that it is filtered through human consciousness, as the knowledge the author acquired during her research certainly was.

Clearly, this thesis falls to some extent within the field of International Relations (IR) which is the study of the political and social interaction of state, non-state actors, and individuals.⁶³ The spread of human rights and humanitarian problems that cut across nation-state boundaries have raised many new questions for scholars⁶⁴ and the Laos case-study is an example of this.⁶⁵ Working in Laos, the author found Ashley’s description of International Relations theory particularly apposite. It is, he said, ‘a language that enables us to shift and manoeuvre, outflank and charge, turn tail and run, retreat into historic ambiguity, commandeer resources where we can find them, shed one uniform and don another, and return to fight another day’.⁶⁶ So, according to William James, multiple approaches are essential.⁶⁷ If human senses and intellect cannot be relied upon, it is essential that the ‘findings’ of an inquiry be based on as many sources – of data, investigators, theories, and

⁶⁰ Ibid., 24.

⁶¹ See Seng Tan, *The Making of the Asia Pacific: Knowledge Brokers and the Politics of Representation* (Amsterdam University Press, 2013), 29 see also; See Seng Tan, ‘Untying Leifer’s Discourse on Order and Power’, *The Pacific Review* 18, no. 1 (2005): 71, doi:10.1080/09512740500047124; See Seng Tan, ‘Rescuing Constructivism from the Constructivists: A Critical Reading of Constructivist Interventions in Southeast Asian Security’, *The Pacific Review* 19, no. 2 (2006): 239, doi:10.1080/09512740500473288.

⁶² Ian Hacking, *The Social Construction of What?* (Harvard University Press, 2000), 41.

⁶³ Nicholas Greenwood Onuf, *World of Our Making: Rules and Rule in Social Theory and International Relations* (University of South Carolina Press, 1989), 35.

⁶⁴ Nicholas Greenwood Onuf, ‘Constructivism: A User’s Manual’, in *International Relations in a Constructed World*, ed. V. Kubáľková, Paul Kowert, and Nicholas Onuf (M.E. Sharpe, 1998), 58.

⁶⁵ Martin Griffiths, Terry O’Callaghan, and Steven C. Roach, *International Relations: The Key Concepts: 10*, 2nd ed. (Routledge, 2007), vii.

⁶⁶ Steve Smith, Ken Booth, and Marysia Zalewski, *International Theory: Positivism and Beyond* (Cambridge University Press, 1996), 240.

⁶⁷ Richard Ned Lebow, *The Tragic Vision of Politics: Ethics, Interests and Orders* (Cambridge University Press, 2003), 388–389; Malcolm Williams and Tim May, *Introduction to the Philosophy of Social Research*, 1st ed. (Routledge, 1996), 7.

methods – as possible. Further, if objectivity can never be entirely attained, relying on many different sources makes it less likely that distorted interpretations will be made.⁶⁸

One of these multiple approaches is Anthropology. In the more recent past colonising nations relied on the human disciplines to produce knowledge about strange and foreign lands. ‘The observer went to a foreign setting to study the culture, customs, and habits of another human group. Often this was a group that stood in the way of white settlers. Ethnographic reports of these groups were incorporated into colonising strategies, ways of controlling the foreign deviant, or troublesome Other’.⁶⁹

From their first encounter with people in situations of calamity, anthropologists began to explore the conduct and reactions of individuals and groups toward the disaster events and disaster aftermath that engulfed them. ‘The examination of behaviour and response continues as an important research focus that anthropology shares with other social sciences.’⁷⁰ Anthropology is within the social sciences, and is the study of human society and culture. Clearly, the way people with different lifestyles, values and conventions in different societies respond to disasters is a matter for anthropology as well as for politics and international relations. Anthropologists place great score on living in the societies they study, and the same approach has been important for this thesis. The idiosyncrasies of south-east Asian rural communities and Laotian society, it will be seen have impacted decisively on trying to solve the problem.

2.4. Methodology

The planning of the work and working of the plan⁷¹ involved researching primary data sources that included fieldwork, interviews and immersion into UXO in Laos. This enabled the author to uncover insider perspectives on EOD processes. Secondary data sources included relevant published documents, books, journal articles, newspapers, and agency reports.

This thesis examines the legacy effects of bombing on Laos during the Vietnam War (1964-1973) - the war and politics which have caused an ongoing disaster. Although the Vietnam War was intensely unpopular, the presidency of Johnson, and later Nixon, was won by

⁶⁸ Guba, *The Paradigm Dialog*, 21.

⁶⁹ Denzin and Lincoln, *The SAGE Handbook of Qualitative Research*, 2.

⁷⁰ Anthony Oliver-Smith and Susanna Hoffman, *The Angry Earth: Disaster in Anthropological Perspective*, 1st ed. (Routledge, 1999), 7.

⁷¹ Schmaltz, *The Blind Men and The Elephant - Mastering Project Work*, 1st ed. (Berrett-Koehler, 2003), 141.

promises to bring the War to an end, though both men proceeded to expand the war once elected.⁷² The grounds of knowledge for Laos will be through the UXO Lao operations that include EOD, in which the author participated.

The literature review required extensive analysis and understanding of a large quantitative dataset that is the bombing data on Laos. The methods of collecting and analysing empirical materials comprise a bundle of skills, assumptions and practices as the researcher moves between paradigm and the empirical world, through case study; direct observation; the analysis of artefacts, documents, and cultural records; the use of visual materials; and the use of personal experience.⁷³ Rosalie Wax points out that on fieldwork:

‘...the most valuable thing any fieldworker can take with him into the field is good luck. But luck is a gift of the Powers and cannot be acquired by determination or study. The next most useful thing to take into the field is the attribute which the Old Scandinavians called *manvit*, that is, intelligence manifested in common sense, shrewdness, and flexibility – the property called “having one’s wits about one”. I cannot tell a student how to acquire or develop wits, but I can tell him this: that if he does not have his wits about him while he is in the field, the chances are that he will not be given the opportunity to exercise any of his other attributes or virtues. To begin with, he will often need better than average wits to get into the area he wishes to study. Thus, he may spend months or even years preparing for a particular undertaking, learn a new language, buy equipment, travel halfway around the world, and then find that the authorities will not permit him to enter the area where “his people” are.’⁷⁴

Wax’s warnings and advice proved absolutely applicable to this study. The primary data was collected during extensive field work within Laos between 2002 and 2013. It was necessary to plan flights and schedules plus accommodation as far as possible, and to obtain required permissions – visas and permits. But, as Wax warned, *manvit* was required because, as in war, ‘no plan of operations extends with any certainty beyond the first contact with the main hostile force.’⁷⁵ The field work itinerary is summarized in Appendix A.

To participate in bomb disposal field work in Laos, it was a necessary requirement to undergo Explosives training and First Aid training, both of which were performed prior to this

⁷² Chalmers A. Johnson, *The Sorrows of Empire* (Verso, 2004), 59.

⁷³ Denzin and Lincoln, *The SAGE Handbook of Qualitative Research*, 25.

⁷⁴ Rosalie Wax H, *Doing Fieldwork: Warnings and Advice*, New edition (Chicago: University of Chicago Press, 1986), 268.

⁷⁵ Variants of this phrase have been much used, wrongly attributed and widely misquoted. It is as cited here, from ‘Plan of Operations’ (Operations-Kriegsobjekt und Operations Objekt’ as translated in Daniel J Hughes and Harry Bell, eds., *Moltke on the Art of War: Selected Writings* [Novato, CA: Presidio Press, 1993], 91–94 this p.92.

thesis.⁷⁶ The First Aid training was necessary before entering a field of explosives, in case any casualties should occur. This requirement was necessary for the explosives training site on Salisbury Plain in the United Kingdom, never mind the author's real work in the field, which followed. As part of the initial training, the author had to place a wired detonator in a dead pig's trotter and explode it. This was a very graphic lesson. The First Aid training was also useful for working with colleagues in Laos, in that the author could assist the medical officer in the field in the event of an accident from controlled or uncontrolled explosives detonation. In the explosives training I had to familiarize myself with the type of unexploded ordnance that would be encountered in Laos. The primary sources to aid understanding of the unexploded ordnance in Laos were supplied by UXO Lao. They included maps of UXO impact and bombing data from 1965-1975 for each province. It was not necessary to include all of these in the thesis. Only two maps have therefore been inserted in the Lao section of this work (see Chapter 4). Before memory sticks and mobile phone apps existed, as part of her research work on the Explosives course, the author had to familiarise herself with the Handicap International Belgium (HIB) *UXO Reference Manual* (2002).⁷⁷ The author scanned this extensive tome, so that she could also share it with deminers in the field, who would not all have access to this dual language (English and Lao) durable manual for day-to-day use in the field. It is engineers and manufacturers who research and develop ordnance who write the technical references. These have an inherent problem for humanitarian deminers working in post conflict situations. The technical content is written for operators who have a high level of technical competence and the references often refer to other references that are not available, and many of the procedures are based on conflict situations – arming the weapon. Therefore, much of the information is irrelevant for the identification and safe disposal of an item of UXO when demining in a muddy ditch. This invaluable manual was compiled and used by surveyors, demolition task supervisors, and district co-ordinators and operations staff. The appropriate technical information was agreed upon with the UXO Lao national technical working group. But the author always took note of the unusual front page warning notice in the Manual that kept her focussed:

UXO clearance operations are extremely hazardous and subject personnel involved to significant risk of serious injury or death. By its very nature, UXO is unpredictable

⁷⁶ The author attended and completed the Certificate in Explosives Foundation and First Aid Training, at the International School for Security and Explosives Education, Chilmark, Wiltshire, in July 2005.

⁷⁷ Handicap International Belgium, *UXO Reference Manual* (Belgium: Handicap International Belgium, 2002).

and each incident presents unique problems that cannot be addressed in a general guide.⁷⁸

It was necessary to plan for types of data that would be collected over the course of the project and decide how they would be recorded and managed. Therefore, the types of data available were both: from analogue sources; text from published works, newspapers, field notes –interviews and oral history, and digital sources. Data was recorded via digital photography, DVDs (digital versatile disc) and internet search engines through Athens university access. The analogue sources were digitized and stored on one hard drive with back-up from memory sticks; this could then be put back in analogue form for publishing and dissemination in the thesis. Not all the photographs taken were used in the thesis or the video footage, only those of significance have been included. Visits to Laos and participant-observation would be one of the distinguishing features involved, throughout the phases of the research from problem definition through data collection and analysis. (See the itinerary in Appendix A).

Unique access at crucial times and places is not possible for every piece of research or researcher, but was important for this research and this researcher. As a participant observer⁷⁹ part of the author's technique was to help her interpretations with focussed and unfocussed interviews, and by becoming socialized into the milieu she was to eventually be researching, she was participating in, to some extent, extraordinary circumstances. The researcher can gradually turn him - or herself into an analogue of the system, so that he or she reacts as it reacts, feels as it feels thinks and evaluates as it does.⁸⁰ Again, the anthropologists' approach – 'been there, done that', is relevant.⁸¹ But, and this is important – the next step is to make this implicit knowledge explicit. Researching national archives and formerly classified 'Secret' documents is problematical but, for example, the Australian War Memorial Research Centre holds the National Archives of Australia and the Archives have a computer tool in its catalogue which allows viewing a citation for the record. This indicates that the record should be cited as for example 'NAA:A1209, 1962/482 Part 1'⁸² and is where the file itself is located, in this case the Canberra office of the National Archives. Not everything is available online, but direct contact with the Archives about accessing the files

⁷⁸ Ibid., 9.

⁷⁹ Diesing, *Patterns of Discovery in the Social Sciences*, 19.

⁸⁰ Ibid., 6.

⁸¹ Clifford Geertz, *Works and Lives: The Anthropologist as Author* (Stanford University Press, 1989), 4–5.

⁸² A. H. Loomes et al., 'South Vietnam Situation Report' (Joint Intelligence Committee, April 1962), National Archive, Canberra, Australia, A1209, 1962/482 Part 1.

may yield results. Related to part of this thesis (Chapter 3.3) was information on the background historical context from the Australian Joint Intelligence Committee of the implications of the loss of South Vietnam and environs to the communists. This document was released in February 2010.

Fieldwork is a primary focus of the methodology of this thesis. It would be imprudent – and impudent – to write about the legacy of UXO, without some practical experience of EOD. The author had undertaken an initial pilot study in Laos prior to starting this research project, in order to ascertain the feasibility of systematic fieldwork. In the thesis, this and subsequent fieldwork is supplemented by the socio and historic sources. A conceptual understanding of the multiple standpoints of international studies where ‘...historical dimensions, economic dimensions, scientific and technological dimensions and philosophical and ethical ones’⁸³ was essential, to gain insights into the politics and economy of Laos (see Chapter 3).

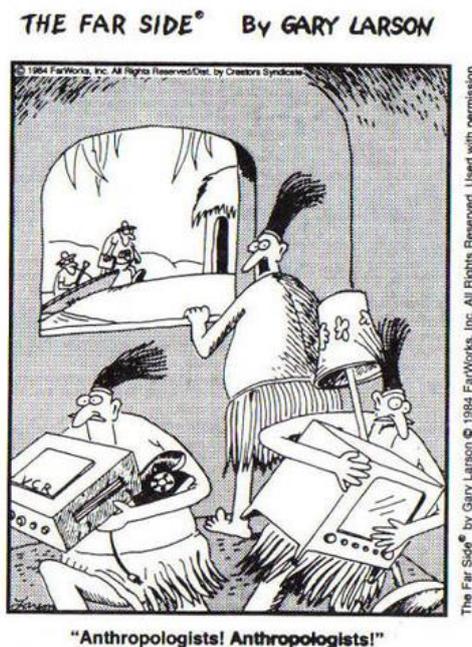


Figure 3. An illustration with an accurate portrayal of fieldwork?⁸⁴

⁸³ Caroline Kennedy-Pipe, 'At a Crossroads — and Other Reasons to Be Cheerful: The Future of International Relations', *International Relations* 21, no. 3 (9 January 2007): 352, doi:10.1177/0047117807080211.

⁸⁴ Gary Larson, 'Anthropologists! Anthropologists!', 1984, http://images.search.conduit.com/ImagePreview/?q=The+Far+Side+Gary+Larson+Anthropologists&ctid=CT3196716&SearchSource=15&FollowOn=true&PageSource=ImagePreview&SSPV=EB_SSPV&CUI=SB_CUI&U P=&UM=0&start=0&pos=0 accessed 16/07/2009.

The cartoon in Figure 3 depicts some of the difficulties that can be encountered in actually achieving any fieldwork with honest responses, and the additional problem of accurate translation of questions and responses. In September 2012 the author met a senior lecturer at Don Dok University (Vientiane). He advised “It may not just be your local translator, who understands the dialect, but also the person could be a member of the Party, and would therefore, give the responses that the Party would most like to report.” The lecturer also added that he had to be careful, because he wanted to keep his job, as he had a wife and two children. On the surface this seemed innocent enough, but what it implied was an element of fear on the part of the authorities. And the validity of the testimony, in a Communist party state, is questionable. Anthropologists have a choice in this environment. They can be either part of the problem or part of the solution.⁸⁵ In the case study the pair of variables being studied are the independent variable of the cause, which was the ‘disaster’, and the dependent variable, which was the effect and the subsequent response, and the correlations between the two.⁸⁶

2.5. This Thesis and social science debates

This thesis is founded on, and in large measure supports, the realist view that powerful states can do more or less what they like and weak ones are often powerless to stop them (see p.30 section 2.3). However, as the Presidential Determination at the start of Chapter 1 clearly shows, changes in the prevailing paradigm – how states and the international system view each other – can produce practical changes in the international system. This is more of a constructivist view. If thoughts and ideas change, then the international system will change as well, because people think about each other in new ways.⁸⁷ The social and political world is made up of shared beliefs rather than physical entities. For constructivists that must always be the starting point for analysis.⁸⁸ State identity, in turn, is expressed through key decision makers. Their identity is uncovered through textual sources, including archives, journals, newspapers, memoirs and textbooks⁸⁹ and, in this thesis, diplomatic correspondence.

⁸⁵ Catherine Coumans, ‘Occupying Spaces Created by Conflict: Anthropologists, Development NGOs, Responsible Investment, and Mining: With CA Comment by Stuart Kirsch’, *Current Anthropology* 52, no. S3 (1 April 2011): S29–S43, doi:10.1086/656473.

⁸⁶ Diesing, *Patterns of Discovery in the Social Sciences*, 3.

⁸⁷ Tim Dunne, Milja Kurki, and Steve Smith, *International Relations Theories: Discipline and Diversity*, 2nd ed. (OUP Oxford, 2010), 15–17.

⁸⁸ Jackson and Sørensen, *Introduction to International Relations*, 161–175.

⁸⁹ *Ibid.*, 174.

This thesis also deals with the work of International organizations (IOs) which are powerful because they control material resources that can be used to influence others, and define the interests that states and other actors come to hold.⁹⁰ Often they determine the agenda of conferences held under their auspices. Therefore, they significantly influence what is discussed and what is eventually decided.⁹¹ International organizations are not purely innocent servants of states; they are frequently powerful actors because they are bureaucracies that promise to deliver results or success for goals that others want. But being powerful, the IOs are not always necessarily a force for good; they may also follow narrow interests of their own and ‘run roughshod over the interests of states and citizens that they are supposed to further’.⁹² The development agencies often encourage the development of a ‘market’, disrupting traditional subsistence economies:

the development agencies propose various policies that are designed to institutionalize market mechanisms but also to teach producers how to respond efficiently and properly to market signals. In this way, they view their goals as transforming self-sufficient peasants’ into market-dependent ‘farmers’. Although development officials see the introduction of the market as a technical solution to the problem of development, the consequence of this technical solution is deeply political because it completely upends social relation in the family, between producers and consumers, and between village and the state apparatus.⁹³

As is shown, in Chapter 4 the above applies with particular force in Laos.

2.6. Philosophy that underpins the development of humanitarian ideas

It is important here to take a look at some of the world’s leading thinkers and philosophical themes pertinent to the evolution of modern western views on disaster management, and post-conflict development. In this study it is not possible to incorporate all the ancient philosophers and their teachings but to look at those who are applicable to this thesis; the first being Hugo Grotius (1583-1645). Grotius was a scholar, lawyer and statesman, born in the Netherlands, but who spent much of his career in France. He contributed to a number of different disciplines. His reputation as the founder both of a new international order and of a new moral science rests largely on his *De iure belli ac pacis* (*The Law of War and Peace*) written in 1625.⁹⁴ Though scholars today tend to regard Grotius as one figure among others

⁹⁰ Michael Barnett and Martha Finnemore, *Rules For The World: International Organizations In Global Politics* (Cornell University Press, 2004), 162.

⁹¹ Jackson and Sørensen, *Introduction to International Relations*, 171.

⁹² Martha Finnemore Michael Barnett, *Rules for the World: International Organisations in Global Politics* (Cornell Univ. Press, 2005), 184.

⁹³ Barnett and Finnemore, *Rules For The World*, 180.

⁹⁴ Hugo Grotius, *On the Law of War and Peace* (Kessinger Publishing Co, 2004)(this is a reprint).

in the development of the concept of international law, he is increasingly regarded as one of the most original moral philosophers of the seventeenth century, in particular as having laid the foundations for the post-sceptical doctrine of natural law that flourished during the Enlightenment.⁹⁵

The work of Immanuel Kant (1724-1804) is fundamental to the modern approach to Disaster Management which seeks to prepare for and mitigate disasters, rather than simply accepting them as acts of fate. ‘Kant was the philosopher of human autonomy, the view that by the use of our own reason in its broadest sense human beings can shape events, without divine support or intervention.’⁹⁶

Kantian ethics originates in his writings, which remain the most influential attempt to vindicate universal ethical principles that respect the dignity and equality of human beings. The latter are crucial to the underlying ethical principles of disaster management. Kant’s philosophy addressed fundamental matters such as human freedom and reasoning about action. It takes a strong view of the equality of moral agents and the importance of universal principles of duty which spell out what it is to respect them, and in stressing an account of justice and rights with cosmopolitan scope.⁹⁷ Again, the idea of ‘duty’ – a Government’s ‘duty of care’ to its people – is critical to Disaster Management and Prevention.

In the *Critique of Judgement*, Kant talks about man’s freedom standing in contrast with the necessity of natural law. He introduced the idea of a ‘*sensus communis* or common sense in which all men share’.⁹⁸ He believed that we should assume that other men should share the same basic values, thus he laid the foundations for the ideas that led to the UN charter. He also anticipated modern attitudes to the environment, however hostile it could sometimes seem. ‘What the things in the world are mutually useful for; what good the manifold in a thing does for the thing; how we have grounds to assume that nothing in the world is in vain, but that everything *in nature* is good for something...’⁹⁹

Kant’s ideas were criticised by Arthur Schopenhauer (1788-1860), who based his own views on ‘compassion’ and ‘sympathy’.¹⁰⁰ He considered this a relatively rare quality, however,

⁹⁵ *Concise Routledge Encyclopedia of Philosophy* (Routledge, 2000), 327.

⁹⁶ *Ibid.*, 432.

⁹⁷ *Ibid.*, 433.

⁹⁸ Immanuel Kant, *The Critique of Judgement. Translation with Introduction, by J.H. Bernard.* (Hafner Publications, 1951), xix.

⁹⁹ *Ibid.*, 288.

¹⁰⁰ *Concise Routledge Encyclopedia of Philosophy*, 801–2.

since human beings are inherently egoistic and selfish by nature. Rare though it might be, compassion was one moral impulse which Schopenhauer recognised.¹⁰¹

Kant's three main essays are brought together in *Toward Perpetual Peace and Other Writings on Politics, Peace, and History*,¹⁰² which for the first time, makes it possible to read his texts on politics, peace, and history together.¹⁰³ For the purposes of this thesis we will draw on Kant's fifth and seventh propositions, which relate to political and social organisation and international relations:

Fifth Proposition: *The greatest problem for the human species to which nature compels it to seek a solution is the achievement of a **civil society** which administers right universally.*

Seventh Proposition: *The problem of establishing a perfect civil constitution is dependent upon the problem of a law-governed external **relation between states** and cannot be solved without having first solved the latter.* What good does it do to work on establishing a law-governed civil constitution among individuals, that is, to organize a *commonwealth*? The same unsociability that had compelled human beings to pursue this commonwealth also is the reason that every commonwealth, in its external relations, that is, as a state among states, exists in unrestricted freedom and consequently that states must expect the same ills from other states that threatened individuals and compelled them to enter into a law-governed civil condition. The human race will likely remain in such a condition until it has worked its way out of the chaotic condition of the relations between states in the way I have described.¹⁰⁴

Kant's theory of international relations is an early attempt to map out a critical international theory by absorbing the insights and criticizing the weaknesses in realist thought under an interest in universal freedom and justice.¹⁰⁵ Kant's eighth and ninth propositions address the 'perfect state constitution' and 'a philosophical attempt to describe the universal history of the world according to a plan of nature that aims at the perfect civic union of the human species...'.¹⁰⁶ Linklater observed that in critical international theory Kant (and Karl Marx) are integral. Kant, 'considered the possibility that state power would be tamed by principles of international order and that, in time, international order would be modified until it conformed with principles of cosmopolitan justice.'¹⁰⁷ The road to global intervention by the international community had been identified. Towards the end of Kant's work *An Answer to*

¹⁰¹ Ibid., 801.

¹⁰² Immanuel Kant et al., *Toward Perpetual Peace and Other Writings on Politics, Peace, and History*, trans. David L Colclasure (Yale University Press, 2006).

¹⁰³ Ibid., xxii.

¹⁰⁴ Ibid., 5–13 Emphasis in the original.

¹⁰⁵ Scott Burchill et al., *Theories of International Relations*, 4th edition (Palgrave Macmillan, 2009), 168.

¹⁰⁶ Kant et al., *Toward Perpetual Peace and Other Writings on Politics, Peace, and History*, 13–16.

¹⁰⁷ Andrew Linklater in Burchill et al., *Theories of International Relations*, 168.

*the Question: What Is Enlightenment?*¹⁰⁸ he states ‘Human beings will gradually work their way out of their condition of brutishness, as long as one does not intentionally meddle in order to keep them in this state’.¹⁰⁹ Kant believed that the way out of this dilemma was through unhindered trade and commerce, and cooperation with men of other nations, by the economically active population, and nations’ learning from experience.¹¹⁰ The ‘classical liberals’ including Thomas Paine (1737-1809), believed that peace could be established by the replacement of the old aristocratic order, which enforced ‘obedience’, with its belief in the Balance of Power, by democratic nations freely co-operating. On the contrary, in the twentieth century, there were the modern ‘realists’ led by Dr. Henry Kissinger, who thought that peace was best preserved by accepting and preserving that very balance between powers, whatever their internal governance, the liberals considered this approach to international relations anathema. The hawks and appeasers – though not a sequence, alternating views were followed at different times, this was followed by the ‘neo-conservatives’, who believed that the United States should not hesitate to unilaterally use her enormous strength to destroy the enemies of the Free World wherever they showed themselves, and need not be too nice about the methods she used or the allies she co-opted – or abandoned – in the process.¹¹¹ This is relevant to the United States’ policies during Secret War in Laos and the Vietnam War, the extensive use of Thailand as bases for the bombing of Laos, the failure to compensate Laos for the damage caused by UXO.

Paine wrote *The Rights of Man* in 1791 and 1792.¹¹² Although attacking the English political system, it was a synthesis of the views of the Enlightenment, a gospel which was to be preached virtually without alteration by many Western liberals. According to this doctrine, mankind would naturally live in a state of perfect harmony if it were not for the vested interests of governments – of what William Cobbett was to term ‘The Establishment’. The whole ‘war system’ was contrived to preserve the power and employment of princes, statesmen, soldiers, diplomats and armament manufacturers, and to bind their tyranny ever more firmly upon the necks of the people.¹¹³

¹⁰⁸ Immanuel Kant, *Practical Philosophy*, ed. Mary J Gregor (Cambridge, U.K.; New York, NY, USA: Cambridge University Press, 1999), 11–22.

¹⁰⁹ Kant et al., *Toward Perpetual Peace and Other Writings on Politics, Peace, and History*, 22.

¹¹⁰ Lars-Erik Cederman, ‘Back to Kant: Reinterpreting the Democratic Peace as a Macrohistorical Learning Process’, *The American Political Science Review* 95, no. 1 (1 March 2001): 21, doi:10.2307/3117626.

¹¹¹ Sir Michael Howard, *War and the Liberal Conscience* (London: C Hurst & Co Publishers Ltd, 2008), vi–vii.

¹¹² Thomas Paine, *Rights of Man, Common Sense, and Other Political Writings*, New Ed. / (Oxford University Press, USA, 2009).

¹¹³ Howard, *War and the Liberal Conscience*, 23.

Kant also has a role in contemporary discussion of politics and peace and of related issues,¹¹⁴ such as citizenship, globalization, the United Nations, the role of the state in the post-cold war world, and the right of the International Community to override national sovereignty. Both the evaluation and the interpretation of the texts are affected by the ever-changing historical context of their readers, and this yields new questions and new critical perspectives.¹¹⁵ Kant's Third Definitive Article of Perpetual Peace stipulates that '*Cosmopolitan Right shall be Limited to the Conditions of Universal Hospitality*'. Here he means that

‘the right of a stranger not to be treated in a hostile manner by another upon his arrival on the other’s territory. If it can be done without causing his death, the stranger can be turned away, yet as long as the stranger behaves peacefully where he happens to be, his host may not treat him with hostility.’¹¹⁶

This sentiment recalls the words at the front of a passport:

‘...rather a right to visit, to which all human beings have a claim, to present oneself to society by virtue of the right of common possession of the surface of the earth. Since it is the surface of a sphere...and originally no one has more of a right to be at a given place on earth than anyone else...to use the right to the *surface*, which is common to the human species, to establish commerce with one another...relations which ultimately become regulated by public laws and can thus finally bring the human species ever closer to a cosmopolitan constitution...The growing prevalence of a (narrower or wider) community among the peoples of the earth has now reached a point at which the violation of right at any *one* place on the earth is felt in *all* places.’¹¹⁷

Kant's vision was uncannily prescient for 1795 and resonates extraordinarily in the globalised world today, considering the scarcity of information on which he based his theorising.¹¹⁸ Philosophers are concerned with what makes human beings what they are. Are there certain things that we should, or should not, do?¹¹⁹ We are formed by nature to use law and justice. Grotius cites an even earlier Greek philosopher, Hesiod, who wrote between 750 and 650BC, who observed “‘that the supreme Being has appointed laws for men; but permitted the wild beasts, fishes, and birds to devour each other for food.’” Grotius added ‘For they have nothing

¹¹⁴ Neil Cooper and Mandy Turner, ‘The Iron First of Liberal Intervention Inside the Velvet Glove of Kantian Idealism: A Response to Burke’, *Critical Studies on Security* 1, no. 1 (2013): 35–41, doi:10.1080/21624887.2013.801134.

¹¹⁵ Kant et al., *Toward Perpetual Peace and Other Writings on Politics, Peace, and History*, xv.

¹¹⁶ *Ibid.*, 82.

¹¹⁷ *Ibid.*, 82–84.

¹¹⁸ Cederman, ‘Back to Kant’, 15.

¹¹⁹ Williams and May, *Introduction to the Philosophy of Social Research*, 7.

like justice, the best gift, bestowed upon men'.¹²⁰ Kant requires the rule of just laws within the state, between states, and between states and foreigners, and it requires that this condition be a global one.¹²¹ Kant has often been credited with posthumous influence¹²² on creation of the League of Nations and the United Nations.¹²³ Kant's concept of a 'league of states' emphasized

a world society of individuals beholden to a universal moral order. Basic questions about international society, the state and the individual are inseparable from any theorising about international relations and structure our key responses to the field. This is what international relations theory *is*.¹²⁴

From the international humanitarian laws that bind states to standards, internationally recognized human rights are derived. These are included in the 1948 Universal Declaration of Human Rights,¹²⁵ further developed in 1966 by two covenants that came into force in 1976: the International Covenant on Civil and Political Rights and the International Covenant of Economic, Social and Cultural Rights. The first of the covenants covers civil and political (CP) rights, including the right to life, liberty, and security of the person as well as freedom from torture, from arbitrary arrest and detention, freedom of thought, of religion, of opinion and expression, of assembly and association, and the right to participate in the government where the person is a citizen.¹²⁶ The second covers Economic, Social, and Cultural (ESC) rights¹²⁷ and includes, among others, the right to an adequate standard of living for health and wellbeing –including food, shelter, and medical care – and the right to education. Article 7 of the Universal Declaration of Human Rights 1948 states: 'All are equal before the law and are entitled without any discrimination to equal protection of the law. All are entitled to equal protection against any discrimination.' Treatment of the basic civil and

¹²⁰ Grotius, *On the Law of War and Peace*, 8.

¹²¹ An alternative view is claimed that Kant drew on Rousseau by S. Gates, T. L. Knutsen, and J. W. Moses, 'Democracy and Peace: A More Skeptical View', *Journal of Peace Research* 33, no. 1 (1 February 1996): 1–10, doi:10.1177/0022343396033001001.

¹²² Amongst the classical authors, Kant remains the most influential. James Lee Ray, *Democracy and International Conflict: An Evaluation of the Democratic Peace Proposition* (Columbia, S.C.: University of South Carolina Press, 1998), 3.

¹²³ Kant et al., *Toward Perpetual Peace and Other Writings on Politics, Peace, and History*, xv.

¹²⁴ Ian Clark and Iver B. Neumann, *Classical Theories of International Relations* (Palgrave Macmillan, 1999), 6–7.

¹²⁵ General Assembly, *Universal Declaration of Human Rights*, 1948, <http://www.un.org/documents/instruments/docs>.

¹²⁶ General Assembly, 'International Covenant on Civil and Political Rights A/RES/2200(XXI)', *Declarations and Conventions Contained in General Assembly Resolutions*, 16 December 1966, http://www.un.org/documents/instruments/docs_subj_en.asp?subj=32.

¹²⁷ General Assembly, 'International Covenant on Economic, Social and Cultural Rights A/RES/2200 (XXI)', *Declarations and Conventions Contained in General Assembly Resolutions*, 16 December 1966, http://www.un.org/documents/instruments/docs_subj_en.asp?subj=32.

political rights is mandatory. States are obliged fully to respect and fulfil the right to life, liberty, the security of the person, and freedom from torture, irrespective of the state's level of socio-economic development.

In addition to the foundations of humanitarian action in Enlightenment philosophy, there is another, equally old tradition, that of religious motivation. This involved the perception, by the sole means of human intelligence, of an ideal concept of goodness separate from, and in some cases even opposed to, the consideration of a person's immediate interests. The humanitarian laws regulate the conduct of belligerents and restrict and limit the means and methods of warfare in the 21st century, they cover the protection of civilians, and non-combatants, the law and conventions, enforcement and accountability.¹²⁸

2.7. Development of Humanitarian Agencies Relevant to this Thesis

The humanitarian agency, the International Red Cross and Red Crescent Movement was founded in 1863, inspired by a Swiss businessman, Henry Dunant, to mitigate the horrors of war.¹²⁹ Save the Children was founded on 15 April 1919 to relieve the suffering of starving children in Germany and Austria which were still subject to Allied blockade as the Armistice of 11 November 1918 had not officially ended the First World War.¹³⁰ Similar circumstances inspired the formation in 1942 of Oxfam, which campaigned for food supplies to be sent through the Allied blockade to starving women and children in enemy-occupied Greece.¹³¹

The first international humanitarian laws binding state and non-state actors to standards ensuring the protection of civilians in armed conflict culminated in 1949 with the Third and Fourth Geneva Conventions. Initiatives spanning the entire humanitarian sector were launched to improve the transparency, accountability, and quality of emergency response. They also uphold the commitment to deliver on an humanitarian imperative 'to provide humanitarian assistance wherever it is needed', as defined by the *Code of Conduct for The International Red Cross and Red Crescent Movement and NGOs in Disaster Relief (2004)*.¹³²

¹²⁸ Jean Guillermand, 'The Historical Foundations of Humanitarian Action', *International Review of the Red Cross* (1934, no. Special Issue 299 (1994): 194–216, doi:10.1017/S0020860400078359.

¹²⁹ 'The Beginning of the Red Cross Movement', 20 May 2011, <http://www.redcross.org.uk/About-us/Who-we-are/History-and-origin/Beginning-of-the-Movement>.

¹³⁰ 'Save the Children's History', 20 May 2011, http://www.savethechildren.net/alliance/about_us/history.html Accessed 20 May 2011.

¹³¹ 'History of Oxfam International | Oxfam International', 20 May 2011, <http://www.oxfam.org/en/about/history>.

¹³² Liesel Ashley Ritchie and Wayne MacDonald, *Enhancing Disaster and Emergency Preparedness, Response, and Recovery through Evaluation*, Summer 2010: No. 126 (J-B PE Single Issue), vol. 126, New Directions for Evaluation (Jossey Bass American Evaluation Association, 2010), 38.

The International Council of Voluntary Agencies (ICVA) was formed in 1962, as an advocacy alliance for humanitarian action. The ICVA works as a collective body to promote and advocate for human rights and a humanitarian perspective in global debates and responses.¹³³ In 1972 The Steering Committee for Humanitarian Response, was formed to bring together international humanitarian actors, including Save the Children, to share information, foster cooperation, and develop common positions and practices where possible.¹³⁴ Liesbert Heyse covers how humanitarian NGOs face difficult choices about whom to help and whom not to help and how two humanitarian NGOs tackle these difficult decisions.¹³⁵

In 1991 the United Nations (UN) Department of Humanitarian Affairs, today the Office for Coordination of Humanitarian Affairs (OCHA), was formed to promote coherence and to coordinate response activities among UN agencies and their partners.¹³⁶ This website also lists the Ambassadors and people who have spoken in the General Assembly or Security Council in the name of the individual country or sometimes ministers or heads of state take the place of the official ambassador of the day.¹³⁷ Also listed are when the countries are in the minority vote in the General Assembly – these votes highlight an issue where there is a difference from the majority of the international community. Laos is listed number two (after North Korea) in the UN top ten countries that voted most against the U.S. at the United Nations in 2004. The countries include North Korea, Laos, Iraq, Turkmenistan and Vietnam, among others. Some issues involving the countries and the U.S. are given. Somsavat Lengsavad, the Laotian minister of foreign affairs, spoke at the 60th session of the General Assembly, he condemned the United States for its economic embargo of Cuba, saying it is “contrary to the UN charter and international law, and to the principle of neighbourliness.” It is one of the many issues with which Laos finds itself in disagreement with the U.S.¹³⁸

¹³³ ‘International Council of Voluntary Agencies’, 20 May 2011, <http://www.icva.ch/about.html>.

¹³⁴ ‘IASC - Inter-Agency Standing Committee’, 20 May 2010, <http://www.humanitarianinfo.org/iasc/pageloader.aspx?page=content-about-schr>.

¹³⁵ The two international NGOs; Médecins Sans Frontières and Acting with Churches Netherlands. Liesbet Heyse, ‘Tragic Choices in Humanitarian Aid: A Framework of Organizational Determinants of NGO Decision Making’, *VOLUNTAS: International Journal of Voluntary and Nonprofit Organizations* 24, no. 1 (1 March 2013): 1, doi:10.1007/s11266-012-9292-y.

¹³⁶ Ritchie and MacDonald, *Enhancing Disaster and Emergency Preparedness, Response, and Recovery Through Evaluation Summer 2010*, 126:39.

¹³⁷ ‘UNdemocracy - Nation Page for Thailand’, 2011, online, <http://www.undemocracy.com/Thailand>.

¹³⁸ ‘Top 10 Countries That Vote Most Against the U.S. at the UN’, *Human Events* 61, no. 43 (19 December 2005): 9–9.

In a damning account of the UN's capacity to achieve success, Rae McGrath the specialist who represented the International Campaign to Ban landmines when it was awarded the 1997 Nobel Peace Prize, still believes that its continued involvement is essential:

The UN is probably the only viable umbrella for an international response to landmines and, having accepted that role, with few exceptions, shown itself to be institutionally incapable of adequately or effectively meeting the challenge. The reason for this failure would provide material for several volumes, but all have their roots in the improbability of implementing complex field-engineering programmes from within a monolithic structure dominated by a core staff unconnected with, and ignorant of, the engineering process involved, but with ultimate control and influence over them, and who support the bureaucratic *status quo* above all other considerations...handover of operational responsibilities for landmine response from the UN Department of Humanitarian Affairs (UNDHA) to the UN Mine Action Service (UNMAS) and the UN Development Programme (UNDP) is a positive reorganisation. I will, however, and in this I am not alone, require convincing.¹³⁹

In March 2003, seven agencies; CARE International, Catholic Relief Services, International Rescue Committee, Mercy Corps, Oxfam (UK), Save the Children, and World Vision International, convened to discuss the most persistent obstacles in humanitarian aid delivery and commissioned an analysis of each organization's emergency response activity. The 2004 Report on Emergency Capacity highlighted accountability and impact measurement as areas needing additional capacity within and across all organizations.¹⁴⁰ This report also served as the catalyst for launching the Gates Foundation-funded, Emergency Building project, to ensure agency commitments translated into practice.¹⁴¹ Save the Children created a full-time emergency assessment, design, monitoring and evaluation (ADME) position to lead the development and rollout of comprehensive ADME system for their emergency programming in headquarters and the field, staff shared evaluations with the larger humanitarian community¹⁴² through the Active Learning Network for Accountability and Performance (ALNAP) website.¹⁴³

¹³⁹ R. McGrath, *Landmines and Unexploded Ordnance: A Resource Book* (Pluto Press, 2000), xxii.

¹⁴⁰ S. Braun, 'Report on Emergency Capacity: Analysis for the Interagency Working Group on Emergency Capacity', *Unpublished Document Commissioned by the Interagency Working Group on Emergencies*, 2004, online, <http://www.ecbproject.org/publications/Emergency%20Capacity%20Report%20ver>.

¹⁴¹ Ritchie and MacDonald, *Enhancing Disaster and Emergency Preparedness, Response, and Recovery Through Evaluation Summer 2010*, 126:39.

¹⁴² *Ibid.*, 126:40.

¹⁴³ Ben Ramalingam and Sara Pavanello, 'Active Learning Network for Accountability and Performance in Humanitarian Action', 20 May 2010, <http://www.alnap.org/>.

2.8. Relevance of International Conventions to the research

There exists a robust set of rules for resorting to war - *jus ad bellum*, and for conduct during war - *jus in bello*. But there are few for the termination and aftermath - *jus post bellum*. As Brian Orend pointed out ‘There has never been an international treaty to regulate war’s final phase...’ but there is burgeoning literature to support *jus post bellum* itself as a distinct field of inquiry.¹⁴⁴ *Jus Post Bellum* scholarship is an emerging field and in 2012 was still in its formative years. Much *Jus Post Bellum* scholarship concerns transitional justice, often in societies that are moving from repressive non-democratic forms to non-repressive and democratic ones. Most of these societies are also emerging from a period of mass atrocity or from civil war.¹⁴⁵ Laos certainly has a good deal in common with the former although it is different in that it is emerging from a period of destruction inflicted from outside by people with whom it was not technically at war.

Robert Cryer, who is a professor of international and criminal Law, maintains that there is no need for a new normative concept and that *jus post bellum* does not provide a positive advance in our thinking and practices, arguing that humanitarian and international law already exists, and that it is better to understand the current working system than to try to develop a different system.¹⁴⁶

In his 2008 book *Rebuilding War-Torn States: The Challenge of Post-conflict Economic Reconstruction*, the author Graciano del Castillo,¹⁴⁷ concentrates on countries facing failure in their transitions to peace. He integrates theoretical and practical issues related to post-conflict economic reconstruction and national reconciliation and to ensure that conflict will not recur, with particular attention focused on Iraq and Afghanistan. Castillo emphasises that because post-conflict economic reconstruction takes place amid the political, security, and social transitions it is fundamentally different from ‘development as usual’. What is necessary is the creation of dynamism and social inclusion in the economy, without which, peace will be elusive. In his case studies, there is evidence that economic reconstruction is a critical but neglected aspect of transition to peace. It is the failure to develop a realistic

¹⁴⁴ Carsten Stahn ‘Jus Post Bellum: Mapping the Discipline(s)’, in Carsten Stahn and Jann K. Kleffner, eds., *Jus Post Bellum: Towards a Law of Transition From Conflict to Peace*, 1st Edition. (The Hague, The Netherlands: Asser Press, 2008), 93–114.

¹⁴⁵ Larry May and Andrew Forcehimes, *Morality, Jus Post Bellum, and International Law* (Cambridge [England]; New York: Cambridge University Press, 2012), 1.

¹⁴⁶ Robert Cryer in *ibid.*, 223–249.

¹⁴⁷ Graciana del Castillo, *Rebuilding War-Torn States: The Challenge of Post-Conflict Economic Reconstruction* (Oxford : Oxford University Press, 2008).

comprehensive strategy for reconstruction, and the lack of effective aid, together with technical assistance mechanisms that have failed to help countries to stand on their own feet in peacetime.

The UN report *Study on the Right to the Truth*

... concludes that the right to truth about gross human rights violations and serious violations of human rights law is an inalienable and autonomous right, linked to the duty and obligations of the State to protect and guarantee human rights, to conduct effective investigations and to guarantee effective remedy and reparations. This right is closely linked with other rights and has both an individual and a social dimension and should be considered as a non-derogable right and not be subject to limitations.¹⁴⁸

Evans points out that the UN has a considerable role to play and ‘faces a major challenge in promoting normative standards on victims’ rights in its operative work’¹⁴⁹ this may have a visionary quality, but how do we take this beyond moralistic rhetoric? The problem of victims in Laos has been revealed. Falk, in his erosion of world order skilfully states:

This is a time when realism and idealism are increasingly fused in their call for a future world order based on law and justice, but this cannot be made to happen without the engagement of the peoples of the earth acting as detribalized citizens without borders. In a globalizing world, experiencing acute ecological stress, no political actor, including those individuals who act on its behalf, should be above the law. We who are citizens of the United States have a special responsibility to make our leaders accountable to international law and the authority of the United Nations for our own sake and for the sake of others around the world currently victimized by American lawlessness.¹⁵⁰

The International Center for Transitional Justice (ICTJ) assists countries pursuing accountability where historical injustices remain unresolved.¹⁵¹ This Center has not addressed Laos, but could help in the complex issues confronting policy makers on ‘restitution’.

The anthology, *Morality, Jus post Bellum and International Law*,¹⁵² is a collection of essays by some of the leading legal, political, and moral theorists. Margaret Walker in her ‘truth telling’ piece, concludes that to ensure that the truth is recovered *jus post bellum* could be

¹⁴⁸ ‘UNHCR | Refworld | Study on the Right to the Truth, Report of the Office of the United Nations High Commissioner for Human Rights’, 2, accessed 17 March 2013, <http://www.unhcr.org/refworld/docid/46822b6c2.html>.

¹⁴⁹ Dr Christine Evans, *The Right to Reparation in International Law for Victims of Armed Conflict* (Cambridge University Press, 2012), 6.

¹⁵⁰ Richard Falk, *The Costs of War: International Law, the UN, and World Order After Iraq* (Routledge, 2007), 6.

¹⁵¹ Pablo De Greiff, ed., *The Handbook of Reparations* (OUP Oxford, 2008).

¹⁵² May and Forchhimes, *Morality, Jus Post Bellum, and International Law*.

‘topic specific’.¹⁵³ Larry May’s transitional justice, examination of reparations and restitution, where he ‘defines *restitution* as the process of restoring what has been stolen or lost to a rightful owner...that the wrongdoer... has a duty to give restitution and reparations for the harm committed.’¹⁵⁴ For Laos the truth telling ‘topic’ and restitution is forty years on and counting, and is woefully inadequate (see Appendix C Senate Hearings). The U.S. in 1968 presented \$55 compensation for a life.

The Hague rules on Aerial warfare of 1923 were the only potentially relevant international humanitarian law rules in place in 1963 to 1974. The ERW convention did not appear until 2004. The following Articles of the Hague rules convey their spirit:

Art. 22. Any air bombardment for the purpose of terrorizing the civil population or destroying or damaging private property without military character or injuring non-combatants is forbidden.

Art. 23. Any air bombardment carried out for the purpose of enforcing requisitions in kind or payments of contributions in ready money, is forbidden.

Art. 24.1 An air bombardment is legitimate only when is directed against a military objective, i.e. an objective whereof the total or partial destruction would constitute an obvious military advantage for the belligerent;
24.2 Such bombardment is legitimate only when directed exclusively against the following objectives: military forces, military works, military establishments or depots, manufacturing plants constituting important and well-known centres for the production of arms, ammunition or characterized military supplies, lines of communication or of transport which are for used for military purposes.

24.3 Any bombardment of cities, towns, villages, habitations and building which are not situated in the immediate vicinity of the operations of the land forces, is forbidden. Should the objectives specified in paragraph 2 be so situated that they could not be bombed but that an indiscriminating bombardment of the civil population would result there from, the aircraft must abstain from bombing;

24.4 In the immediate vicinity of the operations of the land forces, the bombardment of cities, towns, villages, habitations and buildings is legitimate, provided there is a reasonable presumption that the military concentration is important enough to justify the bombardment, taking into account the danger to which the civil population will thus be exposed;

24.5 The belligerent State is bound to pay compensation for damage caused to persons

¹⁵³ Margaret Walker in *ibid.*, 11–31.

¹⁵⁴ Larry May in *ibid.*, 32–48.

or property, in violation of the provisions of this Article, by any one of his agents or any one of its military forces.¹⁵⁵

However, The Hague rules had been so comprehensively violated during World War II that it would have been extraordinary if they had been adhered to in South-East Asia. The debate about the morality of ‘strategic bombing –targeting civilians – in World War II has been protracted and extensive, particularly with regard to Germany and Japan.¹⁵⁶ From Chapter 3 it will be clear that U.S. commanders and politicians, like Curtis LeMay, almost all of whom had been active in World War II, had few scruples about area bombing.

The path to prohibition and a ban on cluster munitions sprang from the conflicts in South-East Asia of the 1960s and 1970s during which hundreds of millions of bomblets were dumped indiscriminately on wide-area targets. It was not until the late 1990s, however, that civil society and faith-based groups started to get the question effectively aired in international fora. Hopes that the Conventional Weapons Convention process would specifically address this munition were frustrated and after five years of effort even the attempt to achieve a negotiating mandate to ban the weapon became bogged down in its consensus-based framework.¹⁵⁷

Unexploded submunitions are so unpredictable in their detonation that the practical effect of a cluster munition strike is much the same as strewing a field with mines. Little surprise, therefore, that advocates of a ban sought to replicate the comprehensive prohibition set out in the Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on Their Destruction (Ottawa Convention). States defending the right to use these munitions argued (and continue to argue) that rather than prohibition, there should be restrictions based on technical reliability criteria such as ‘less than one percent failure rate’. They also argued that existing law sufficed to prohibit indiscriminate attacks. Those seeking a ban pointed out that rates derived from perfect test conditions were hardly ever replicated in the imperfect conditions of actual combat where munitions are delivered in haste or panic, get caught in foliage, are cushioned in their descent by preceding explosions, land

¹⁵⁵ Commission of Jurists, ‘International Humanitarian Law - Hague Rules of Air Warfare 1923’, Article 22–24, accessed 2 April 2011, <http://www.icrc.org/ihl.nsf/FULL/275>.

¹⁵⁶ Richard Overly, *The Bombing War: Europe, 1939-1945* (Penguin UK, 2013); Sebastian Cox, *The Strategic Air War Against Germany, 1939-1945: Report of the British Bombing Survey Unit* (Psychology Press, 1998); David MacIsaac, *Strategic Bombing in World War Two: The Story of the United States Strategic Bombing Survey* (Garland Pub. Co., 1976).

¹⁵⁷ CMC staff, ‘The Convention on Cluster Munitions | To End the Harm Caused by Cluster Munitions’, May 2010, <http://www.clusterconvention.org/>.

on soft soil or the roofs of buildings. They also argued that existing law had proved an ineffective protection for hundreds of maimed and killed civilians in recent conflicts.

The 1980 UN Convention on Prohibitions or Restrictions on the use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects (CCW) is usually referred to as the Convention on Certain Conventional Weapons.¹⁵⁸ Then it was amended in 2001 with entry into force of the amendment in 2004.¹⁵⁹ Its purpose is to ban or restrict the use of specific types of weapons that are considered to cause unnecessary or unjustifiable suffering to combatants or to affect civilians indiscriminately. The Convention contains general provisions with annexed Protocols on the use of specific weapons. Protocol V on Explosive Remnants of War¹⁶⁰ was adopted on 28 November 2003 by the Meeting of the States Parties to the Convention. The Protocol was the first multilaterally negotiated instrument to deal with the problem of unexploded and abandoned ordnance. This Protocol is intended to eradicate the daily threat that such legacies of war pose to populations in need for development and to humanitarian aid workers operating in the field to help them, and entered into force on 12 November 2006.¹⁶¹ The CCW was not a viable option for controlling the use of antipersonnel landmines. But encouraged by the negotiation of the 1997 Ottawa Treaty antipersonnel mines (APMs)¹⁶², and frustrated at the stalled discussion at the CCW Review Conferences. States had refused to discuss cluster weapons during the Ottawa process. In 2006, following Israeli and Hezbollah's use of cluster bombs and reports of civilian deaths in Lebanon in civilian areas, States focussed more on the wide

¹⁵⁸ Robert J. Mathews, 'The 1980 Convention on Certain Conventional Weapons: A Useful Framework Despite Earlier Disappointments', *International Review of the Red Cross* 83, no. 844 (2001): 991, doi:10.1017/S1560775500183506.

¹⁵⁹ Andrew Clapham and Paola Gaeta, *The Oxford Handbook of International Law in Armed Conflict* (Oxford, United Kingdom: OUP Oxford, 2014), 281–284.

¹⁶⁰ J McClelland, 'II. Conventional Weapons: A Cluster of Developments', *International & Comparative Law Quarterly* 54, no. 03 (2005): 755–67, doi:10.1093/iclq/lei027 The adoption of Protocol V to the UN Convention on Certain Conventional Weapons represents a shift in focus for weapons law towards the long-term after-effects of weapons. This note considers this development.

¹⁶¹ 'The Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects' (United Nations Office at Geneva, 21 December 2001), www.unog.ch.

¹⁶² Stuart Maslen and Peter Herby, 'An International Ban on Anti-Personnel Mines: History and Negotiation of the "Ottawa Treaty"', *International Review of the Red Cross (1961 - 1997)* 38, no. 325 (1998): 693, doi:10.1017/S0020860400091579 As the First Review Conference of the 1980 Convention on Conventional Weapons (CCW) closed in Geneva on 3 May 1996, there was widespread dismay at the failure of the States Parties to reach consensus on effective ways to combat the global scourge of landmines. The CCW Protocol II as amended on 3 May 1996 (Protocol II as amended) introduced a number of changes that were widely welcomed, but it fell far short of totally prohibiting these weapons, a move already supported by more than 40 States. Keen to sustain the international momentum that might otherwise have slackened, the Canadian delegation announced that Canada would host a meeting of pro-ban States later in the year to develop a strategy to move the international community towards a global ban on anti-personnel mines.

area coverage and indiscriminate effects of cluster munitions and the risk of them causing an unbearable humanitarian toll.¹⁶³ Many therefore welcomed Norway's lead in sponsoring the 'Oslo Process'. Some 46 States signed the Oslo Declaration in February 2007, which established a two-year timetable. By the end of 2008 they determined to conclude a Treaty to ban the manufacture, transfer and use of cluster munitions that 'cause unacceptable harm to civilians'. In Dublin in 2008, 107 States adopted the final treaty text of the latest edition to the family of humanitarian laws: the Cluster Munitions Convention¹⁶⁴ (CCM). Proponents of the ban focussed on the wide area coverage of cluster munitions, which could affect combatants and civilians indiscriminately, and that they had a proven, unacceptably high failure-rate leading inevitably to post-conflict harm caused by ERW. Many more have since come to question the legality of the use of cluster munitions in light of established humanitarian law principles.¹⁶⁵ As Karen Hulme explains, the CCM is much more than a disarmament treaty, at the heart of which are civilian victims and their rights. A key aim of the Convention is post-conflict rehabilitation and reconstruction, firstly by extending State obligations for clearance of remnants-affected areas to cover not only new incidents of use but also existing remnants (those that pre-date the treaty obligations for a State party), secondly as defined within Article 2 is mandatory State assistance to cluster munition victims.¹⁶⁶ This includes those suffering physical and psychological injury, those killed, those suffering economic loss, social marginalisation or substantial impairment of their rights caused by the use of cluster munitions, as well as affected families and communities. Hulme points out that this is strongly emotional language, not altogether absent from the earlier Ottawa Treaty, but there is greater emphasis in CCM on rights of persons with disabilities. This emphasis comes from the premise that the State already has national disability, development and human rights frameworks within which to incorporate the mandated national plan and budget for victim assistance. That victims and victim groups are to be

¹⁶³ John Borrie, 'The "Long Year": Emerging International Efforts to Address the Humanitarian Impacts of Cluster Munitions, 2006-7', *Yearbook of International Humanitarian Law* 10 (2007): 251, doi:10.1017/S1389135907002516.

¹⁶⁴ Clapham and Gaeta, *The Oxford Handbook of International Law in Armed Conflict*, 142.

¹⁶⁵ Bonnie Docherty, 'Breaking New Ground: The Convention on Cluster Munitions and the Evolution of International Humanitarian Law', *Human Rights Quarterly*, The John Hopkins University Press, 31, no. 4 (November 2009): 934-63 The 2008 Convention on Cluster Munitions comprehensively bans a weapon that causes civilian casualties both during and after attacks. The convention also sets legal precedent in three ways. First, the convention expands the scope of past treaties by, for example, covering munitions that function properly and those that do not. Secondly, it creates groundbreaking humanitarian obligations, most notably those related to victim assistance. Thirdly, it anticipates future concerns by recognizing the threats posed by non-state armed groups. This comparative analysis of the convention shows how it breaks new ground for future weapons treaties and illuminates the process by which international humanitarian law can be advanced.

¹⁶⁶ CMC staff, 'The Convention on Cluster Munitions | To End the Harm Caused by Cluster Munitions'.

consulted and actively involved in the national process, and their needs are to be assessed, and policies developed based on those needs. The State must designate a focal point within government for the coordination of implementation matters, and most importantly, States are to ‘adequately’ provide medical care, rehabilitation and psychological support, as well as for their social and economic inclusion. This ground-breaking CCM provision expands and cements provisions found in the earlier ERQ Protocol and Ottawa Treaty. The latter merely refer to ‘Assistance for the care and rehabilitation and social and economic regeneration’ of ERW/mine victims (respectively) but only for those parties ‘in a position to do so’. Also recognised is that there should be no discrimination between weapons victims, otherwise an odd disparity of treatment might result for victims dependent only on the type of weapon causing the harm.¹⁶⁷

2.9. Disaster Management

As Mueller wrote quoting U.S. General Schwarzkopf’s observation ‘War is a profanity because, let’s face it, you’ve got two opposing sides trying to settle their differences by killing as many of each other as they can’.¹⁶⁸ The man-made disaster of warfare involves the slaying of man by man in either direct combat or through sophisticated weaponry. Warfare brings cruel mutilating injuries and sudden, untimely, and violent death, plus the incineration and collapse of man-made structures.¹⁶⁹

The *Compact Edition of the Oxford English Dictionary*, defines disaster, ‘anything that befalls of ruinous or distressing nature; a sudden or great misfortune, mishap, or misadventure; a calamity.’¹⁷⁰ The term ‘disaster’ is used to denote usually overwhelming events and circumstances that test the adaptational responses of community or individual beyond their capability, and lead temporarily, to massive disruption of function for community or individual. Generally ‘disasters’ are sudden and dramatic events, but disasters may also be gradual and prolonged.¹⁷¹ The bombing of Laos took place over nine years from 1964 to 1973, and its consequences were, perhaps correspondingly, prolonged. Cohen and

¹⁶⁷ Karen Hulme, ‘III. The 2008 Cluster Munitions Convention: Stepping Outside the CCW Framework (Again)’, *International & Comparative Law Quarterly* 58, no. 01 (2009): 219–227, doi:10.1017/S0020589308000900.

¹⁶⁸ John E Mueller, *The Remnants of War* (Ithaca, N.Y.; Bristol: Cornell University Press; University Presses Marketing [distributor], 2007), 8.

¹⁶⁹ Beverley Raphael, *When Disaster Strikes* (Routledge, 1990), 18.

¹⁷⁰ Various, *Compact Edition of the Oxford English Dictionary, The Complete Text Reproduced Micrographically* (Book Club Associates, 1979), 739.

¹⁷¹ Raphael, *When Disaster Strikes*, 5.

Adhearn define disaster ‘disasters are extraordinary events that cause great destruction of property and may result in death, physical injury, and human suffering’.¹⁷²

When *The Public Health Consequences of Disasters* was written in 1997 Noji stated

that some disasters significantly affect our population in diverse yet similar and predictable ways, quoting the then UN Secretary General Boutros Boutros Ghali: “There is no hard-and-fast division – in terms of their effects on civilian populations- between conflicts and wars, and natural disasters. Drought, floods, earthquakes and cyclones are just as destructive for communities and settlements as wars and civil confrontation. Just as preventive diplomacy can foresee and prevent the outbreak of war, so the effects of natural disasters can be foreseen and contained.”¹⁷³

With respect to the corpus of post-conflict and disaster management journals,¹⁷⁴ it is now possible to define Disaster Management as a discipline in its own right. Emergency management is the discipline and profession of applying: science; technology; planning and management to deal with extreme events that can injure or kill great numbers of people, do extensive property damage, and disrupt community life. Efforts are made to limit losses and

¹⁷² Professor Raquel Cohen and Professor Frederick L. Ahearn Jr, *Handbook for Mental Health Care of Disaster Victims* (The Johns Hopkins University Press, 1980), 5.

¹⁷³ Eric K. Noji, *The Public Health Consequences of Disasters*, 1st ed. (Oxford University Press, USA, 1997), xv.

¹⁷⁴ Edmund Penning-Rowsell, ed., ‘Environmental Hazards: Human and Policy Dimensions’, *Environmental Hazards: Human and Policy Dimensions*, 2011, <http://www.earthscan.co.uk/?TabId=37213>; Mackubin Owens, ed., ‘ORBIS A Journal of World Affairs’, *ORBIS*, 2011, <http://www.fpri.org/orbis/>; Th Glade, T.S. Murty, and V Schenk, eds., ‘Natural Hazards’, *Natural Hazards*, 2011, <http://www.springer.com/earth+sciences+and+geography/hydrogeology/journal/11069>; Vilas Mujumdar and Kathleen Tierney, eds., ‘Natural Hazards Review’, *Natural Hazards Review*, 2011, <http://ascelibrary.org/nho/>; Robert Dixon, ed., ‘Mitigation and Adaptation Strategies for Global Change’, *Mitigation and Adaptation Strategies for Global Change*, 2011, <http://www.springer.com/earth+sciences+and+geography/meteorology+%26+climatology/journal/11027>; Irmak Renda-Tanali, ed., ‘Journal of Homeland Security and Emergency Management’, *Journal of Homeland Security and Emergency Management*, 2011, <http://www.bepress.com/jhsem/>; Amado Alejandro Báez, ed., ‘The Internet Journal of Rescue and Disaster Medicine’, *The Internet Journal of Rescue and Disaster Medicine*, 2011, http://www.ispub.com/journal/the_internet_journal_of_rescue_and_disaster_medicine.html; Thomas Birkland, ed., ‘International Journal of Mass Emergencies and Disasters’, *International Journal of Mass Emergencies and Disasters*, 2011, <http://www.ijmed.org/>; James J James, ed., ‘Disaster Medicine and Public Health Preparedness’, *Disaster Medicine and Public Health Preparedness*, 2011, <http://www.dmpmh.org/>; Margaret M McMahon, ed., ‘Disaster Management & Response’, *Disaster Management & Response*, 2011, <http://disastermgmt.com/issues>; Susan Briggs, ed., ‘American Journal of Disaster Medicine’, *American Journal of Disaster Medicine*, 2011, <http://www.pnpco.com/pn03000.html>; Jean-Luc Wybo, ed., ‘International Journal of Emergency Management’, *International Journal of Emergency Management*, 2011, <http://www.inderscience.com/browse/index.php?journalID=8>; Rajib Shaw and Ramasamy Krishnamurthy, eds., ‘Asian Journal of Environment and Disaster Management’, *Asian Journal of Environment and Disaster Management*, 2011, <http://www.rpsonline.com.sg/journals/101-ajedm/ajedm.html>; ADPC, ed., ‘Asian Disaster Management News’, *Asian Disaster Management News*, 2011, <http://www.adpc.net/IRC06/newsletter.html>; William Waugh, ed., ‘Journal of Emergency Management’, *Journal of Emergency Management*, 2011, <http://www.pnpco.com/pn06001.html>; Sara Pantuliano, Helen Young, and David Alexander, eds., ‘Disasters’, *Disasters*, 2011, <http://www.wiley.com/bw/journal.asp?ref=0361-3666>; Jean-Christophe Gaillard and Emmanuel Luna, eds., ‘Disaster Prevention and Management’, *Disaster Prevention and Management*, 2011, <http://www.emeraldinsight.com/products/journals/journals.htm?id=dpm>.

costs through the implementation of strategies and tactics reflecting the full life cycle of disaster; preparedness, response, recovery, and mitigation.¹⁷⁵

ReliefWeb suggests that an emergency is a particular type (or sub-set) of a disaster in that ‘it suggests an intense time period and level of urgency’ before going on to say that ‘an emergency is bound by a specific period in which lives and essential property are immediately at risk’. This compares with a disaster which ‘can encompass a more general period in which there is a clear and marked deterioration in the coping abilities of a group or a community.’¹⁷⁶

The formula widely used in the disaster management community (as listed in journals above) is as follows:¹⁷⁷ a disaster could be described thus:

$$D \text{ (Disaster)} = \frac{H \text{ (Hazard)} \times V \text{ (Vulnerability)}}{C \text{ (Capability)}}$$

The hazards tend to be divided into three:

- Natural disasters
- Human-made disasters
- Complex emergencies, invariably referred to in the context of Fragile, Failing or Failed States.

One other ‘element’ is fate. In the English language the dictionary describes fate as ‘destiny as pronounced by the gods, a fixed decree or sentence, by which the order of things is prescribed; inevitable necessity settling how events are to befall; unavoidable concatenation and succession of events; destiny; predetermined lot; human destiny; the final fortune of anything; final event; death; destruction and fatalism as the doctrine that all things are subject to fate, or that they take place by inevitable necessity’.¹⁷⁸

In some branches of eastern philosophy,¹⁷⁹ disasters could therefore also be defined as

$$D \text{ (Disaster)} = F \text{ (Fate)}$$

¹⁷⁵ R. T Sylves, *Disaster Policy and Politics: Emergency Management and Homeland Security* (CQ Press, 2008), 5.

¹⁷⁶ Cranfield University, ‘International Security, Elective Module 4 Disaster Management’ (presented at the MSc in International Security, Cranfield University, 2009). Accessed by the author at Cranfield.

¹⁷⁷ Ibid. On-line course material for the Cranfield MSc in International Security

¹⁷⁸ Charles Annadale, *Home Study Dictionary*, Rev Ed, vol. Rev Ed (Pub Haddock Ltd UK, Blackie, 1964), 275.

¹⁷⁹ Pattana Kitiarsa, ‘Beyond the Weberian Trails: An Essay on the Anthropology of Southeast Asian Buddhism’, *Religion Compass* 3, no. 2 (2009): 200, doi:10.1111/j.1749-8171.2009.00135.x.

However, the present thesis is written from the Western point of view in which disasters can to some extent be prevented or mitigated and certainly managed. The issue of fate in other religions and philosophies are vast areas which are not addressed further in this thesis.

Resilience is a concept that has become widespread since 2004. It means minimizing vulnerability or susceptibility to damage from hazards. Emergency management aims to strengthen the resilience of citizens, responders, organisations, communities, governments, systems and society overall to keep hazards from becoming disasters.¹⁸⁰ One distinctive feature of Disaster Management in the 21st century is that disasters have increasingly become politicised. Governments are criticised both internally and externally for the actions that they take or do not take.¹⁸¹

The 2010 World Bank and the United Nations report *Natural Hazards, UnNatural Disasters: The Economics of Effective Prevention*,¹⁸² tries to instil in policy makers that disaster planning ‘must be second nature’ and that more funds should be allocated for preventative measures against natural disasters to reduce fiscal burdens, as catastrophes and their costs are likely to multiply over the next few decades. The report predicts that global losses from natural disasters could triple to U.S. \$185 billion by 2100 as more people migrate to cities and their incomes rise. Under this scenario, climate change would add \$28-68 billion worth of damage per year from tropical cyclones and that the number of people exposed to natural disasters could double to 1.5 billion over the next 40 years, with Asia more prone than some other areas.¹⁸³ The Asian Disaster Preparedness Centre has also called for policymakers to put prevention on their national agendas to reduce economic costs over the medium term. This is because post-disaster rehabilitation can increase economic output in the short term. For example, Thailand is considering setting up a crop insurance fund to reduce the burden on farmers from unexpected drought.¹⁸⁴ Development of risk-management strategies, such as improved infrastructure, early warning systems and evacuation plans, and disaster response and relief aid, is urgently needed.¹⁸⁵

¹⁸⁰ MACA, *An Emergency Management Framework for the Northwest Territories* (Department of Municipal and Community Affairs, April 2011), 4, http://www.maca.gov.nt.ca/emergency_management/nwt-emergency-management-framework.pdf.

¹⁸¹ Cranfield University, ‘International Security, Elective Module 4 Disaster Management’.

¹⁸² Apurva Sanghi, *Natural Hazards, Unnatural Disasters: The Economics of Effective Prevention* (World Bank Publications, 2010).

¹⁸³ Ibid.

¹⁸⁴ Busrin Treerapongpichit, ‘Friday 10/12/2010’, *Bangkok Post*, 10 December 2010, B6.

¹⁸⁵ Roland Fuchs, ‘Cities at Risk: Asia’s Coastal Cities in an Age of Climate Change’, *Asia Pacific Issues* 96 (July 2010): 1.

The UN has published a number of excellent descriptions and interpretations dealing with disaster management, response and recovery, through to sustainable hazard mitigation. These are referenced and referred to below. Recovery from a disaster is primarily about:

- Shifting focus from saving lives to restoring livelihoods.
- Effectively preventing the recurrence of crisis situations.
- Harnessing conditions for future development.
- Building on national capacities.
- Empowering communities.
- Determining and addressing root causes and vulnerabilities.¹⁸⁶

Awasthy argues that the social functions of community members have been excised and replaced by public sector agencies dominated by external public administrations.¹⁸⁷ Disaster metrics must capture the magnitude and scope of physical impact and social disruption at the community, regional, or societal level *and* the social significance attached to these effects on human populations¹⁸⁸ The precise determination of physical impacts and social disruption is highly complex because disasters produce a host of primary, secondary, and indirect effects.¹⁸⁹

Direct effects include the deaths, injuries, and physical damage and destruction that are caused by the impact of the disaster agent itself. Research has recently begun to emphasize the importance of secondary disaster impacts, such as fires or hazardous materials releases that are triggered by earthquakes, and environmental pollution resulting from flooding. These kinds of occurrences can produce significant impacts and losses over and above those caused by the primary disaster agent, in this case, by war. The hazards that lead to disaster, natural or technological, emerge directly from human activity upon environments and the intensity of human environmental intervention.¹⁹⁰ One of anthropology's approaches 'to the study of disaster encompasses all the social and cultural issues beyond those that deal directly with environmental matters. It deals with the populace, its organization, and the invisible constructs communities share.'¹⁹¹

¹⁸⁶ United Nations, 'Post-Disaster Recovery: Guidelines and Good Practices', 2005, <http://www.un.org/en/ecosoc/meetings/2005/docs/RECOVERY%20guidelines.pdf>.

¹⁸⁷ Amit Awasthy, *Disaster Management: Warning Response and Community Relocation* (Global India Publications, 2009), 3–4.

¹⁸⁸ *Ibid.*, 4–5.

¹⁸⁹ *Ibid.*, 5.

¹⁹⁰ Oliver-Smith and Hoffman, *The Angry Earth*, 6.

¹⁹¹ *Ibid.*, 7.

Relocation and resettlement after disaster profoundly affect populations. Both frequently spur dissension among survivors and between survivors and various other factions and factors in the disaster juncture – neighbours, aid givers, and governments. People may become disrupted in time perception, habits, and patterns, which not only reveals what the contexts of their lives were once, but propels them to build their milieu anew.¹⁹²

An important source book referred to has been *Introduction to International Disaster Management*.¹⁹³ Taking a global perspective, Coppola has used a logical progression from history of disasters to management and governmental agencies. He concentrates on the four stages of emergency management: mitigation, preparedness, response, and recovery. Tolley's *Handbook of Disaster and Emergency Management: Principles and Practice*¹⁹⁴ aims to show how to minimise the potential damage of disasters in both public and private sectors with man-made and natural disaster case studies, and covers how the Civil Contingencies Act 2004¹⁹⁵ modernised the UK's approach to disaster and emergency management. Written from a UK practitioner's point of view, its practical approach will help organizations to ensure business continuity and safeguard the health and safety of their staff. The in-depth issues covered range from medical responses, to insurance, law and public enquiries as well as forensics and crisis management.

The need for an integrated (multi-agency) approach to Disaster Management is highlighted in Tolley's *Handbook of Disaster and Emergency Management*.¹⁹⁶ Tolley continues the case study with: major incident arrangements; urban planning and population dynamics; communication; emergency management; lack of trained personnel; and organisational learning. The importance of a unified command and control structure is vital: there is a need to determine who is actually in charge. Tolley stresses that a 'cabinet office' is the key forum that links government departments together. In order to improve crisis communication, such political and administrative oversight is necessary.¹⁹⁷

¹⁹² Ibid., 8.

¹⁹³ Damon P. Coppola, *Introduction to International Disaster Management*, 1st ed. (A Butterworth-Heinemann Title, 2006).

¹⁹⁴ Tony Moore and R. Lakha, *Tolley's Handbook of Disaster and Emergency Management: Principles and Practice*, 3rd ed. (A Butterworth-Heinemann Title, 2006).

¹⁹⁵ 'Civil Contingencies Act 2004', 2004, <http://www.legislation.gov.uk/ukpga/2004/36/contents>.

¹⁹⁶ One of the main examples is the Nigerian Ammunition Dump Explosion in January 2002, with estimates of between 1,200 and 2,000 fatalities. Although this example differs substantially in nature from the problems of widely distributed UXO in Laos, it nevertheless demonstrated the need for a similar approach. Moore and Lakha, *Tolley's Handbook of Disaster and Emergency Management*, 39–43.

¹⁹⁷ Ibid., 54–55.

U.S.AID/OFDA revised its guidelines for Proposals and Reporting in October 2008.¹⁹⁸ The changes were intended to reinforce U.S.AID/OFDA's prioritization of developmental relief and to encourage implementing partners to incorporate these principles in all relief interventions. The new guidelines will also better facilitate implementing partners' and U.S.AID/OFDA's ability to fulfil immediate operational and accountability reporting requirements.¹⁹⁹

Ian Davis, a distinguished expert on disaster management, has suggested a 'Pyramid of Principles' which underlie disaster recovery, as shown in Figure 4.

The Pyramid of Principles

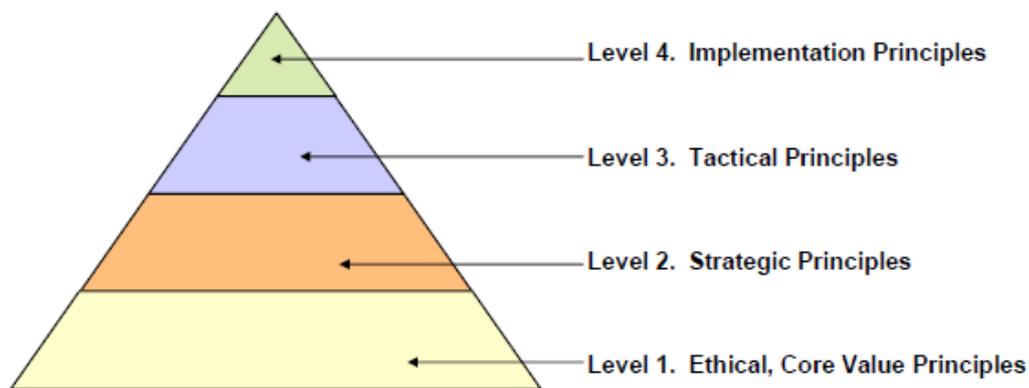


Figure 4. Underlying principles in disaster recovery theory²⁰⁰

This thesis is organised in a way that roughly follows Davis's diagram. Level 1, 'Ethical, Core Value Principles', is covered in section 2.5, 'Philosophy that underpins the history of humanitarian ideas. Level 2, 'Strategic Principles' and Level 3, 'Tactical Principles, is addressed in section 5, and Level 4, 'Implementation Principles', is addressed in the future developments section 6.

Davis' 'Pyramid of Principles' therefore provides a good starting point for this thesis. However, as this is an analysis of how organisations and the international community responded to Explosive Remnants of War, the following diagram, based on the Davis

¹⁹⁸ USAID/OFDA, *Guidelines for Unsolicited Proposals and Reporting* (USAID OFFICE OF U.S. FOREIGN DISASTER ASSISTANCE (USAID/OFDA), October 2008).

¹⁹⁹ *Ibid.*, 5.

²⁰⁰ Ian Davis, 'Learning from Disaster Recovery: Guidance for Decision Makers', *International Recovery Platform (IRP)*, May 2006, 3.

pyramid could be used to represent its structure rather better and to shift the emphasis from principles – and therefore planning – to the actual response. The ensuing complementary table breaks the pyramid down further to better illustrate how it can be applied to Laos.



Figure 5. Underlying principles in post-conflict development theory relating to this thesis

Table 2 applying the ‘Pyramid of Principles’ to this thesis

	Laos
Mitigation	Protocol V, UXO Lao
International Response	Low – Lack of general awareness
Diplomatic response	Low – reluctance of U.S. to accept responsibility
Underlying Principles	‘Secret War’, Communist, Failed State, UXO

The chapter on mitigation (Chapter 5) will examine possible additions to the Mitigation bar at the top of this table.

2.10. Summary

This Chapter has covered the philosophy that underpins the epistemology of this thesis, followed by the disciplines which make up the ontology of the research. The Chapter has also detailed the methodology employed in researching the thesis. In the next chapter we shall travel to the country that forms the subject of the case-study – Laos – and the surrounding region, and investigate the political traditions that prevailed before the war and contributed to it.

Chapter 3. Laos and the history of the Secret War

This Chapter will introduce the general political and economic characteristics of Laos. Sections 3.2 and 3.3 focus on the ‘Secret War’²⁰¹ with an emphasis on the U.S. Hearings, and will attempt to provide the historical background and context to further investigate the explosive remnants of war in subsequent Chapters. Before that, the introductory section 3.1 gives definitions.

Australia stated that their original reason for committing military forces to South Vietnam was to help prevent South Vietnam falling under communist control.²⁰² The U.S. was similarly motivated. The Australian Government further argued that the fall of that country would also place pressure on Thailand, and could penetrate to Malaysia, Singapore and Indonesia.²⁰³ This explains the development of strategy and defence policies and rationale for the deployment of forces to Vietnam in the context of international events.

3.1. Definition of Southeast Asia

The Lao People’s Democratic Republic is a small landlocked, mountainous nation bordered by Thailand, China, Vietnam, Myanmar and Cambodia and sits within the geographical region known as Southeast Asia (Figure 6 and 7). By the mid-nineteenth century, China had lost her independence to the British, French,²⁰⁴ and other European powers. French colonialism²⁰⁵ had come to Vietnam which became known as ‘Tonkin’ in the north, ‘Annam’ in the middle, Saigon and all territory to the south became ‘Cochin-China’,²⁰⁶ and the entire area of Laos and Cambodia was renamed ‘Indochina’. All of Indochina was incorporated into the French empire as a ‘protectorate’ by 1893.²⁰⁷ The French dominion lasted until France’s defeat by the Viet Minh in 1954.²⁰⁸ Figure 6, a Scottish Geographical map dated 1886 for

²⁰¹ Alfred W. McCoy, ‘America’s Secret War in Laos, 1955–75’, in *A Companion to the Vietnam War*, ed. rilyn B. Young and Robert Buzzanco (Blackwell Publishing Company, 2007), 283–313, <http://onlinelibrary.wiley.com/doi/10.1002/9780470997178.ch15/summary>.

²⁰² R. G. Boyd, ‘Problems of Australian Foreign Policy’, *Australian Journal of Politics & History* 6, no. 1 (1960): 1.

²⁰³ Ashley Ekins and Ian McNeill, *Fighting to the Finish* (Sydney: Allen & Unwin Australia, 2012), 308.

²⁰⁴ Kenneth Perry Landon, ‘Thailand’s Quarrel with France in Perspective’, *The Far Eastern Quarterly* 1, no. 1 (1 November 1941): 25–42, doi:10.2307/2049074.

²⁰⁵ Anne Raffin, ‘Tours of Duty, Cross-Identification and Introjection: The Colonial Administrative Mind in Wartime Indochina’, *Journal of Historical Sociology* 21, no. 2–3 (2008): 183, doi:10.1111/j.1467-6443.2008.00335.x.

²⁰⁶ Marvin E Gittleman, *Vietnam and America* (New York: Grove Press, 1995), 8.

²⁰⁷ Herbert, Adams Gibbons, *The New Map of Asia, (1900-1919)*, 1st Edition (New York: The Century Company, 1919), 102.

²⁰⁸ James William Gibson, *The Perfect War: Technowar in Vietnam* (New York: Atlantic Monthly Press, 2000), 17–18.

the Burma –Siam China railway, shows Siam²⁰⁹ (now Thailand) part of which is including the land to the Annam mountain range and Cochin-China.

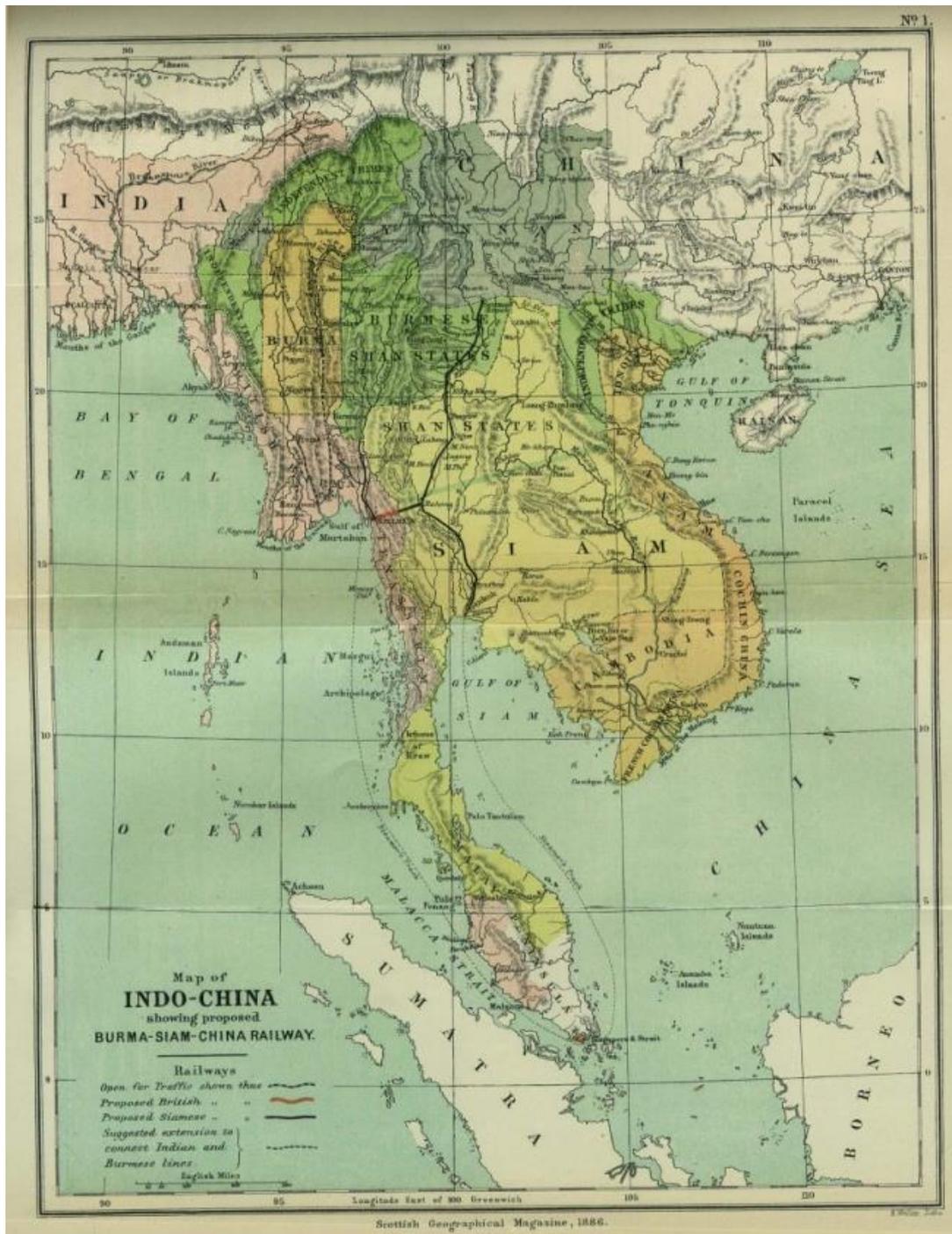


Figure 6. Scottish Geographical Map of Indo-China dated 1886²¹⁰

²⁰⁹ Gibbons writing in 1919, pointed out that the French policy toward Siam had rendered them bitter enemies and that the extension of French ‘... colonial dominion at the expense of Siam will mean one day for France the necessity of getting out of Indo-China altogether. If she does not go without resistance, the Siamese will help in putting her out’. Gibbons, *The New Map of Asia, (1900-1919)*, 93.

²¹⁰ Hugh Webster A and Arthur Silva White, eds., ‘Map of Indo-China, Burma-Siam-China Railway’, *Scottish Geographical Magazine* 2 (1886).



Figure 7. Greater Mekong Subregion Economic Corridors²¹¹

²¹¹ Asian Development Bank, *Lao PDR and Viet Nam: Greater Mekong Subregion: East-West Corridor Project*, November 2008, 13, <http://www.adb.org/sites/default/files/projdocs/2008/32105-VIE-PCR.pdf>.

The map in Figure 7 shows modern day Laos and Vietnam.²¹² The border with China is 262 miles long.²¹³ This is an area called the ‘growth quadrangle’ and is a term applied to the large transborder zone covering Yunnan Province (China),²¹⁴ Laos, northern Myanmar and northern Thailand.²¹⁵ Dobby states that Southeast Asia is a term which became popular during the Far Eastern War of 1941-45,²¹⁶ to describe those territories of Eastern Asia which lie south of the Tropic of Cancer (Myanmar, Thailand, Indo-china and Malaya).²¹⁷ The area of the country is 91,428 square miles (236,800 square kilometres), the greatest north-south distance is 700 miles and east-west is 275 miles.²¹⁸

In the first half of the 20th century, therefore, Laos formed, with present-day Vietnam and Cambodia the French colony of Indochina.²¹⁹ During 1945, when Japan briefly occupied Indochina for five months, different Laotian nationalist movements with links to the Lao Issara (Free Laos Movement) proclaimed independence. France re-established control in 1946, but the Lao Issara were then in close military cooperation with the Vietnamese Viet Minh and Cambodian Khmer Issarak. The Pathet Lao, a left-wing faction of the Lao Issara, continued the close contacts with the North Vietnamese forces from 1959-73. The conflict became part of the regional war in Indochina at the time, and the Lao government, supported by troops from Thailand, South Vietnam and the U.S.A., created a coalition government but the monarchy was abolished by the Pathet Lao when a one-party communist state was proclaimed in 1975. A mass exodus of primarily royalists and ethnic minorities (90 percent of all intellectuals, technicians and officials) fled into Thailand following the communist

²¹² Ronald Bruce St John, *The Land Boundaries of Indochina: Cambodia, Laos and Vietnam* (IBRU, 1998).

²¹³ Rocco Michael Paone, *Evolving New World Order/Disorder: China-Russia-United States-NATO* (USA: University Press of America, 2001), 64.

²¹⁴ Antonella Diana, ‘The Experimental Governing of Mobility and Trade on the China-Laos Frontier: The Tai Lue Case’, *Singapore Journal of Tropical Geography* 34, no. 1 (2013): 25.

²¹⁵ Carl Grundy-Warr, Rita King, and Gary Risser, ‘Cross-Border Migration, Trafficking and the Sex Industry: Thailand and Its Neighbours’, *Boundary and Security Bulletin* 4, no. 1 (1996): 95.

²¹⁶ For earlier warfare in the region see Mayoury Ngaosyvathn and Pheuiphanh Ngaosyvathn, *Paths to Conflagration: Fifty Years of Diplomacy and Warfare in Laos, Thailand, and Vietnam, 1778-1828* (New York: SEAP Publications, 1998); Frank M. LeBar and Adrienne Suddard, *Laos, Its People, Its Society, Its Culture*. (New York: Taplinger, 1963); Arthur John Dommen, *Conflict in Laos: The Politics of Neutralization* (New York: Praeger, 1964); Laura M. Calkins, *China and the First Vietnam War, 1947-54* (Routledge, 2013).

²¹⁷ E H Dobby, *Southeast Asia*, 9th ed. (University of London Press., 1966), 17; D. J. M. Tate, *The Making of Modern South-East Asia* (Oxford UK: Oxford University Press, 1971); Charles A. Fisher, *South-East Asia: A Social, Economic and Political Geography* (London: Methuen, 1964); D. G. E. Hall, *A History of South-East Asia* (London: Macmillan, 1966); Virginia Thompson, *French Indo-China*, First Edition (London: George Allen & Unwin, 1937).

²¹⁸ Donald P. Whitaker, *Area Handbook for Laos* (Washington, D.C.: U.S. G.P.O., n.d.), vii.

²¹⁹ Donald Lancaster, *The Emancipation of French Indochina* (London: Oxford U.P, 1961); Donald E. Nuechterlein, *Thailand and the Struggle for South-East Asia* (Ithaca: Cornell University Press, 1966).

takeover.²²⁰ Part of the initial earlier dissension was in 1953, when the Franco-Lao Treaty of Amity and Association had transferred power to the independent Royal Lao government, which had not included any representatives from the anti-colonial armed nationalist movement, the Lao Issara.²²¹ The early resistance in Laos against the French consisted primarily of local ethnic rebellions or actions organised by the Vietnamese-dominated Indochinese Communist Party.²²²

The International Institute for Strategic Studies' *The Military Balance*, first published in 1959, is the most highly recorded and authoritative open-source publication giving political, military and strategic data on the entire world's 170 territories and also non-state armed groups. The following demographic data are derived and adapted from *The Military Balance*.

According to *The Military Balance* ²²³for the respective years, the total population of Laos was 6,834,345 million in 2010, dropping to 6.586 million in 2013. The ethnic breakdown was between one-third and one-half of the total population are ethnic Lao (chiefly in the lowlands); 10-20 percent tribal Tai (living in upland river valleys and plateaus); 20-30 percent Lao Theung (Mon-Khmer- speaking hill peoples living on mountain slopes); 10-20 percent Lao Sung (Miao-Yao speakers living at altitudes exceeding 3,500 feet).²²⁴ The overall population figures differ slightly from those of the Fund for Agricultural Development in 2010, which gave a population of 6.21 million, of which the rural population was 4,142 million and, of those, the rural poor approximately 1,313 million.²²⁵ The distribution by age and sex is shown in Tables 2 and 3, below.

Table 2 Laotian Population 2010: Distribution by Age and Sex²²⁶

Age	0-14	15-19	20-24	25-29	30-64	65 plus
Male	21%	6%	5%	4%	13%	1%
Female	21%	5%	5%	4%	14%	2%

²²⁰ Stéphane Courtois and Mark Kramer, *Livre Noir Du Communisme: Crimes, Terreur, Répression* (Harvard University Press, 1999), 575.

²²¹ Stuart-Fox, *A History of Laos*, 83.

²²² R. B. Smith, 'The Foundation of the Indochinese Communist Party, 1929–1930', *Modern Asian Studies* 32, no. 04 (1998): 769–805, doi:10.1017/S0026749X98002923.

²²³ The International Institute for Strategic Studies' *The Military Balance*, first published in 1959, is the most highly recorded and authoritative open-source publication giving political, military and strategic data on the entire world's 170 territories and also non-state armed groups. The International Institute Strategic Studies, *The Military Balance 2010* (London: Routledge, 2010).

²²⁴ Whitaker, *Area Handbook for Laos*, vii.

²²⁵ International Fund For Agricultural Development, 'Rural Poverty Portal', *Rural Poverty Portal*, accessed 18 March 2013, <http://www.ruralpovertyportal.org/country/home/tags/laos>.

²²⁶ The International Institute Strategic Studies, *The Military Balance 2010*, 416.

Table 3 Laotian Population 2013: Distribution by Age and Sex²²⁷

Age	0-14	15-19	20-24	25-29	30-64	65 plus
Male	18.2%	5.5%	5%	4.2%	15%	1.7%
Female	17.9%	5.6%	5.1%	4.3%	15.5%	2%

Laos's military and paramilitary at the time of writing (2013) comprise 25,600 Army, 3,500 Air Force and 100,000 Paramilitary. Terms of service are 18 months minimum conscription.²²⁸ The armed forces remain closely linked to the ruling Communist Party, and their primary orientation is towards internal security, with operations continuing against Hmong rebel remnants.²²⁹ There are 49 officially recognised ethnic groups, many with their own distinct language/dialect and culture. The UN classifies Laos as a 'Least Developed Country',²³⁰ 80 percent of the population live in rural areas, approximately 40 percent of the population is malnourished, and just under half of the population does not have access to clean-water. The mountainous terrain means that only five percent of the country's land area is suitable for intensive agriculture.²³¹

There are no official tabulation figures for the casualties in Laos. That is, in part, because the war in Laos did not officially exist.²³²

3.1.1. 'Failed' and 'Fragile' States

The terms failed and fragile states emerged during the 1990s in the context of UN intervention. In 2012 Laos was listed as 'Critical' and ranked 48 in a list of 60.²³³ Fragility and failure are defined by the Centre for Research on Inequality, Human Security and Ethnicity (CRISE) Report 2010.²³⁴ CRISE is a development research centre within the

²²⁷ The International Institute Strategic Studies, *The Military Balance 2013* (London: Routledge, 2013), 315–316.

²²⁸ The International Institute Strategic Studies, *The Military Balance 2010*, 416.

²²⁹ The International Institute Strategic Studies, *The Military Balance 2013*, 316.

²³⁰ 'UN-OHRLLS :: Least Developed Countries - About LDCs', *Least Developed Countries*, accessed 28 May 2012, <http://www.unohrlls.org/en/ldc/25/>.

²³¹ Nicole Naurath, 'Despite Struggling Economy, Extreme Optimism in Laos', *Gallup World*, 13 April 2007, <http://www.gallup.com/poll/26917/Despite-Struggling-Economy-Extreme-Optimism-Laos.aspx>.

²³² Gibson, *The Perfect War*, 9–10.

²³³ 'The 2012 Failed States Index - Interactive Map and Rankings', *Foreign Policy*, accessed 28 May 2013, http://www.foreignpolicy.com/failed_states_index_2012_interactive.

²³⁴ Stewart and Brown, 'Fragile States'.

University of Oxford supported by the UK Department for International Development (DFID). Fragile states are thus to be defined as states that are failing, or at risk of failing, with respect to authority, comprehensive basic service provision, or legitimacy. Both types of differentiation are important because appropriate aid policy is likely to differ according to the *dimension* of fragility and between countries that are *actually failing* in one or more dimensions, and those that are *at risk of failing*. It is worth listing the three dimensions as defined by Stewart and Brown in the CRISE report²³⁵ describing a country that is failing or at high risk of failing in three dimensions:

Authority failures: the state lacks the authority to protect its citizens from violence of various kinds

Service failures: the state fails to ensure that all citizens have access to basic services

Legitimacy failures: the state lacks legitimacy, enjoys only limited support among the people, and is typically not democratic.

In state fragility in Legitimacy, Laos is listed as ‘Failed’.²³⁶ Both on the OECD list of fragile states, and on the World Bank’s list of fragile and conflict-affected countries.²³⁷ Although the OECD and the World Bank have some differences in classification of their definitions, the CRISE report analysis suggests that donor institutions (1) may not be very consistent in classifying countries as fragile and that (2) they omit some countries from the classification although they may need ‘special’ policies if a worsening situation is to be avoided. Thailand is listed as at risk in the dimension of both authority and legitimacy. Events that occurred in 2010 indicated that Thailand is indeed fragile in some respects, as evidenced by the violence and massive protests (and their suppression) which was quite extensive. Countries that fail in any one dimension may do so for different reasons, therefore, it is necessary to identify the sources of failure in each dimension in each country before developing relevant policies to help the country move out of fragility.²³⁸

The definition of ‘fragile states’ in the list of the Organisation for Economic Co-operation and Development (OECD),²³⁹ identifies the countries at risk as well as those that are actually failing. The report investigates relationships among the different dimensions of fragility and to make the definition useful for policy, in pinpointing the different sources of fragility across

²³⁵ Ibid., 10.

²³⁶ Hendry, ‘Failed States Index | The Fund for Peace’.

²³⁷ Stewart and Brown, ‘Fragile States’, 15.

²³⁸ Ibid., 19–34; Lisa Chauvet and Paul Collier, ‘Aid and Reform in Failing States’, *Asian-Pacific Economic Literature* 22, no. 1 (2008): 15.

²³⁹ DAC OECD, *Whole of Government Approaches to Fragile States* (OECD: Paris, 2006).

countries. As the exercise in ‘Piloting the Principles for Good International Engagement’ of the OECD’s Development Assistance Committee (DAC) concluded:

The concept of a ‘fragile state’ emerged as problematic for various reasons in almost all cases. In some the rationale was for classifying the country as fragile was questioned. The concept was also seen as generalising across very different situations and problems and as not providing a definition that could be accepted by both donors and government. In some cases the terminology was seen as sensitive and causing suspicion from the government side and potentially impacting negatively on the relationship with government.²⁴⁰

It is helpful here to look at some of the different definitions from CRISE:

The UK Department for International Development (DFID) uses a definition of fragile states that focuses on comprehensive service delivery: ‘Fragile states are countries where the government cannot or will not deliver its basic functions to the majority of its people, including the poor’ (DFID, 2010). DFID explicitly notes that it does not restrict its definition of fragility to countries experiencing or coming out of conflict: ‘Countries range from those affected or emerging from conflict to those with strong governments which are not committed to poverty reduction and where human rights are routinely abused’.²⁴¹ Conversely, countries that continue to provide an acceptable level of services, despite being in conflict, do not constitute fragile states under DFID’s definition; many countries with ongoing, but contained, separatist struggles would fall into this category.

The OECD definition is similar but goes beyond a government’s failure to provide comprehensive services and includes the protection of the population’s human rights and security: ‘States are fragile when state structures lack political will and/or capacity to provide the basic functions needed for poverty reduction, development and to safeguard the security and human rights of their populations’ (OECD-DAC, 2007).

Canada’s Country Indicators for Foreign Policy (CIFP) project extends the definition of fragile states to include political legitimacy. Specifically, fragile states are those that ‘lack the *functional authority* to provide basic security within their borders, the *institutional capacity* to provide basic social needs for their populations, and/or the *political legitimacy* to effectively represent their citizens at home or abroad’ (CIFP, 2006).

²⁴⁰ Ibid., 7.

²⁴¹ Simon Maxwell, ‘Eliminating World Poverty: Building Our Common Future’, *Development Policy Review* 27, no. 6 (November 2009): 69, doi:10.1111/j.1467-7679.2009.00469.x.

The U.S. Agency for International Development (USAID) ‘uses the term *fragile states* to refer generally to a broad range of failing, failed, and recovering states. [...] the strategy distinguishes between fragile states that are vulnerable from those that are already in crisis.’

Vulnerable states are defined as

unable or unwilling to adequately assure the provision of security and basic services to significant portions of their populations and where the legitimacy of the government does not exert effective control over its own territory or is unable or unwilling to assure the provision of vital services to significant parts of its territory, where legitimacy of the government is weak or non-existent, and where violent conflict is a reality or a great risk.²⁴²

The World Bank uses the term ‘fragile states’ to refer to countries facing particularly severe development challenges. These include: ‘weak institutional capacity, poor governance²⁴³, and political instability. Often these countries experience ongoing violence as the residue of past severe conflict. Ongoing armed conflicts affect three out of four fragile states’.²⁴⁴ In addition to armed conflict another key factor at work in fragile states is corruption,²⁴⁵ according to Transparency International persistently high corruption in low-income countries amounts to an ongoing humanitarian disaster.²⁴⁶ The Transparency International’s (TI) 2008 Corruption Perceptions Index (CPI), measures the degree to which corruption is perceived to exist among public officials and politicians ‘In the poorest countries, corruption levels can mean the difference between life and death, when money for hospitals or clean water is in play’.²⁴⁷ The TI called the member states of the UN General Assembly, to ask for a more focussed and coordinated approach by the global donor community. The aim was to ensure that development assistance was designed to strengthen institutions of governance and oversight in recipient countries, and that aid flows themselves were ‘fortified against abuse and graft’. Of the 180 countries listed, the CPI measures the perceived levels of public-sector corruption in any given country, on a scale from zero (highly corrupt) to ten (highly clean), lists Myanmar 1.4 Laos 2.1, Thailand 3.5, a most telling indicator for aid strategy.

²⁴² USAID, *Fragile States Strategy* (U.S. Agency for International Development, January 2005), 1, http://www.usaid.gov/policy/2005_fragile_states_strategy.pdf.

²⁴³ Brendan M. Howe, ‘Governance in the Interests of the Most Vulnerable’, *Public Administration and Development* 32, no. 4–5 (2012): 345–56.

²⁴⁴ Stewart and Brown, ‘Fragile States’, 9.

²⁴⁵ Krisztina Kis-Katos and Günther G. Schulze, ‘Corruption in Southeast Asia: A Survey of Recent Research’, *Asian-Pacific Economic Literature* 27, no. 1 (2013): 81.

²⁴⁶ Huguette Labelle, ‘Transparency International’, 2011, online, http://www.transparency.org/news_room/in_focus/2008/cpi2008.

²⁴⁷ Ibid.

Another important influential factor, although not directly connected with EOD, but which nevertheless impacts on all countries in the region, is the production of opium.²⁴⁸ This affects resilience, fosters a climate of corruption and weakens society. The ‘Golden Triangle’ is an area overlapping the countries of Myanmar, Laos, Thailand, and Vietnam, where opium is produced in large quantities.²⁴⁹ The Laotian government's pledge to end the cultivation²⁵⁰ of opium poppies by 2005 was music to the ears of international narcotics-control agencies and donor governments alike. But in a country where over 40% of the population are hill-tribesmen,²⁵¹ many of them dependent on opium as a cash-crop and for medicine, it has proven problematic. International NGOs are worried about the humanitarian cost of the war on drugs, which has already caused the displacement of some 25,000 Hmong, Akha, and other tribes from their traditional homes in the mountains to the valleys. Laos, one of the poorest²⁵² countries in Asia, has long been pressed by donors to get tough on narcotics. Besides, one Laotian development specialist argues that international drug policies are unfair to his people, citing the examples of other countries, including India and Turkey, where farmers benefit from legal opium cultivation for the production of pain-killers,²⁵³ a subject area not specifically covered in this thesis. (For in depth analyses see.²⁵⁴)

3.2. Country Background

Martin Stuart-Fox's definitive, *A History of Laos*,²⁵⁵ is authoritative and wide-ranging, tracing the history of events in this little-known country from ancient monarchy, through its establishment as a French colony, to independence in 1953, and then to the Lao People's Democratic Republic (LPDR) proclaimed in 1975, and the present one-party authoritarianism. It highlights Laos' complex and shifting political alliances,²⁵⁶ encompassing the era of French colonialism and the struggle for independence from the French. This was followed by a struggle for unity and neutrality in the face of persistent foreign intervention, as

²⁴⁸ *Bulletin on Narcotics*, Occasional papers (New York: United Nations, 2000).

²⁴⁹ Kaplan, *Monsoon*, 328.

²⁵⁰ Paul T. Cohen, ‘Symbolic Dimensions of the Anti-Opium Campaign in Laos’, *The Australian Journal of Anthropology* 24, no. 2 (2013): 177.

²⁵¹ Olivier Evrard and Yves Goudineau, ‘Planned Resettlement, Unexpected Migrations and Cultural Trauma in Laos’, *Development and Change* 35, no. 5 (2004): 937.

²⁵² K. Bird and H. Hill, ‘Tiny, Poor, Land-Locked, Indebted, but Growing: Lessons for Late Reforming Transition Economies from Laos’, *Oxford Development Studies* 38, no. 2 (2010): 117.

²⁵³ The Economist, ‘Laos Unintended Consequences: Calls to Re-Legalise Opium’, *The Economist Asia* (29 April 2004).

²⁵⁴ Alfred W. McCoy, *The Politics of Heroin in South East Asia* (Harper & Row., 1977).

²⁵⁵ Stuart-Fox, *A History of Laos*.

²⁵⁶ See the excellent work by Michael Leifer, who was the doyen of scholars and commentary on Far East Asia. This is a comprehensive work that provides descriptive and analytical coverage of the turbulent political history and striking changes, which have occurred in key countries since the end of 1945 Leifer, *Dictionary of the Modern Politics of Southeast Asia*.

the country was drawn into the war in Indochina. Only with the end of the Cold War and the withdrawal of Vietnamese troops has Laos been able to reassert its neutral foreign policy and develop a market economy as it joined ASEAN, but Laos struggles to face its economic and cultural challenges.²⁵⁷ Although the country appears to be a peaceful landscape, it is, at the time of writing at a cross roads politically.²⁵⁸

Laos does benefit from relatively high-quality surrounding transport infrastructure. It has a limited internal transport network itself, but borders Thailand's modern infrastructure facilities, which are characterized by four-lane motorways. Transport within Laos²⁵⁹ on the other hand, is mainly limited to single-carriage roads as highlighted in '*Challenges Facing Landlocked Developing Countries*'.²⁶⁰ The Thai government has also recently extended its rail line to the Laotian border. The rail line, however, does not continue to the Laotian capital, Vientiane, since Laos does not have a domestic rail system.²⁶¹ Transit trade entering Laos on the Thai rail system, must currently be unloaded and placed on trucks. Laos's main trading partners are Thailand and Vietnam, but Laos is performing worse, relative to its neighbours, in human development.²⁶²

In 2007 Laos received, aid approaching 89 per cent of its gross national income.²⁶³ Income poverty estimates of less than \$1.25 a day excluded Laos and Myanmar because of lack of data.²⁶⁴ A Save the Children report suggests that a schooling gap between indigenous and non-indigenous peoples remains.²⁶⁵ In Lao PDR geography, climate and discrimination based on ethnicity make it difficult to deliver basic infrastructure to remote areas, where many indigenous peoples and ethnic minorities live.²⁶⁶ The United Nations World Food Programme

²⁵⁷ Stuart-Fox, *A History of Laos*.

²⁵⁸ Richard Swift, 'Laos', *New Internationalist*, no. 407 (December 2007): 36–36.

²⁵⁹ Daniel White, *Frommer's Cambodia and Laos*, 1st ed. (John Wiley & Sons, 2010), 211.

²⁶⁰ Michael L. Faye et al., 'The Challenges Facing Landlocked Developing Countries', *Journal of Human Development* 5, no. 1 (2004): 31–68, doi:10.1080/14649880310001660201.

²⁶¹ *Ibid.*, 44–5.

²⁶² *Ibid.*, 66.

²⁶³ Jeni Klugman, *The Real Wealth of Nations: Pathways to Human Development*, UNDP (United Nations Development Programme, 2010), 111.

²⁶⁴ *Ibid.*, 123.

²⁶⁵ See also *The Economic Impact of Malnutrition* in Liam Crosby, Daphne Jayasingha, and David McNair, *Food for Thought: Tackling Child Malnutrition to Unlock Potential and Boost Prosperity* (London: Save the Children, 2013).

²⁶⁶ Klugman, *The Real Wealth of Nations: Pathways to Human Development*, 75.

(WFP) contains disturbing analysis on food insecurity and vulnerability to food insecurity in Laos.²⁶⁷

The U.S. bombed and mined Laos for nine years without the formality of ever declaring war. It then imposed an effective trade blockade on the country in the years following the cessation of the bombing in 1973 on the grounds that Laos was an ‘enemy’ of the United States.²⁶⁸

In 2011 Communist Laos opened a stock market, in the hope that it would attract capital to its largest enterprises and thus boost its economy from one of the world's poorest nations. The Lao Securities Exchange, headquartered in the capital of Vientiane, offered shares by just two state-owned enterprises—*Electricité du Laos Generation Company* (EDL), the country's major energy enterprise, and the *Banque Pour Le Commerce Exterieur Lao*. The exchange has been set up with aid from South Korea's own stock market whilst neighbouring Thailand also offered assistance. ‘The exchange will allow an alternate source of capital other than banks and allow public participation in the growth of the economy,’ said Lorraine Tan, director of equities research at Standard & Poor's in Singapore. ‘A broad capital market will certainly help economic development.’ But Tan added that it would take some time for foreign equity to flow in. ‘You just can't do that by opening up a stock market,’ Tan said.²⁶⁹

3.3. Historical perspective – Civil War with Foreign Intervention

George Coedès, who was the Director of the *École Française d'Extrême-Orient*, writing in the 1960s, after the Vietnamese victory over the French, pointed out that the French military effort was chiefly financed by the United States. President Truman gave France \$10 million in financial aid to support its war against the Communist Viet Minh, (President Eisenhower had given \$2 billion in aid to South Vietnam²⁷⁰) at Dien Bien Phu, North Vietnam, in 1954. The defeat of the French army at the Battle of Dien Bien Phu in 1954 by communist led forces ended French control of Vietnam. Coedès writes of the turbulent crisis throughout the founding of the first Indochinese states.²⁷¹ According to Gabriel Kolko between the years

²⁶⁷ Liliana Balbi et al., *Food and Agriculture Organisation of the United Nations: Special Report for Laos PDR*, Special Report (Food and Agriculture Organization of the United Nations, March 2011).

²⁶⁸ McGrath, *Landmines and Unexploded Ordnance*, 2000, 77.

²⁶⁹ Associated Press, ‘Laos to Open Stock Market’, News Paper, *The Irrawaddy*, (10 January 2011), online, http://www.irrawaddy.org/article.php?art_id=20494.

²⁷⁰ Richard Nixon, *No More Vietnams*, First Thus (W.H. Allen / Virgin Books, 1986), 46.

²⁷¹ George Coedès and H. M. Wright, *The Making of South East Asia* (University of California Press, 1966), 130–1. He notes that earlier history in 1296 the city of Chiang Mai was to become the capital of Lan Na ‘the country of a million rice-fields’ (now northern Thailand) and that when the Khmer Empire (Cambodia) was

1950-54 France had received \$3.6 billion in military aid from the U.S. to achieve a victory over the Democratic Republic of Vietnam. The U.S. had also squandered \$700 million on counterinsurgency activities in Thailand.²⁷² Thailand was then the linchpin in America's Asia.²⁷³

In newly discovered (December 10, 2010) documents, portions of which appear on the Eisenhower Presidential Library's research website,²⁷⁴ President Dwight D. Eisenhower's historic farewell address, (January 17, 1961) appears. Eisenhower described his fears that the nation's burgeoning 'military-industrial complex' was driving its foreign policy. 'The direct result of this continued high level of defence expenditures has been to create a permanent armaments industry in vast proportions, where none had existed before.'²⁷⁵ Various Pentagon industrial contractors including Lockheed, General Electric and General Dynamics were accused of arms profiteering.²⁷⁶

The U.S. had intervened in the French led war and had then made a decision to pick up where the French had been forced to leave off.²⁷⁷ The U.S. military policy supporting the French from 1946 to 1954 was fairly inflexible.²⁷⁸ Commentators argued that U.S. neo-imperialism after World War II does not differ in its basic goals from the imperialism of the former European colonial powers.²⁷⁹

The Royal Government of Laos appealed to the U.S. government, UK, and France to support them against the Communist pressure, induced by two Communist-controlled provinces in north-eastern Laos. The appeal came after the Communists demanded, for the free part of the country to be moved into their orbit, as the cost of integration under the 1954 Geneva agreement. But the U.S. released a note reassuring its support to the Royal Government.²⁸⁰

The British policy in Eastern Asia, 1948-55, aimed to combine the attainment of change

declining, a T'ai chief ruled the northern provinces in the fourteenth century, and formed the Laotian kingdom of Lan Ch'ang, 'the kingdom of a million elephants'.

²⁷² Roger Warner, *Shooting at the Moon: The Story of America's Clandestine War in Laos*, 1st. Paperback Ed (Steerforth Press, 1996), 251.

²⁷³ Mark Selden, *Remaking Asia* (Pantheon Books, 1974), 247.

²⁷⁴ Eisenhower, 'The Eisenhower Presidential Library and Museum Homepage', 2010, <http://www.eisenhower.archives.gov/index.html> accessed April 03, 2011.

²⁷⁵ Brent Jones, 'Papers Shed Light on Eisenhower's Farewell Address', *Papers Shed Light on Eisenhower's Farewell Address*, 10 December 2010, online, http://www.usatoday.com/news/nation/2010-12-10-eisenhower-address_N.htm.

²⁷⁶ Victor Perlo, 'It's Not a Myth: Arms Profiteering', *New Republic* 162, no. 6 (7 February 1970): 23-25.

²⁷⁷ Harold R. Isaacs, 'Our SOBs', *New Republic* 172, no. 18 (3 May 1975): 4-5.

²⁷⁸ Frances FitzGerald, 'The End Is the Beginning', *New Republic* 172, no. 18 (3 May 1975): 7-8.

²⁷⁹ Helmut Kramer and Helfried Bauer, 'Imperialism, Intervention Capacity, and Foreign Policy Making: On the Political Economy of the US Intervention in Indochina', *Journal of Peace Research* 9, no. 4 (1972): 285.

²⁸⁰ 'Rings around Laos', *Time* 69, no. 18 (6 May 1957): 24.

leading to stability, to be secured through cooperating with nationalism, against the growing threat from communism. After initial errors, ministers and officials revealed realism and flexibility, as shown in policies towards Burma (now named Myanmar), Malaya, and China. As regards Japan, the U.S. dominated decision making and British views were rather negative towards the viability of political reform in the longer term and towards economic revival. The collapse of French authority in Indo-China pushed the then British foreign Secretary Anthony Eden towards compromise with the communist powers at the Geneva conference in 1954,²⁸¹ because Britain diverged from the U.S. in supporting a strictly defensive alliance (SEATO). This was linked with an ambivalent approach to the future of Vietnam, Laos, and Cambodia.²⁸² The latter two would have no prospect of independent survival and would fall as dominoes when the whole of Vietnam was controlled from Communist Hanoi.²⁸³ From the very beginning the first incident required clarification and caused an argument between the administration of U.S. President Lyndon Johnson and Senator J. W. Fulbright, chairman of the Senate Foreign Relations Committee, concerning details of what happened on August 4, 1964, the day the U.S. went to war against North Vietnam in the Gulf of Tonkin.²⁸⁴

The Kingdom of Laos was the scene of political unrest as Jeffrey Glasser explains, in *The Secret Vietnam War: The United States in Thailand, 1961-1975*.²⁸⁵ Three political factions were engaged in a power struggle. The pro-Communist Pathet Lao on the left, a group headed by Prime Minister Phoui Sananikone on the right, and the Royal Laotian Government (RLG) headed by Prince Souvanna Phouma in the centre. The United States Operations Mission (USOM) was established in Vientiane, Laos, on January 1, 1955, to reinforce U.S. aid commitments made to Laos in a 1951 agreement with Prime Minister Sananikone. But, according to Glasser, to call it merely 'aid' was an understatement.²⁸⁶ Of the eight countries which the U.S. supported in Southeast Asia (South Vietnam, Laos, Cambodia, Thailand, the Philippines, Indonesia, Myanmar, and Malaysia), the combined per capita expenditure for all but the bottom six did not match that of either Laos or South Vietnam individually. The

²⁸¹ Arthur Comes, 'The Path Not Taken: The British Alternative to U.S. Policy in Vietnam, 1954-1956', *Diplomatic History* 19, no. 1 (1995): 33.

²⁸² Peter Lowe, 'Change and Stability in Eastern Asia: Nationalism, Communism, and British Policy, 1948-1955', *Diplomacy & Statecraft* 15, no. 1 (March 2004): 137-47.

²⁸³ T.B. Millar, 'Developments in the Far East and South-East Asia Following the British Withdrawal', *The RUSI - Journal* 114, no. 653 (March 1969): 13.

²⁸⁴ John Finney, 'Tonkin Gulf Attack: A Case Study in How Not to Go to War', *New Republic* 158, no. 4 (27 January 1968): 19-22.

²⁸⁵ Jeffrey D. Glasser, *The Secret Vietnam War: The United States Air Force in Thailand, 1961-1975*, 1st ed. (McFarland & Company, 1998).

²⁸⁶ *Ibid.*, 6.

United States spent more per capita in Laos (\$192) than it did in South Vietnam (\$181).²⁸⁷

The impact of aid on Laos during the 1955-1975 period had political, economic, and social aspects. Laotian analysts acknowledge that:

...aid was mismanaged and corruption became endemic among the bureaucrats, the military, the police, and even among USOM employees. The widespread corruption reinforced Pathet Lao charges that the RLG administrators were dishonest in their relationships with the people. The Pathet Lao also used the issue of mismanaged aid to the U.S. Indeed it could be said that it was because of aid mismanagement that the RLG and the U.S. lost Laos to the communist Pathet Lao.²⁸⁸

The Geneva Conference in 1954 brought for Laos a transition from French to U.S. economic assistance. The U.S. was committed to building the Lao army to confront insurgencies and the communist Pathet Lao. Consequently, the economic development of Laos became a lesser priority than military objectives. In addition to which, the proposed coalition between the RLG and the Pathet Lao contradicted U.S. foreign policy. Therefore, although the Lao people wanted peace, reconciliation, and unification, the U.S. aid program had its own agenda.²⁸⁹ U.S. aid to Laos between 1950 and 1954 had failed to improve the ailing Lao economy, which had also been neglected for a long time by France, and its aid priorities in the coming years would continue to undermine the country's security.²⁹⁰

By 1960 Prince Souvanna Phouma, in an effort to restrain the civil war, had tried to establish a cabinet government that included a Meo tribesman as Minister of Information. But the conflict continued between Prince Souvanna Phouma and King Savang Vatthana and the Royal Laotian Army. There was a coup and a raid by Captain Kong Le in Vientiane, but the political troubles²⁹¹ persisted with the Committee Against the Coup d'état organized by former Defence Minister General Phoumi Nosavan.²⁹² Laos struggled under its new anti-Communist government heralded by rebel Captain Kong Le,²⁹³ and bitter fighting in the

²⁸⁷ Ibid.

²⁸⁸ Viliam Phraxayavong, *History of Aid to Laos: Motivations and Impacts* (Mekong Press, 2009), 125.

²⁸⁹ Laotians referred to the director of the Agency for International Development as the 'second prime minister of Laos.' Fred Branfman in Nina S. Adams and Alfred W. McCoy, eds., *Laos: War and Revolution* (Harper Colophon Books, New York, 1970), 261.

²⁹⁰ Phraxayavong, *History of Aid to Laos*, 61.

²⁹¹ Joseph Westermeyer, 'Assassination and Conflict Resolution in Laos', *American Anthropologist* 75, no. 1 (1973): 130, doi:10.1525/aa.1973.75.1.02a00070.

²⁹² 'Fire & Water', *Time* 76, no. 9 (29 August 1960): 27.

²⁹³ Department of State, Central Files, 751J.00/10-2260. Top Secret telegram. US Department of State, 'Office of the Historian - Historical Documents - Foreign Relations of the United States, 1958-1960, East Asia-Pacific Region; Cambodia; Laos, Volume XVI - Document 436', 21 October 1960, <http://history.state.gov/historicaldocuments/frus1958-60v16/d436> The UK reflects a view, which in the opinion of the U.S. was devoid of realism and was a reflection of a completely erroneous assessment of Kong Le. The

country had killed lots of people.²⁹⁴ The revolutionary social movements of the Meos tribesmen challenged the politics and government in Laos. They were considered the best fighters in the country, and during the civil war, they had traded in their crossbows and poisoned arrows for new weapons donated by the U.S. government. The Meos also held a virtual monopoly on the growing of opium and were among the more affluent Laotians.²⁹⁵ The military efforts of the U.S. to fight against the Communist Pathet Lao were primed to acquire a guerrilla operation, with anti-Communist Meo tribesmen as their main recruits,²⁹⁶ to fight against communist forces.²⁹⁷ There was much speculation on the plight of neutralist Premier Prince Souvanna Phouma against the communist Pathet Lao guerrillas headed by Prince Souphanouvong.²⁹⁸

The Soviet Union's interest and defence against the U.S. while promoting communism in Laos, was to support the Pathet Lao rebels. They therefore supplied aircraft from the Soviet Union. The U.S.S.R. was competing with Peking for the dominant position in North Vietnam. The Soviet leaders planned to test the Western intentions in Laos as they were no less anxious than the U.S. to prevent the total takeover of Southeast Asia by the Chinese.²⁹⁹ The Chinese on the other-hand feared a Soviet-American *détente*, kindled by Khrushchev's visit to Eisenhower in 1959. They led to an ideological offensive and denounced Khrushchev before the world communist audience as a heretic.³⁰⁰ The ultimate objective of the Chinese was to utilise a communist-dominated Vietnam as major gateway to the Indian Ocean.³⁰¹

The U.S. was concerned about the pressure being applied by the Soviet Union and Communist China, on the countries of Asia south of Indochina, specifically, Indonesia, Malaysia, Singapore, Thailand, and the Philippines. Approximately 200 million people all except the Thais had been colonized by Western nations. Those countries are now bound together by ASEAN. From a strategic perspective, Indochina (Vietnam, Cambodia, and Laos) was of value as a buffer region between militant China and ASEAN. The countries in

UK view was that Kong Le was not 'in cahoots with or under the thumb of the Pathet Lao,' but was a supporter of the King Savang and Souvanna and a neutral Laos free of Pathet Lao domination.

²⁹⁴ 'Shaky Rule', *Time* 77, no. 1 (2 January 1961): 24.

²⁹⁵ 'Fighting Tribe', *Time* 78, no. 1 (7 July 1961): 23.

²⁹⁶ 'Americans at Work', *Time* 77, no. 15 (7 April 1961): 26.

²⁹⁷ Stanley Karnow, 'Grand Illusion', *New Republic* 172, no. 18 (3 May 1975): 8–10.

²⁹⁸ 'Double Trouble', *Time* LXXVI, no. 23 (28 November 1960): 27.

²⁹⁹ 'What's In It for Russia', *Time* 77, no. 14 (31 March 1961): 17.

³⁰⁰ Frederic S. Burin, 'The Communist Doctrine of the Inevitability of War', *The American Political Science Review* 57, no. 2 (1 June 1963): 334, doi:10.2307/1952826.

³⁰¹ Rocco Michael Paone, 'Afro-Asian Ocean Heartland a Study', *Marine Corps Gazette*, January 1966, 21–25; Paone, *Evolving New World Order/Disorder*.

ASEAN are of strategic importance because of their natural resources – especially abundance of oil, but also natural rubber and iron ore. But uniquely they are of major strategic importance because they are astride the water and air routes from the U.S. and Pacific to the Indian Ocean and thence to the Middle East. If those routes were denied, sea traffic would have to go south of Australia. It was the geographical context which brought forth President Eisenhower's concern for the falling dominoes. In the autumn of 1964, China detonated its first nuclear device and Lin Piao published his 'Long Live the Victory of the Peoples War,' promising aid to third world countries joining the 'Revolutionary War.' Chinese Foreign Minister, Chen Yi, said in January 1965, 'Thailand is next.'³⁰²

By 1967 U.S. troops numbering 40,000 were stationed in Thailand, principally in direct support of the air bases and logistical network involved in the bombing programme. U.S. helicopter pilots flew Thai soldiers into action in the Northeast pending the training of Thai helicopter pilots.³⁰³

The struggle in South Vietnam was in essence the third act of a continuous political drama whose prologue spanned the 1930s, whose first act was played in the years between 1941 and 1945. The scene of major action in this drama has shifted several times, as have the identities of the auxiliary players and the political guises of some of the principals. Its chief protagonists were always the small, dedicated and doctrinaire group who, under Ho Chi Minh's guidance and direction, organized and nurtured Vietnam's Communist Party during the 1930s, usurped the nationalist revolution after World War II and subverted it to their ends. The term 'Viet Cong'³⁰⁴ came into circulation around 1956 and is a contraction of the phrase 'Viet Nam Cong-San,' which means, simply, 'Vietnamese Communists.'³⁰⁵ They had inferior arms and equipment compared with the U.S. backed troops.³⁰⁶

The Central Intelligence Agency (CIA) supplied clandestine aid to French-trained General Vang Pao of the Laotian army, who, in turn, recruited a 30,000-strong army of Hmong tribesmen to fight the Pathet Lao Communist forces allied with North Vietnam. Vang Pao

³⁰² Glasser, *The Secret Vietnam War*, xix–xx.

³⁰³ Robert Buckhout, 'Thailand: Where We Came In', *Nation* 205, no. 10 (2 October 1967): 305–8.

³⁰⁴ For the strategy and tactics of the Viet Cong and description of the battle scenes Bernard B. Fall, 'Vietnam Blitz', *New Republic* 153, no. 15 (9 October 1965): 17–21.

³⁰⁵ George A. Carver Jr., 'The Faceless Viet Cong', *Foreign Affairs* 44, no. 3 (April 1966): 347–72.

³⁰⁶ Stanley Karnow, 'This Is Our Enemy', *Saturday Evening Post* 237, no. 29 (22 August 1964): 19–25; For more on the effectiveness of the communist propaganda to gather support from peasants see Stanley Karnow, 'Lost Chance in Vietnam', *New Republic* 170, no. 5 (2 February 1974): 17–19; For the reasons on the popularity of US military action movies, and the contention that they were part of a manipulative right wing campaign William M. Arkin, 'At the Movies', *Bulletin of the Atomic Scientists* 42, no. 5 (May 1986): 6–7.

became a hero to American strategists in Saigon and Washington. According to President Johnson he was the best puppet they had ever found in Indochina. The most important form of aid to him was air power. The U.S. backed the Hmong fighters with bombing missions from bases in Thailand. And also used the CIA's private airline, Air America, to supply the scattered Hmong villages with arms, rice, and other supplies and then transported their main cash crop, opium, to Vang Pao's headquarters in the Plain of Jars.³⁰⁷ From there the opium went on to supply American troops fighting in Vietnam and, via underworld traffickers, on to the international market. When, after 1969, the Pathet Lao began to defeat the Hmong guerrillas, Air America evacuated thousands of them to refugee camps under Vang Pao's control and bombed the Hmong villages that had been overrun. Ultimately, after the collapse of anti-communist resistance throughout Indochina, the CIA evacuated Vang Pao and thousands of his supporters to the United States, where they now live, Vang Pao and the Hmong always remained loyal to the CIA.³⁰⁸ The Hmong tribe were in danger of extermination by the communist regime.³⁰⁹ The military campaign by the Royal Laotian Army (RLA) with American support against the communist Pathet Lao and their North Vietnamese allies in the Plain of Jars had regained the Plain of Jars from the communist forces in September 1969. Prince Souvanna Phouma said that the Plain of Jars' offense and the communists were more political in nature than military.³¹⁰

McCarthy discusses the impact of the U.S. CIA action in Laos that pursued policies which conflicted with official and public policies of the U.S. State Department. He also discusses the statement that the CIA, with the backing of the Pentagon, threw its support behind right-wing leader general Phoumi Nosavan. Diplomatic manoeuvres restored a coalition government under the neutralist Souvanna Phouma but millions of dollars of the U.S. aid had been wasted and vast confusion spread about U.S. aims in Laos. This was at a time when the CIA also claims to have masterminded, the overthrow of the Communist influenced government of political leader Jacobo Arbenz Guzman in Guatemala.³¹¹ After the Geneva cease-fire treaty that was signed in 1954, the U.S. presence in Laos grew substantially. An

³⁰⁷ the war had the usual pattern with Communist Pathet Lao troops and government forces swapping occupancy of the Plain of Jars. 'Laos: Deeper Into the Other War', *Time* 95, no. 10 (9 March 1970): 29.

³⁰⁸ Johnson, *The Sorrows of Empire*, 134.

³⁰⁹ T. A. Frank, 'Trial and Error', *New Republic* 242, no. 3 (3 March 2011): 5–6.

³¹⁰ 'The Tiger in the Pagoda', *Time* 94, no. 13 (26 September 1969): 28.

³¹¹ Eugene McCarthy, 'The Cia Is Getting Out of Hand', *Saturday Evening Post* 237, no. 1 (4 January 1964): 6–10.

arm of the U.S. aid mission, the Programs Evaluation Office, was to oversee training of the Laotian army against the communist domination and control of all U.S. aid to Laos.³¹²

Alexander George defined and systematically assessed the diplomatic technique of coercive diplomacy³¹³ to which the United States resorted to with the Laos crisis of 1961, when President John F. Kennedy succeeded in preventing Pathet Lao forces from overrunning the key positions³¹⁴ of the Royal Lao government, because Kennedy sought a neutralized Laos rather than a stable non-communist government for the country as a whole.³¹⁵ As shown in the ideology expressed in President Kennedy's inaugural address: 'We will bear any burden, meet any hardship, support any friend, oppose any foe to assure the survival and the success of liberty.'³¹⁶ But President Kennedy's administration did intervene in several countries including Laos, South Vietnam and West Berlin. Vice President Lyndon Johnson went to Saigon, South Vietnam, to show support against Communists.³¹⁷ President Kennedy had pledged not to attack using military forces but the major elements in the Kennedy-McNamara blueprint emphasized that strategic nuclear force was the keystone of national security.³¹⁸ The U.S. was also reassuring support to Laos to fight against the North Vietnam guerrillas.³¹⁹ Although Laos was accepted as neutral because the Laotian army was too weak for a firm stand against communism. The three princes Souvanna Phouma, his half brother Souphanouvong, and Boun Oum were pressed to form a new neutral government. The princes met in the capital city of Vientiane, wherein they settled nothing.³²⁰ The presence of American soldiers in the Laotian jungle and the establishment of a military bridgehead in the country were all open violations of the armistice agreements.³²¹

Formerly secret but now declassified documents written by the Australian Joint Intelligence Committee in 1962, in summary, indicate that they thought that in a limited war, Western forces would be unlikely to defeat the communists. But they believed the effects that a communist take-over of South Vietnam could set a chain reaction off, affecting other

³¹² 'What the U.S. Is Doing There', *Time* 95, no. 10 (9 March 1970): 30.

³¹³ Alexander L. George, *Limits of Coercive Diplomacy Laos Cuba Vietnam* (Little, Brown, 1971).

³¹⁴ Stephen E. Pelz, "'When Do I Have Time to Think?'" John F. Kennedy, Roger Hilsman, and the Laotian Crisis of 1962', *Diplomatic History* 3, no. 2 (1979): 215.

³¹⁵ Robert J. Art and Patrick M. Cronin, eds., *The United States and Coercive Diplomacy* (United States Institute of Peace Press, 2003), 375.

³¹⁶ John F. Kennedy, 'President John F. Kennedy's Inaugural Address (1961)', Government, *Our Documents*, (1961), online, <http://www.ourdocuments.gov/doc.php?flash=true&doc=91>.

³¹⁷ 'The Right to Intervene', *Time* 77, no. 19 (19 May 1961): 21.

³¹⁸ 'Action in the E Ring', *Time* 77, no. 15 (7 April 1961): 20.

³¹⁹ 'The Firing Line', *Time* 78, no. 5 (4 August 1961): 20.

³²⁰ 'Ping, Pong & Pang', *Time* 79, no. 1 (5 January 1962): 18.

³²¹ Jacques Jacquet-Francillon, 'Peace Comes to Laos?', *New Republic* 146, no. 26 (25 June 1962): 8-9.

sensitive areas ranging from Korea to Pakistan. A re-unified Vietnam, with a population of about 31 million, would possess considerable economic and military resources. Laos would inevitably fall under complete communist control and further aggravate the impact in Thailand. The Thai leaders would have their fears confirmed that the West was unable or unwilling to ensure their safety. They might adopt a neutralist policy but development and trade with the Soviet Bloc would be inevitable. Bi-lateral guarantees with the U.S. could only work for a time, and the real fear was that Thailand would become a battlefield in an east-west confrontation. Along with the expansion of the Thai Communist Party, 20 per cent of the Thai population was Chinese, and they would be influenced by the revival of the Chinese Communist Party. Cambodia was considered neutral but with leanings toward the Bloc. But to retain their identity the Cambodians would co-exist with the inevitable expanding communism, despite their historical fear and dislike of the Vietnamese. Over half the population of Malaya and Singapore was Chinese and although the UK, and hence Australia and New Zealand, had a Defence Agreement with the Malayan Government, this would probably be cancelled. Other strategic implications would be that Thailand would be virtually surrounded by pro-communist or neutralist States, and would thus be directly threatened with attack from Laos and Vietnam. The capture of airfields in South Vietnam would extend the operational capability, in a southerly direction, of all communist aircraft and submarine operating bases to within striking distance of Malaya, Singapore and the Borneo Territories. Myanmar who were confirmed neutrals, believed that they had satisfactorily adjusted their relations with Communist China. The report concluded that there would be limited economic loss to the West, but that the Communist Bloc would almost double the area available for rice, rubber and other tropical agriculture, which would supplement the other Bloc supplies. This illuminating declassified report was written in April 1962 and by July 1962, to help stem the spread of communism, Australia began its involvement in the Vietnam War.³²²

At the time of writing, China uses Cambodia geopolitically as a strategic, sea-accessible location. This gives China unrestricted air, land, and sea access to the eastern side of the Gulf of Thailand from the Port of Sihanoukville. The billion dollars, no strings-attached, economic diplomacy in which Beijing is engaged included a donation of nine patrol boats and five warships between 2005 and 2007. At the time of writing Chinese development assistance and

³²² Loomes et al., 'South Vietnam Situation Report', 1-5.

aid flows freely to Laos, Myanmar and Cambodia.³²³ In 2013 the Chinese Vice President Li Yuanchao met the Laotian Vice President Bounngang Vorachit and said that the new leadership of the Communist Party of China (CPC) is ready to join hands with Laos to develop the cause of socialism.³²⁴

In 1963 Harlan Cleveland concluded that the management of American foreign policy was the 'art of throwing themselves into one crisis after another'. By shifting the spotlight from one trouble spot to the next, the impression is created that the U.S. government deals exclusively in short-range reactions to external emergencies.³²⁵ Behind every sustained and serious engagement of the U.S. there lies an express or implied decision that this action is important to the safety and welfare of the U.S. itself, that their own interest requires it. But the specific policies which are right in one decade should be questioned in the next.³²⁶

In the U.S. there were massive demonstrations against the war in Vietnam in 1965, organised from the Berkeley California university campus³²⁷ and other universities.³²⁸ The moment President Richard Nixon ordered American troops into Cambodia, spontaneous demonstrations erupted throughout the U.S.³²⁹ Statistics on U.S. armed forces wounded and killed were also becoming public.³³⁰ But the social and political problems persisted in Cambodia and Laos.³³¹ There was no significant solution for the Vietnam War. The main factors at the root of the Vietnam crisis and the conflicting outside interests were not Vietnamese alone, but were features of the whole region. Everywhere, internal instability created latent or open conflicts, which the competing interests of the major world powers escalated into international crises. One key origin of the local tensions was the combination of exacerbated nationalist feelings and unfulfilled expectations. A sense of national identity and patriotic pride have long existed in these lands of ancient culture and they were reinforced by expectations of social and economic betterment springing directly from the

³²³ Sigfrido Burgos Cáceres and Sophal Ear, *The Hungry Dragon: How China's Quest for Resources Is Reshaping the World* (Oxon: Routledge, 2013), 100–105.

³²⁴ Agencies, 'Chinese VP Meets Sri Lanka, Laos, Cambodia Leaders', *Global Times*, 31 May 2013, <http://www.globaltimes.cn/content/785769.shtml#Ua9if9iaRlc>.

³²⁵ Harlan Cleveland, 'Crisis Diplomacy', *Foreign Affairs* 41, no. 4 (July 1963): 638–49.

³²⁶ McGeorge Bundy, 'The End of Either/Or', *Foreign Affairs* 45, no. 2 (January 1967): 189–201.

³²⁷ Kathleen E. Gales, 'A Campus Revolution', *British Journal of Sociology* 17, no. 1 (March 1966): 1.

³²⁸ E. M. Schreiber, 'Opposition to the Vietnam War among American University Students and Faculty', *British Journal of Sociology* 24, no. 3 (September 1973): 288.

³²⁹ Franz Schurmann, 'Cambodia: Nixon's Trap', *Nation* 210, no. 21 (1970): 651–56.

³³⁰ Lucian K. Truscott, 'Who Dies In Vietnam?', *Nation* 211, no. 11 (12 October 1970): 326–27.

³³¹ 'Mounting Uneasiness in Southeast Asia', *Time* 95, no. 14 (6 April 1970): 38.

struggle against alien colonial rule.³³² But North Vietnam had advanced its attacks on the Royal Lao government with two communist battalions. The Thai foreign minister Thanat Khoman warned Hanoi that the Thais might have to take direct action to assist and support Laos. It added that U.S. Ambassador William Sullivan had gradually increased its carefully unadvertised presence in Laos.³³³

By 1968 men and supplies flowed down the Ho Chi Minh Trail linking North and South Vietnam across Laos and parts of Cambodia,³³⁴ allowing North Vietnam to keep the war going. The Trail was also known as the 'Truong Son Strategic Supply Route' which was also used in the French War, for a military drive through lower Laos in 1953-54. Viet Minh regiments had marched through Laos into Cambodia. There already existed staging areas, water points, roads and trails. Garrisons had been left in place whilst the Vietnam People's Army combat units duly swept through in 1961. One major alternative to The Trail through Laos was the possibility of bringing people and supplies into the South by sea. The U.S. was pressed to supply large numbers of patrol boats that the South Vietnamese could use to, in effect, blockade their own coast.³³⁵ The first bombing attack of North Vietnamese in Laos hit the village of Muong Yut that had been inhabited by anti-Communist Meo tribesmen.³³⁶ The U.S. goals had been to eliminate the enemy south of the 17th parallel and to hamper the enemy's supply routes coming into South Vietnam. The U.S. believed this would enable them to start to bring the rudiments of a better life to the people in villages and hamlets. Once accomplished they could then update the system of the central government into the twentieth century and institute the forms of a self-governing democracy, and provide facilities for a vast increase in commerce.³³⁷ In 1961, six years after the outbreak of the colonial war against France, the three Indochinese movements concluded a Viet-Lao-Khmer alliance for the purpose of preparing to extend the fighting to the whole of the peninsula. It was, however, in Laos that the greatest extension of the war outside the frontiers of Vietnam occurred. After

³³² Vu Van Thai, 'A Regional Solution for Viet Nam', *Foreign Affairs* 46, no. 2 (January 1968): 347-61.

³³³ 'Hanoi's Second Front', *Time* 91, no. 12 (22 March 1968): 44.

³³⁴ Jean Lacouture, 'From the Vietnam War to an Indochina War', *Foreign Affairs* 48, no. 4 (July 1970): 617-28.

³³⁵ The Trail was also known as the 'Truong Son Strategic Supply Route' which was used by the French for a military drive through lower Laos in 1953-54. Viet Minh regiments had marched through Laos into Cambodia. There already existed staging areas, water points, roads and trails. Garrisons had been left in place whilst the Vietnam People's Army combat units duly swept through in 1961. One major alternative to The Trail through Laos was the possibility of bringing people and supplies into the South by sea. The US was pressed to supply large numbers of patrol boats that the South Vietnamese could use to, in effect, blockade their own coast. John Prados, *The Blood Road: The Ho Chi Minh Trail and the Vietnam War* (New York: Wiley, 1999), 16-18.

³³⁶ 'Spillover into Laos', *Time* 91, no. 4 (26 January 1968): 42.

³³⁷ Edward G. Lansdale, 'Still the Search for Goals', *Foreign Affairs* 47, no. 1 (October 1968): 92-98.

the halt of the bombings of North Vietnam in November 1968, the American bombers stepped up their raids on the Ho Chi Minh Trail. One of the results was that the Viet Cong,³³⁸ who had resorted to the use of elephants to carry supplies, were forced off the trail in to the jungle.³³⁹ The war in Laos and the war in Vietnam were separate parts of the same conflict. There was convincing evidence that U.S. military involvement in Laos was being escalated in much the same way it was escalated in Vietnam in 1964.³⁴⁰ The South Vietnam's military ARVN troops pushed across the Laotian border to strike at the Ho Chi Minh Trail network in Operation Lam Son 719 and came under intense enemy pressure in February 1971.³⁴¹ One of the objectives was to defend South Vietnam against invasion through Laos. This was an application of the strategy of containment against Communist aggressive expansion that failed.³⁴²

There was little confidence in the United Nations Security Council and the General Assembly to realistically deal with the Vietnamese conflict. The U.S. collaborated with the Soviet Union in writing into the UN charter severe restrictions on the powers of the Security Council. In 1945 the Security Council was conceived as the all-powerful peacekeeping instrument of Five Great Powers acting together but capable only of procedural action and ineffectual debate if one of the Five dissented. The UN is itself an anomaly, because it is an international organization with theoretically far-reaching authority superimposed on radically unequal but equally sovereign states. Hence, its real power and effectiveness fluctuate wildly depending on the climate of international relations and its own internal temperature. Issues involving great-power confrontation are either withheld from the Council by common

³³⁸ Matthew Adam Kocher, Thomas B. Pepinsky, and Stathis N. Kalyvas, 'Aerial Bombing and Counterinsurgency in the Vietnam War', *American Journal of Political Science* 55, no. 2 (2011): 201–18.

³³⁹ The VC had resorted to a growing number of elephants. A Vietnamese account says 'they were not easy to manage, you know, especially when there's fighting going on. As soon as they left our base, one of [the elephants] got bogged down in a swamp. After two hours struggling to save it, one of the soldiers suggested we kill it, take its tusks, and distribute the meat to the surrounding villages. But we felt we couldn't do that: these elephants have done a lot for the regiment. Seeing the huge animal sink deeper and deeper into the mire, I lost all hope to save it. Thuan, the commander of the unit, sent men to fell trees in the forest to fill up the swamp. The elephant quickly understood: it grabbed hold of the logs with its forelegs and gradually pulled itself from the mud and out of danger. We were all overjoyed and set off immediately... but somehow we were detected and our convoy was shelled. We were worried that our animals, because of their size were not safe. The lead elephant ran amuck. Fearing it would be killed, Thuan sent me to tell the mahout to get it quickly under control. As it was the lead, the whole convoy depended on it. Thuan gave order[s] to all the mahouts to hide behind the large ears of their elephants while they moved on the open ground. At last we got out of the dangerous area. I still wonder how no elephants were hit.' Prados, *The Blood Road*, 44.

³⁴⁰ Alan Cranston, 'Laos: Next Step in the Big Muddy', *Nation* 210, no. 12 (30 March 1970): 363–66.

³⁴¹ 'Cautious Crawl Through Laos', *Time* 97, no. 9 (March 1971): 22.

³⁴² Norman B. Hannah, 'Containment Works', *National Review* 42, no. 8 (30 April 1990): 39–39.

consent or brought in primarily for psychological or pre-emptive purposes without the expectation of substantial UN action, as in the case of Cuba or Vietnam.³⁴³

The political lessons learned by the U.S. from its involvement and dissent to the Vietnam War had effectively reminded the population that it was still a democracy. Many Americans turned from indifference or passive scepticism to outright opposition, demanding that the policy had to be changed. The preoccupation with the tradition of dissent, however, obscured another basic tradition of U.S. foreign policy, the neglect of which did more to turn public opinion against the war than any other factor. The U.S. system assumes a sense of participation by the people in the making of critical national decisions. It may appear from the Vietnam dilemma that the U.S. did not learn from those earlier experiences about the necessity of consent.³⁴⁴ Ball in 1969 wrote that the U.S. is not the world's policeman, although it must be fully prepared to halt aggression against free nations wherever it occurs. The rhetoric is quite hollow whenever the U.S. and the Soviet Union are aligned on opposite sides of a serious issue. More disturbing was the challenge to its powers and purposes that marked the Arab-Israeli crisis, which challenged the powers and purposes of the US. The achievement of stability in the Middle East ranked high on the list of priorities. For the U.S., as well as for the Soviet Union, the strategic significance of that area exceeded that of the Southeast Asian peninsula by a factor of four or five.³⁴⁵

Protest against the war in Vietnam³⁴⁶ became, along with marijuana and long hair, the symbol of the Revolt of Youth in America of the sixties. To a large extent, this was a revolt of the best educated, the most articulate, the most self-confident and self-conscious. In short, it was a revolt of the élite among youth. The influence of this relatively small youthful pressure group on the U.S. debate over Vietnam was all the more marked because foreign policy questions, unlike domestic bread-and-butter issues, traditionally involve only a relatively small percentage of the electorate. Policy-makers in the foreign policy field had been forced to reckon with the outlooks of the best educated youth of the U.S. demonstrating against the policy-makers in foreign policy and the engagement in war in Southeast Asia.³⁴⁷

³⁴³ Charles W. Yost, 'The United Nations: Crisis of Confidence and Will', *Foreign Affairs* 45, no. 1 (October 1966): 19–35.

³⁴⁴ Bill D. Moyers, 'One Thing We Learned', *Foreign Affairs* 46, no. 4 (July 1968): 567–664.

³⁴⁵ George W. Ball, 'Slogans and Realities', *Foreign Affairs* 47, no. 4 (July 1969): 623–41.

³⁴⁶ Small Charles DeBenedetti Memorial Conference et al., 'Give Peace a Chance: Exploring the Vietnam Antiwar Movement' (Syracuse University Press, 1992).

³⁴⁷ Steven J. Kelman, 'Youth and Foreign Policy', *Foreign Affairs* 48, no. 3 (April 1970): 414–26.

In 1971 the U.S. was also examining its national security policy and its foreign policy concerning the Soviet Union. Since the end of World War II, events had pushed the U.S. toward a less Soviet-centric view of security problems. Against a background of rapid and uncharted political changes in the world, the Soviet problem was perceived less in terms of expansion through the territorial control of contiguous areas than as a competition for political influence on a global basis. This was underlined by an intensified and more sharply focused diplomatic effort since the mid-1960s.³⁴⁸ The northern tier of Southeast Asia might have been saved from something well short of a Communist takeover, if the negotiations had included Laos, Cambodia and Thailand.³⁴⁹

One other element concerned a different sort of invasion launched by the People's Democratic Republic of China against Thailand, its diminutive neighbour to the south. The plan involved some 3,000 Chinese road builders and highwaymen working across the border of Yunnan province into northern Laos, accompanied by a protective force of two infantry battalions equipped with anti-aircraft guns.³⁵⁰

The limited containment action in Vietnam (a strategy that had also been pursued in Korea) had in fact produced an unfavourable result in the form of a longer, protracted war that caused greater suffering to civilian populations and created greater division in the U.S. This was the chief cause of the chasm between Robert McNamara and general Curtis E. LeMay, U.S.A.F Chief of Staff, who said in his oral history that:

‘... once you make the decision to use military force to solve your problem, then you ought to use it and use an over-whelming military force... you save resources, you save lives – not only your own but the enemy's too, and the recovery is quicker and everybody's back to peaceful existence hopefully in a shorter period of time.’³⁵¹

This theory that a certain ‘...level of acceptance of actions pursued in wartime for the greater goal of peace’ resulted in LeMay in 1964, less than twenty years after the defeat of Japan, being awarded the Order of the Rising Sun, First Class, by the Japanese.³⁵² A swift devastating air offensive³⁵³ against North Vietnam's strategic targets would end the war.

³⁴⁸ Marshall D. Shulman, ‘What Does Security Mean Today?’, *Foreign Affairs* 49, no. 4 (July 1971): 607–18.

³⁴⁹ Denis Warner, ‘Unfinished Business: A Neutral Zone in Southeast Asia?’, *New Republic* 149, no. 23 (7 December 1963): 17–20.

³⁵⁰ ‘The Chinese Highwaymen’, *Time* 94, no. 23 (5 December 1969): 71.

³⁵¹ Kozak, *Lemay*, 306–307.

³⁵² *Ibid.*, 307–308.

³⁵³ The Soviet Premier Georgiy Malenkov, in an important speech on 8 August 1953 had pointed out that the United States no longer had a monopoly on the hydrogen bomb. For more on Malenkov and nuclear war see Deborah Welch Larson, *Anatomy of Mistrust: U.S.-Soviet Relations During the Cold War* (New York: Cornell

Attempting to cut all the lines of communication on the Ho Chi Minh Trail, was ineffective as it was hidden by jungle growth and the North Vietnamese could multiply the trail network, almost without let-up, simply up by pressing more porters into service.³⁵⁴

In the 1970s a famous quote was attributed to LeMay:

My solution to the problem would be to tell them frankly that they've got to draw in their horns and stop aggression, or we're going to bomb them back to the Stone Age. And we would shove them back into the Stone Age with Air power or Naval power – not with ground forces.

However, this 'quotation' was in fact invented by his biographer McKinley Kantor, and LeMay admitted that he had just signed off the transcripts, but it had sounded like something LeMay might have said.³⁵⁵

The advantages of aircraft³⁵⁶ ordnance were highlighted by General William Momyer. He says that 500 or 750 pound bombs were effective against troop concentrations and were able to provide the desired destructive effect and penetrate the jungle foliage. Aircraft were loaded with a combination of general purpose bombs, CBU's, rockets, and napalm, as many targets required different munitions; general purpose bombs were needed to break open fortified positions, and CBU's and napalm were more effective when enemy troops were in the open.³⁵⁷

Laos had become embroiled in the war against Vietnam since Prince Souphanouvong had become a follower of North Vietnam's Ho Chi Minh and headed the guerrilla Pathet Lao, while his half brother Souvanna Phouma became Premier. After a peace settlement was reached in 1973 Premier Souvanna agreed to a ceasefire. The settlement allowed the Communist Pathet Lao to retain the land they controlled.³⁵⁸

Nixon and Kissinger's escalation of the Vietnam War and expansion of the ground fighting into Cambodia ended in disaster, and a great human cost. Their conduct of the war – also true of their predecessor, the Johnson administration – entailed actions strikingly at odds with

University Press, 2000), 40–61. For more on strategy see Marc Trachtenberg, *History and Strategy* (New Jersey: Princeton University Press, 1991), 15. LeMay had also pointed out that before the Soviets had accumulated a stockpile of atomic bombs, the U.S. could have destroyed the entire Soviet capability to wage war, 'We've got this capability. Maybe the Nation ought to do it' in Curtis LeMay, *Mission with LeMay: My Story*, 1st Edition (Doubleday, 1965), 481–82.

³⁵⁴ Gen William W. Momyer, *Air Power in Three Wars* (CreateSpace Independent Publishing Platform, 2012), 14.

³⁵⁵ Kozak, *Lemay*, 341.

³⁵⁶ For a comprehensive guide to aircraft deployed Bill Gunston, *Aircraft of the Vietnam War* (Northamptonshire UK: Patrick Stephens Ltd, 1987).

³⁵⁷ Momyer, *Air Power in Three Wars*, 278–281.

³⁵⁸ 'Settlement in Dreamland', *Time* 101, no. 10 (5 March 1973): 24.

accepted standards of morality, even wartime morality. Morgenthau and other critics of intervention offered numerous examples, including the support of a dictatorial regime in Saigon, undermining political order in Laos and Cambodia, indiscriminate destruction of villages, aerial bombardment of civilians and the bombing and invasion of Cambodia.³⁵⁹ Nixon and Kissinger did not create the ensuing man-made disaster in Laos deliberately. However, they ordered the bombing to prevent the communists backed by the Chinese and the Soviet Union, from taking over in Laos as well as in South Vietnam. It is also fortunate that Nixon as he pointed out in his memoirs ‘unlike some of the extremist “hawks”’,³⁶⁰ I did not think we should use nuclear weapons in Vietnam’.³⁶¹ The constraints of secrecy provided a way to subvert the constitutional checks and balances on the war powers of the CIA and that of the executive branch of the U.S.³⁶²

The Johnson and Nixon administrations either denied these violations of conventional morality – and in some cases of international law - or defended them as necessary to protect American interests and security. It is apparent that none of these actions, or intervention in Indochina more generally, served American interests – quite the reverse. Vietnam went communist in the end, and American prestige suffered a serious setback, not only in Asia, but in Western Europe, where it fuelled political and cultural opposition to the United States.

All these judgements benefit from the advantage of hindsight. However, the outlines of failure were already apparent to Nixon and Kissinger when they escalated the war. They did so, not with victory in mind, but to prolong the existence of their puppet regime in the South. They hoped to keep it and South Vietnam afloat long enough to perhaps strike some acceptable deal with Hanoi and, failing that, to escape any domestic political retribution for losing Vietnam. In the end, they negotiated the regime away behind the back of its leader, and President Ford was left to face the consequences. Many of their actions were motivated less by perceived national interest than by parochial political ambition, but with hindsight they are difficult to defend.³⁶³

³⁵⁹ Lebow, *The Tragic Vision of Politics*, 390.

³⁶⁰ ‘The Joint Chiefs of Staff recommended utilizing a total force of 140,000 soldiers in Laos armed with tactical nuclear weapons. General Lyman Lemnitzer advised: “If we are given the right to use nuclear weapons, we can guarantee victory.”’ Charles A Stevenson, *The End of Nowhere: American Policy Toward Laos since 1954* (Boston: Beacon Press, 1973), 151.

³⁶¹ Richard Milhous Nixon, *Memoirs* (Grosset & Dunlap, 1978), 254.

³⁶² ‘TRB from Washington’, *New Republic*, 20 May 1972.

³⁶³ Lebow, *The Tragic Vision of Politics*, 317–20, 390–1 Lebow’s book is not about the Indochina War, but about political ethics more generally.

Gareth Porter who was co-director of the Indochina Resource Center wrote in 1975 that the goal of the North Vietnamese leaders when they captured the South Vietnamese province capital of Phuoc Binh was to force the United States to stop supporting the South Vietnamese President Nguyen Van Thieu. The North Vietnamese argued that Thieu had been blocking the implementation of all the major provisions of the Paris agreement. The North Vietnamese threatened to continue military action if the U.S. continued to support Thieu. There was a readiness from the North Vietnamese to continue diplomatic negotiations with the U.S. but not until the U.S. had changed its policy toward Thieu.³⁶⁴

As Lebow observed, power and success breed more far-reaching ambitions and overconfidence. The ethical precepts and practices of our age, when adhered to, function as barriers to hubris and behaviour that undermines the standing, influence and even the hegemony of great powers. In the long run, great powers, indeed, all states and institutions, benefit more from respect and legitimacy in the eyes of allies and third parties than they do from the kinds of short-term gains that unethical methods might attain. If such behaviour is most generally inimical to the real interests of states and institutions, there is no political justification for it. It follows that unethical behaviour, and those responsible for it, ought to be judged by the same standards of morality to which individual citizens are expected to conform.

Great power hubris does not occur in a cultural vacuum. Nor is it always associated with evil leaders. Hitler and Stalin, both of whom gave evil new meaning, were nevertheless products of political cultures that facilitated both their rise to power and the implementation of their horrendous projects. Nixon and Kissinger are more compelling exemplars of political hubris because they were not evil men. Whatever their flaws, they never sought to harm or destroy people as an end in itself or as a means of satisfying pathological personal needs. This in no way absolves them from responsibility for their actions, but they did what they did, and could only have done what they did because they also operated within a political and institutional framework in which power triumphed *over* principle. Domestic politics and foreign policy

³⁶⁴ Gareth Porter, 'Report from North Vietnam: Pressing Ford to Drop Thieu', *New Republic* 172, no. 6 (8 February 1975): 19–21 For further information on immediate post-conflict in 1975, see ; Max Austerlitz, 'After the Fall Of Danang', *New Republic* 172, no. 20 (17 May 1975): 7–8 The refugee boat people; 'More Boat People', *New Republic* 179, no. 22 (25 November 1978): 7–7; Richard Holbrooke, 'Pushing Sand', *New Republic* 172, no. 18 (3 May 1975): 10–12 Holbrooke focuses on the move of Ninth Marine Regiment of the U.S. against Vietcong insurgent forces of Vietnam in the year 1975. He gives an overview of the situation in Vietnam through the area south of Danang.

generally become corrupt in tandem and contaminate one another.³⁶⁵ Hubris is followed by nemesis. The U.S. policy makers were obsessed with continuing the Indochina war.³⁶⁶

Lebow reminds us that modern realism defines security as protection against external threats, principally of a military nature. The external threats can take diverse forms, in the form of economic sanctions, denial of raw materials, interference with trade, unwanted and uncontrollable immigration, violence against one's nationals abroad, or their expulsion from another country, penetration of the homeland by pathogens with the potential to cause serious epidemics.³⁶⁷ The American national security establishment exaggerated both the Soviet threat and its own power. This almost oxymoronic combination led to Vietnam, which he considered a moral and political disaster.³⁶⁸ We might usefully ponder the proposition readily distilled from the writings of classical realists that it is not might that makes right, but right that makes might.³⁶⁹ Nye suggests that the United States has an even greater lead in 'soft power,' and that the importance of soft power is increasing relative to more traditional forms of power that rely on coercion.³⁷⁰

As a result of a successful Freedom of Information Appeal by the U.S. National Security Archive an important document was finally released in August 2009 as part of the official history series *The Air Force in Southeast Asia*, a volume prepared by the Air Force historians, Victor B. Anthony and Richard R. Sexton. *The War in Northern Laos 1954-1973* is a document with new evidence about the campaign, which led to the ongoing man-made disaster in Laos. It shows how the Joint Chiefs of Staff created a plan for U.S. military intervention in Laos as early as 1959, almost two years before commentators had previously thought. As part of the activity surrounding the first Laotian crisis in 1959, caused by the failure to integrate the Pathet Lao communist military into the Royal Laotian Armed Forces and the consequent outbreak of civil war, the U.S. Air Force pressed to deploy a squadron of B-47 bombers to Clark Air Force Base in the Philippines. They were to be used for possible bombing missions to interdict Pathet Lao lines of communication from Laos into North Vietnam. The use of nuclear weapons had already become so tightly interwoven into Air

³⁶⁵ Lebow, *The Tragic Vision of Politics*, 391.

³⁶⁶ Anthony Lewis, 'Hubris, National and Personal', *New Republic* 172, no. 18 (3 May 1975): 17-19.

³⁶⁷ Lebow, *The Tragic Vision of Politics*, 317.

³⁶⁸ *Ibid.*, 319.

³⁶⁹ *Ibid.*, 320.

³⁷⁰ Joseph S. Nye, *Bound to Lead: Changing Nature of American Power*, New edition (Basic Books, 1991), 173-201.

Force doctrine and training that both the contingency plan and the bomber deployment envisioned possible use of nuclear weapons.³⁷¹

Glasser presents the hardware, targets, campaigns, methodologies, history, politics, and data of the war as it was pursued from seven air bases in Thailand.³⁷² The U.S. was drawn into Thailand, not least because its air bases in Guam were too far away to bomb Vietnamese targets effectively. The U.S. operations were so well concealed, that few Americans were aware of their scope. They included Thai-American air and naval bases, used for a large part of military operations against Communist-controlled areas of Laos.³⁷³

Throughout the air war in Indochina, Thailand would be the base for millions of tons of ordnance, to be dropped on Laos.³⁷⁴ According to the report ‘Impact of the Vietnam War’ prepared for the use of the Committee on Foreign Relations United States Senate, by the Foreign Affairs Division Congressional research service on June 30, 1971, ‘the Department of Defence, the United States had expended a total of 11,444,533 (eleven million, four hundred and forty four thousand, five hundred and thirty three) tons of air, ground, and sea munitions in the Indochina war as of the end of 1970’.³⁷⁵ As noted, these were U.S. ‘short’ tons – 2000lbs each. In addition ‘more than 100-million pounds of herbicide’ was delivered, according to Senator Gaylord Nelson, when he gave testimony on March 18, 1971, before the Senate Foreign Relations Committee.³⁷⁶ The research and report work was very important in advancing knowledge of the devastating impact of the drenching of Southeast Asia in chemicals. The military use of tactical herbicides became a new technique in the arsenal of modern warfare when it was introduced into the armed conflict in Vietnam in 1962.³⁷⁷ The devastation of the more or less secret herbicidal attacks was researched by Arthur H. Westing, a pioneer on the study of war and the environment.³⁷⁸ Westing had met Ellsworth

³⁷¹ Anthony and Sexton, *The War in Northern Laos 1954-1973*.

³⁷² Glasser, *The Secret Vietnam War*.

³⁷³ Bernard Fall, who was a field war correspondent in Vietnam, was killed by a landmine in 1967, but wrote about the problems prior to the full-scale U.S. involvement and deadly environment of Vietnam. Bernard B. Fall, *The Two Viet-Nams: A Political and Military Analysis* (Greenwood Publishing Group, 1967); Bernard B. Fall, *Hell in a Very Small Place: The Siege of Dien Bien Phu*, Reprint (Da Capo Press Inc, 2002); Bernard B. Fall, *Street without Joy: The French Debacle in Indochina*, New edition (Leo Cooper Ltd, 2005).

³⁷⁴ R. Littauer and N. Uphoff, ‘The Air War in Indochina, Rev. Ed’, *Boston: Beacon*, 1972.

³⁷⁵ Foreign Affairs Division Congressional Research Service, ‘Impact Of The Vietnam War’ (Library of Congress USGPO, 30 June 1971).

³⁷⁶ *Ibid.*, 11.

³⁷⁷ Alvin L. Young, ‘The Military Use of Tactical Herbicides in Vietnam’, in *The History, Use, Disposition and Environmental Fate of Agent Orange* (Springer New York, 2009), 57–119, http://link.springer.com/chapter/10.1007/978-0-387-87486-9_3.

³⁷⁸ Arthur H. Westing, *Arthur H. Westing: Pioneer on the Environmental Impact of War: Pioneer in the Environmental Impact of War*, 2013th ed. (New York: Springer, 2012), 6.

Bunker in August 1970. Bunker was the U.S. Ambassador to Saigon during 1967-1973. Bunker considered the goal to crush the Viet Cong and their North Vietnamese allies - and thereby to prevent South Viet Nam falling to the Communists - to be of overriding importance to the Southeast Asian interests of the U.S.A. He fully supported, and basically ran the interminable war there, even backing the military aerial and ground incursions by the U.S.A into neutral Laos and Cambodia, with the result of inflicting chaos upon Laos and, in time, unimaginable calamity upon Cambodia... When Westing 'described the findings of massive ecological and agricultural damage and possible human poisonings' it led to Bunker 'ordering a rapid end to the U.S. herbicidal chemical warfare. He may have been in favour of the war, which he justified as a necessary crusade against communism, but at least he was not in favour of pursuing it by such flagrantly anti-environmental and anti-social means.'³⁷⁹ Alexander Kelle covers the chemical weapons convention.³⁸⁰ And ground troops exposure to Agent Orange in Young et al.³⁸¹ By the end of 1967 the purpose of using chemicals³⁸² and herbicides on forested and agricultural land, as stated by Assistant Secretary of State Dixon Donnelley was that it was part of the U.S. military strategy and tactics.³⁸³ But there were many questions about herbicides affecting a susceptible link in the food chain and the toxicity of the herbicides used. Details had emerged of the defoliation and crop destruction process, and the displacement of entire villages due to a lack of foliage.³⁸⁴ Zalin Grant reported that as early as 1968 international law was being examined to mitigate environmental disruption in times of warfare. Approaches to protecting the environment from military damage that have legal precedents included:

- (a) remaining at peace; (b) establishing zones of peace; (c) limiting certain weapons;
- (d) limiting certain means of warfare; and (e) limiting damage to natural resources. It was also recommended (a) that a treaty be adopted that would prohibit the use in war

³⁷⁹ Ibid., 6–7.

³⁸⁰ Alexander Kelle and Pamela Mills, 'The Chemical Weapons Convention Regime and Its Evolution', in *The Implementation of Legally Binding Measures to Strengthen the Biological and Toxin Weapons Convention*, ed. Marie Isabelle Chevrier et al., NATO Science Series II: Mathematics, Physics and Chemistry 150 (Springer Netherlands, 2004), 79–102, http://link.springer.com/chapter/10.1007/1-4020-2098-8_6.

³⁸¹ Alvin L. Young, Paul F. Cecil, and John F. Guilmartin, 'Assessing Possible Exposures of Ground Troops to Agent Orange during the Vietnam War: The Use of Contemporary Military Records', *Environmental Science and Pollution Research* 11, no. 6 (1 November 2004): 349–58, doi:10.1007/BF02979651.

³⁸² J. B. Neilands et al., *Harvest of Death: Chemical Warfare in Vietnam and Cambodia*, First edition (New York: The Free Press, 1972).

³⁸³ Susan Hammond and Arnold Schecter, 'Agent Orange: Health and Environmental Issues in Vietnam, Cambodia, and Laos', in *Dioxins and Health*, ed. Arnold Schecter (John Wiley & Sons, Inc., 2012), 469–472, <http://onlinelibrary.wiley.com/doi/10.1002/9781118184141.ch15/summary>.

³⁸⁴ Arthur W. Galston, 'Herbicides In Vietnam', *New Republic* 157, no. 22 (25 November 1967): 19–21; Arthur W. Galston, 'The Ungreening of South Vietnam', *Natural History* 83, no. 6 (July 1974): 10.

of nuclear weapons, and (b) that natural heritage sites of outstanding universal value be designated as demilitarized zones.³⁸⁵

Ecocide was also addressed in a debate within the U.S. Senate and the administration of U.S. President Richard Nixon on the Geneva Protocol banning chemical and biological warfare.³⁸⁶ In November 1969 Nixon reaffirmed the renunciation by the U.S. of the first use of lethal chemical weapons and went beyond previous policy statements by including incapacitating chemicals.³⁸⁷

Kissinger wrote that the peace negotiations were marked by the ‘classic Vietnamese syndrome’ of optimism alternating with bewilderment, euphoria giving way to frustration due to a dispute with Saigon over its participation in the talks. Ultimately, he said, the U.S. should concentrate on the subject of withdrawal and avoid negotiating about the internal structure of South Vietnam. That primary responsibility should be left for direct negotiations among the South Vietnamese.³⁸⁸ The basic philosophy and task of post-war planning, was to create a design and a strategy for the transition from a wartime to a peacetime footing, and of making an objective assessment of the prospects of the economy of South Vietnam in the years ahead. A central objective even more important than the process of planning was to stimulate the Vietnamese to devise and carry out plans themselves.³⁸⁹ One of the ironies of the war was that the government of Laos under Souvanna Phouma, which the U.S. was now supporting, had been the faction, which, in 1961, it was actively opposing and which the communists were supporting. The U.S. interests in Laos were basically twofold. First, the U.S. wanted to keep the communists away from the Thai border. The second rests in the fact that the continuation of a government in Vientiane that acquiesced in what the U.S. was doing against the communist traffic on the Ho Chi Minh Trail made U.S. operations there a bit easier.³⁹⁰

In one of the classic books on Laos, *Voices from the Plain of Jars*,³⁹¹ the surviving homeless villagers describe what the U.S. bombing, from 1964 through most of 1969, did to their

³⁸⁵ Zalin Grant, ‘Report from Laos: The Hidden War’, *New Republic* 158, no. 16 (20 April 1968): 17–19.

³⁸⁶ R. Roffey, A. Tegnell, and F. Elgh, ‘Biological Warfare in a Historical Perspective’, *Clinical Microbiology and Infection* 8, no. 8 (2002): 451 In September 1981, the U.S. Secretary of State accused the Soviet Union of supplying mycotoxins to its Vietnamese and Laotian communist allies for military use against resistance forces in Laos. 452.

³⁸⁷ L. Craig Johnstone, ‘Ecocide and the Geneva Protocol’, *Foreign Affairs* 49, no. 4 (July 1971): 711–20.

³⁸⁸ Henry A. Kissinger, ‘The Viet Nam Negotiations’, *Foreign Affairs* 47, no. 2 (January 1969): 211–34.

³⁸⁹ David E. Lilienthal, ‘Postwar Development in Viet Nam’, *Foreign Affairs* 47, no. 2 (January 1969): 321–33.

³⁹⁰ Roland A. Paul, ‘Laos: Anatomy of an American Involvement’, *Foreign Affairs* 49, no. 3 (April 1971): 533–47.

³⁹¹ Branfman, *Voices from the Plain of Jars*.

civilisation and culture.³⁹² These rice farmers were not named, to protect them from persecution from one side or the other. They chronicle the disappearance of a homeland - the Plain of Jars - by saturation aerial bombing.³⁹³ Branfman, the author, states that 'Their society is the first to be totally destroyed not by ground armies but by aircraft, not by foot-soldiers but by machines. And the automated war waged against them has until now remained a secret from the western world'.³⁹⁴ Others such as Jane Hamilton-Merritt share this view of massacre, especially of the Hmong people.³⁹⁵ According to the U.S. Census Bureau, Laos in 1963 was ranked 111th in size among countries of the world, with a population of 2,460,321.³⁹⁶ One million, Laotians were, killed, wounded or made homeless. The bombing of the Plain of Jars was not in support of an expeditionary force fighting abroad, 'Air power was used to wage total war', Branfman continues that '... such an automated war is a war crime' the U.S. used '...all their weaponry short of nuclear arms against rice farmers who pose the most marginal of challenges ...'.³⁹⁷

One of the major factors expected to induce the surrender of a belligerent in war, or bring about a mutually desired armistice, is the number of deaths incurred. This article focuses on the possibility of attempting to predict the end of a war from knowledge of the casualties and population losses sustained.³⁹⁸ And in 1967 U.S. Senators Pell and Fulbright asked for statistics regarding civilians killed and the use of Thailand as bases to host U.S. troops whose mission were to fly air raids against North Vietnam and build military installations to guard against possible threats from China.³⁹⁹

³⁹² Ibid.

³⁹³ James Eastland O, *Refugee and Civilian War Casualty Problems in Laos and Cambodia* (Washington: U.S. G.P.O., 1970), 93.

³⁹⁴ Branfman, *Voices from the Plain of Jars*, xii.

³⁹⁵ Jane Hamilton-Merritt, *Tragic Mountains: The Hmong, the Americans, and the Secret Wars for Laos, 1942-1992*, Later Printing (Indiana University Press, 1999), 3.

³⁹⁶ 'International Data Base - Country Rankings - U.S. Census Bureau', online.

³⁹⁷ Branfman, *Voices from the Plain of Jars*, 24-9.

³⁹⁸ Frank L. Klingberg, 'Predicting the Termination of War', *Journal of Conflict Resolution* 10, no. 2 (June 1966): 129 One war of modern times stands in a class by itself, and shows to what lengths a disciplined, fanatic nation can go in war. In the Lopez War (1865-70), one estimate is that Paraguay's population decreased from 1,337,000 to 221,000, a loss of 83.5 percent. In August 1865 a Paraguayan army of 2,500 is supposed to have fought to the last man against a Brazilian army of 13,000, which likewise suffered 2,500 casualties. That a nation normally suffers somewhat heavier casualties in lost wars, as compared to victorious wars, is shown in a table presented in the article that covers wars from 1618 to 1905.

³⁹⁹ 'Comment', *New Republic* 156, no. 1 (7 January 1967): 7-12.

The late Richard Holbrooke was a U.S. diplomat who wrote a volume of the *Pentagon Papers*⁴⁰⁰ – an internal government study of U.S. involvement in Southeast Asia. The work was commissioned by Secretary of Defense Robert S. McNamara⁴⁰¹ in June 1967, and eventually leaked in 1971. The 47 volume top secret study had many damaging revelations covering the period from World War II to May 1968. It revealed a considerable degree of miscalculation, bureaucratic arrogance, and deception on the part of U.S. policymakers and how the government had resisted full disclosure⁴⁰² of military involvement in Southeast Asia and air-strikes over Laos and that the reason for fighting in Vietnam was based far more on preserving U.S. prestige than preventing communism or helping the Vietnamese. On June 13, 1971, the *New York Times* began publishing a series of articles from the study. The Justice Department obtained a court injunction against further publication on national security grounds, but the Supreme Court ruled that constitutional guarantees of a free press overrode other considerations, and allowed further publication.⁴⁰³ The problems persisted for thousands of veterans of the covert operation who were still being discriminated against, ostracized, and even attacked by members of the Laotian Army, leading them to plea for help from America.⁴⁰⁴ The dependence of the administration on ambassadors and their selection based on relations with counterinsurgency operations or investing companies were also being questioned,⁴⁰⁵ together with issues about the nature and location of the authority to use the armed forces of the country against an adversary.⁴⁰⁶

According to Michael Howard, probably the world's pre-eminent strategic historian, at the time of writing, the United States had entered the Vietnam War in the belief that she was fighting to defend the Free World – that is, a world governed by the values of liberal

⁴⁰⁰ Julie Bosman, 'Richard Holbrooke's Papers Entrusted to George Packer', *The New York Times*, 30 March 2011, sec. Books, <http://www.nytimes.com/2011/03/31/books/richard-holbrookes-papers-entrusted-to-george-packer.html>.

⁴⁰¹ Errol Morris, *The Fog of War: Eleven Lessons from the Life of Robert S. McNamara*, Documentary, War, (2004).

⁴⁰² Michael Cooper and Sam Roberts, 'After 40 Years, the Complete Pentagon Papers', *The New York Times*, 7 June 2011, sec. U.S., <http://www.nytimes.com/2011/06/08/us/08pentagon.html>.

⁴⁰³ Daniel Ellsberg, *Papers on the War* (Simon and Schuster, 1972); Daniel Ellsberg, *Secrets: A Memoir of Vietnam and the Pentagon Papers*, illustrated edition (Viking Press Inc, 2002).

⁴⁰⁴ Thomas Fuller, 'Old U.S. Allies, Still Hiding Deep in Laos. (Cover Story)', *New York Times* 157, no. 54161 (17 December 2007): A1–A12.

⁴⁰⁵ Barry Rubin, 'Nixon's Action Ambassadors', *Nation* 218, no. 24 (15 June 1974): 744–47.

⁴⁰⁶ McGeorge Bundy, 'Vietnam, Watergate and Presidential Powers', *Foreign Affairs* 58, no. 2 (Winter 79/80 1979): 397–407.

democracy – against the incursions of totalitarian tyranny. She ended with the awful suspicion that America herself was now suppressing a people struggling to be free.⁴⁰⁷

U.S. involvement from its financial support of the French colonial power through to the early 1970s bombing of Cambodia and Laos were depicted by Peter Davis' *Hearts and Minds*, a documentary film covering the atrocities. The title was based on a quote from Lyndon B. Johnson 'the ultimate victory will depend on the hearts and minds of the people who actually live out there.'⁴⁰⁸ America's deliberate indifference to even the fate of its own men was covered by Philip Caputo, a U.S. Marine, and is a story about war, based on his personal experience.⁴⁰⁹ A Vietnamese perspective was given in *When Heaven and Earth Changed Places*.⁴¹⁰ For the Lao perspective see Zasloff⁴¹¹ and other clandestine operations.⁴¹²

The B-52s and F-111s flew the last bombing sorties over northern Laos in April 1973.⁴¹³ From that moment the enormity of the legacy of UXO began to unfold. More than a quarter of a century later, in 2000, the UK Working Group on Landmines looked at the impact of cluster bombs and recommended future changes to international law to prevent future civilian casualties. McGrath defines one characteristic of cluster bombs as their propensity to cause post-conflict casualties among civilians.⁴¹⁴

Even in 1974 the implications of the use of anti-personnel weapons for civilian war victims were well known. Both in design and in its practical deployment, the most indiscriminate antipersonnel weapon used in the Vietnam War was almost certainly the so-called Cluster Bomb Unit (CBU). The ability to control a fragmentation pattern and to disperse it over a wide area for tactical uses is strictly an outgrowth of the war in Indochina.⁴¹⁵

⁴⁰⁷ Howard, *War and the Liberal Conscience*, vi.

⁴⁰⁸ Peter Davis, *Hearts and Minds*, Documentary, War, (1975).

⁴⁰⁹ Philip Caputo, *A Rumor of War* (Random House, 1977); Tim O'Brien, *The Things They Carried*, 1st ed. (Mariner Books, 2009).

⁴¹⁰ Le Ly Hayslip and Jay Wurts, *When Heaven and Earth Changed Place* (Pan Books, 1994); Cheng Guan Ang, *The Vietnam War from the Other Side: The Vietnamese Communists' Perspective* (Oxon: RoutledgeCurzon, 2002).

⁴¹¹ Joseph J Zasloff, 'Laos 1972: The War, Politics and Peace Negotiations', *Asian Survey* 13, no. 1 (January 1973): 60–75; Joseph Jeremiah Zasloff and Leonard Unger, *Laos: Beyond the Revolution* (Palgrave Macmillan, 1991).

⁴¹² Warner, *Shooting at the Moon*.

⁴¹³ Anthony and Sexton, *The War in Northern Laos 1954-1973*, iv.

⁴¹⁴ R. McGrath, R. Lloyd, and L. Action, *Cluster Bombs: The Military Effectiveness and Impact on Civilians of Cluster Munitions* (London: Land Mine Action, 2000), http://www.landmineaction.org/resources/Cluster_Bombs.pdf.

⁴¹⁵ Michael Krepon, 'Weapons Potentially Inhumane: The Case of Cluster Bombs', *Foreign Affairs* 52, no. 3 (April 1974): 595–611.

3.3.1. The role of Refugees and U.S. Missing in Action in the story

The U.S. approach to liaison with the Lao authorities and its engagement in the country, which had implications for the clearance of UXO, was heavily influenced by the need to track down Americans who may have survived but taken prisoner or were missing in action in the country.

Although the U. S. had been trying to keep a low silhouette in Laos, its involvement there can be measured in part by the rising flood of refugees, which stood, even by 1970, in the region of 600,000, many of whom were victims of U.S. bombing. Much of the bombing was aimed at the Ho Chi Minh Trail, North Vietnam's vital supply route through Laos to South Vietnam, but it is was also directed against the Pathet Lao, Laotian Communists, who, with the aid of more than 50,000 North Vietnamese troops, threatened the neutral government of Souvanna Phouma. The U.S. was reluctant to commit its own troops in Laos, but relied on a massive tactical air offensive to assist the notoriously inept government forces who opposed a growing Communist strength on the ground.⁴¹⁶

By February 1973 secret talks were being taken by the government and Communist-led Pathet Lao, toward a ceasefire.⁴¹⁷ Finding political solutions with the Communist government regarding the massive flow of refugees from Vietnam, Laos and Cambodia continued in crisis for many years.⁴¹⁸ The assassination of anti-communist politicians including Minister of Religion Boun Om and the Minister of Defense also triggered the transformation and victory of the Pathet Lao to control the state as a Communist state in 1975.⁴¹⁹ By 1985 the US Army was still searching for unaccounted members of the Vietnam War, and in 1986 had recovered the remains of at least 13 soldiers.⁴²⁰ Two Americans, whose plane had crashed in Laos in 1969, were listed as missing in action (MIA). There was increasing cooperation of the Laotian government in hosting MIA searches.⁴²¹ In 1992 at hearings of the Senate Select Committee on 'POW-MIA' (Prisoners of War/Missing In Action) Affairs, there was a discussion over an image shot from space which appeared to be the letters 'USA' gouged into a rice paddy in Laos. The panel's attempt to resolve the fate of US soldiers who disappeared

⁴¹⁶ David Kales, 'The Refugees of Laos', *Nation* 210, no. 3 (26 January 1970): 76–77.

⁴¹⁷ 'Inching Toward Peace', *Time* 101, no. 7 (12 February 1973): 25.

⁴¹⁸ Barry Wain, 'The Indochina Refugee Crisis', *Foreign Affairs* 58, no. 1 (Fall 1979): 160–80.

⁴¹⁹ 'Ripe for the Communists', *Time* 105, no. 21 (19 May 1975): 38.

⁴²⁰ Peter T. White, 'Laos: March 29, 1972: Missing in Action', *National Geographic* 170, no. 5 (November 1986): 0.

⁴²¹ 'Missing in Laos', *Economist* 333, no. 7888 (5 November 1994): 33.

during the Vietnam War continued.⁴²² The human aspects of the MIA could be used as a political lever, and proposals were made by military teams to the government to initiate specific MIA operations in response to the families of the MIA.⁴²³ The missing American prisoners of war (POW) in Laos were further stressed by the efforts made by the U.S. Central Intelligence Agency (CIA) to locate soldiers Missing In Action (MIA) in Laos. The families of the missing soldiers started a secret operation named "Velvet Hammer" under the leadership of veteran James Gritz.⁴²⁴ Warren Christopher, the then U.S. Secretary of State, was briefed by Admiral Larson on the extensive work his staff were doing on the ground 'They go through difficult jungle terrain; they cross minefields. Their excavation sites often involve unexploded bombs.'⁴²⁵ The implementation of trilateral investigations with Laos,⁴²⁶ and the exchange of ideas, experiences and techniques were productive in accounting for missing Americans.⁴²⁷ The role of forensics in helping families to resolve questions about missing family members was often resolved by the use of artefacts, when the U.S. Department of Prisoner of War-Missing in Action (POW-MIA) Accounting Command identified the remains of soldiers.⁴²⁸ This was a key driver in the establishment of and renewal of friendly relations between the U.S. and Laos. Ambassadorial relations were restored in 1992, which led to the expansion of political, economic and military relations. The role of the U.S. Congress and the Lao Diaspora were clearly playing important parts. After November 2008 the Obama administration began to stress multilateral engagement, although the path of bilateral relations will continue to be inhibited by the authoritarian nature of the Lao political system and human rights abuses. But this issue will be mitigated somewhat by U.S. strategic rivalry with China. At the time of writing, the rapprochement with Laos is in three areas of international cooperation: the recovery of soldiers listed either

⁴²² Richard Sammon, 'Images in Laos Rice Paddy Divide Senate Panel', *Congressional Quarterly Weekly Report* 50, no. 41 (17 October 1992): 3259.

⁴²³ Stephen S. Rosenfeld, 'What the White House Hides', *Nation* 218, no. 8 (23 February 1974): 231–32.

⁴²⁴ Iii Henry, Eileen Shields, and William McWhirter, 'Daring Mission, Dashed Hopes', *Time* 117, no. 22 (June 1981): 45.

⁴²⁵ Warren Christopher, 'U.S. Commitment to Our POW/MIAs', *U.S. Department of State Dispatch* 5, no. 13 (28 March 1994): 177.

⁴²⁶ Kent M. Wiedemann, 'Vietnam: U.S. Commitment to the Fullest Possible Accounting of POW/MIAs', *U.S. Department of State Dispatch* 7, no. 26 (24 June 1996): 342.

⁴²⁷ 'Historic POW/MIA Talks', *Army Magazine* 53, no. 12 (December 2003): 60–60; Sylviane Gold, 'The Long Toll of Missing in Action', *New York Times*, 8 November 2009, 15.

⁴²⁸ Peter Gwin, 'Finding the Fallen', *National Geographic* 215, no. 6 (June 2009): 25–25.

as missing in action (MIA) or as prisoners of war (POW), reduction of the amount of opium production, and counter-terrorism efforts.⁴²⁹

3.4. The U.S. Hearings

*War-Related Civilian Problems in Indochina, Part II: Laos and Cambodia*⁴³⁰ records the Hearings before the Subcommittee to Investigate Problems Connected with Refugees and Escapees, Senate Committee on the Judiciary, May 9, 1972. The primary witnesses were Paul N. McCloskey Jr., William H. Sullivan, Thomas J. Corcoran, Fred Branfman, and includes disputes (McCloskey and Branfman vs. Sullivan and Corcoran) over the impact of U.S. bombing in Laos. In 2010 the text was placed on-line in the extensive Virtual Vietnam Archive⁴³¹ of the Vietnam Project, at Texas Technical University, in five parts, with lists of names of the committee members on the judiciary; the chairman was Senator Edward M. Kennedy, who visited some of the areas in 1965.

The following is drawn directly from these hearings, with extracts from pages 1 to 107, reproduced in Appendix C, for the ease of the reader, with pertinent paragraphs below. It is important to stress that the evidence was presented by the Congressmen, Ambassador and aides who were responsible for implementing United States policy and who were responsible for the air war in Laos. Testifying before the Subcommittee was the Honourable Paul McCloskey, and Congressman Waldie. They had obtained certain facts that contradicted the testimony that had been submitted to the subcommittee by the Department of State and Defence in 1970. At issue was the contradiction that U.S. bombing operations had been carefully directed and that very few villages were susceptible to being hit by U.S. airpower, but this was incorrect and misleading and refuted by the Laos refugees, who were succinct in describing the destruction of their homes as well as the use of cluster munitions and white phosphorous. The report included a remarkable observation on the extensive bombing raids:

The significant and incontestable conclusion is that at least 76 per cent of 96 small villages in Northern Laos were destroyed by bombing in 1969. Cluster bombs and white phosphorous. Were used against the civilian population of a country against whom the United States is not at war. The direction was done under the direction and control of the

⁴²⁹ Carlyle A. Thayer, 'US Rapprochement with Laos and Cambodia', *Contemporary Southeast Asia: A Journal of International & Strategic Affairs* 32, no. 3 (December 2010): 442–466.

⁴³⁰ James Eastland, *War-Related Civilian Problems in Indochina, Part II: Laos and Cambodia*, II vols. (Washington: U.S. G.P.O., 1972).

⁴³¹ Various, 'The Vietnam Center and Archive: Virtual Vietnam Archive', 2010, online, <http://www.vietnam.ttu.edu/virtualarchive/>.

State Department, not the U.S. Air Force. Both the extent of the bombing and its impact on the civilian population of Laos have been deliberately concealed by the State Department for at least the past 9 months which have elapsed since the July 10 report was submitted by the U.S. Information Service to Deputy Chief of Mission Stearns in Vientiane. [Emphasis added]

As Congressman McCloskey stated, the bombing ‘...was done under the direction and control of the State Department, not the U.S. Air Force.’ Could this be why the Secretary of State Hillary Clinton took a more active role in recognising that the State Department is accountable and is now trying to make things right for the people of Laos? (See Clinton letters Section 5.3). At the time of writing there is clearly a more concerted effort on the part of the U.S. government to help them rebuild, now that it is recognised that their civilian populations were wrongly targeted.

Branfman’s report had an appended digest of several hundred pages, and includes both indirect and direct testimony to the American bombing:

Most of this bombing has occurred in the two thirds of Laos controlled by the Pathet Lao. This is a mountainous, forested region of some 50,000 square miles. It is inhabited, according to an estimate of an American Embassy official in March, 1970, by over 900,000 people, grouped in some 3,500 villages. This area is quite possibly the most heavily bombed region in the history of warfare, a zone described by one refugee who left it as a “lake of blood and destruction.” It is a region that has had, by conservative estimate, more than two million tons of bombs dropped on it. It is thus a region the size of New York State that has undergone as much American bombing as Europe and the entire Pacific theatre combined during World War II. (2,057,244 tons.)

Since 1959, the military forces of the Democratic Republic of Vietnam (DRV) had been employing the Truong Son Route—better known as the Ho Chi Minh Trail—to infiltrate men and materiel through Laos and into the U.S.-backed Republic of Vietnam (RVN). For the communist leadership in Hanoi, the trail was a lifeline that was essential to its military operations in South Vietnam.⁴³² Laos was also invaded from the south, Operation Lam Son 719, was a military operation started in February 1971, by armed forces of South Vietnam supported by the U.S. Armed forces.⁴³³

The Ho Chi Minh trail was an area bombed in south Laos, a zone which was inhabited by some 250,000 people.

⁴³² William Rosenau, *Special Operations Forces and Elusive Enemy Ground Targets*, 1st ed. (Rand Corporation, 2001), 5.

⁴³³ ‘Indochina: Tough Days on the Trail’, *Time* 97, no. 10 (8 March 1971): 24.

Massive evidence has emerged that much of this bombing has been carried out against villages; that, in fact, for the last 7 years the United States has carried out the most protracted bombing of civilian targets in history in this region; that thousands of villages have been struck, tens of thousands of civilians have been killed and wounded; and hundreds of thousands have been driven underground.

There appeared to be two basic reasons for the bombing of civilian targets in Laos that emerged from his interviews:

The first is the difficulty of terrain; the Pathet Lao areas are densely forested. The guerrillas, who stay in the forest, are rarely locatable. Small trucks moving at night are equally difficult to fix. Even when military targets are identified, jets moving at 600mph and bombing from 5,000 feet cannot strike them with accuracy. As strikes over Laos doubled after the November 1968 bombing halt over North Vietnam, bombing raids were more and more made against the one set of targets readily identifiable from the air: villages.

The second is the destruction of the civilian infrastructure in Pathet Lao areas, Communist guerrillas in Laos are stronger on the ground than Asian soldiers supported by the United States. As a result, it was decided to bomb civilian targets in an attempt to demoralize the civilian population, deprive the Pathet Lao of indigenous food supplies, force them to employ civilians to do portage, kill off potential recruits and porters, and cause a population flow away from their zones.

It was, in the words of Robert Shaplen writing in *Foreign Affairs* of April, 1970 after a trip to northern Laos, an attempt 'to destroy the social and economic fabric in Pathet Lao areas.'

Also in the Hearing report in Appendix III, Branfman pointed out that:

The ordnance dump at Udorn Air Force base [Thailand] that about 75-80 per cent of the ordnance on hand was antipersonnel...which is designed to kill or maim human beings. Although used sometimes in other ways, such weaponry cannot destroy a factory, a bridge, an anti-aircraft site. Its objective is human flesh. American involvement in Indochina has been characterized by unceasing refinement of new ways to kill from the air.

If American bombers have frequently struck inhabited villages in Laos, officials who have testified before this Subcommittee may share responsibility for violating our own Rules of Engagement, giving false testimony before Congressional committees in the past, and violating such international agreements as the 1907 Hague Conventions, the 1949 Geneva Conventions, and the Nuremburg-defined statutes forbidding Crimes Against Humanity. It is unlikely that they would voluntarily incriminate themselves.

At the rate bombs have fallen since January, 1, 1971, more than 600,000 tons will fall on Indochina before the end of this year [1972]. That's 2,400 tons each day, 100 tons each hour.

This documentation suggests that much of this tonnage is falling right now on peasants in Laos and Cambodia, subsistence rice farmers who have committed no

injury against, pose no threat to, the people of this nation. Peasants who, indeed, have neither seen an American nor have the slightest idea why Americans are bombing them.... there are hundreds of thousands of them, right now, living out in the forest, huddled together in caves, holes, tunnels and trenches, hiding from American bombers.... at this very moment there are people – children, old women and men, with families and hopes and feelings – people being burned alive by napalm, buried alive by 500 pound bombs, cut to pieces by fragmentation bombs, riddled by anti-personnel bombs.... dozens of these peasants will be dead one week from today; hundreds one month from today, and thousands one year from today. We cannot hear their screams, but we cannot ignore them. For their agony is clearly the most pressing human problem of our time.

The unspoken nature of the war applied to all types of munition used. A recently declassified document from 23 March 1966 referred to the use of Napalm – an incendiary named after its constituent parts of naphthalene and palm oil – in Laos. It said: ‘Use of Napalm like other U.S. combat air operations in Laos will not be publicly confirmed, although we must anticipate possibility that it may become matter of public knowledge.’⁴³⁴ The head of the Royal Laotian Air Force (RLAF) had requested Napalm for the RLAF’s own use. As with other ordnance, the State Department became particularly concerned when ‘friendly’ villages were hit by mistake, making it impossible to dismiss allegations of US air operations in Laos as Vietnamese or Pathet Lao rebel propaganda.

The U.N. advisor Georges Chapelier confirmed the bombing intensity:

Bombings were aimed at the systematic destruction of the material basis of the civilian society. Harvests burned down and rice became very scarce... These people seem to be fed up with bombings and unable to foresee the end of this tragic epoch. It must be noted that these observations are valuable at a behavioural level and do not engage the authors about the inner feelings of the refugees. A genuine assimilation between communism and bombings is frequent in Vientiane, even amongst western-educated people. A meaningful example is given by the answer of a Deputy whom we were asking, ‘Do you think that the Lao personality fits well in the communist system or, more simply, that Lao peasants are happy in PL territories?’ He replied with a large smile: ‘But don’t you know that they are bombed day after day, live in holes like animals and work in their paddy fields at night? Is that a good life?’ Obviously, he assimilated communism and bombings and his reaction is typical of the Lao social climate in Vientiane.

One of the most important accounts of the American bombing was by Jacques Decornoy, Southeast Asian desk editor for *Le Monde*. He was one of the few western observers to witness the bombing and its effects first-hand. His reports appeared in a 5-part series July 3-7, 1968, and formed part of Branfman’s documentation:

⁴³⁴ ‘Use of Napalm’ (Office of the Historian - Historical Documents Volume XXVIII, Laos - Document 227, 1968 1964), <http://history.state.gov/historicaldocuments/frus1964-68v28/d227>.

It seems that the intensity and density of the bombing is even greater in the province of Xieng-Khouang in the Plain of Jars. Their persistence in this zone of grottoes raises the problem of the real motives of the Americans... Thousands of bombs have fallen for three years on a small area two to three kilometres long. In front of the cave where Prince Souphanouvong received U.S., the craters were so close that they cut into each other. In this forgotten war, unlike the attacks on North Vietnam, these raids have never been officially reported, but only, with much delay and discretion, "admitted." The Americans are trying to "break" the Laotian Left, both psychologically and, if possible, physically.... They also blame Thailand, from which all the bombers fly, and governments supporting American intervention or maintaining a complete silence on the subject.... No house in the villages and hamlets had been spared. Bridges had been destroyed, fields up to the rivers were holed with bomb craters.... Houses were totally burned out (phosphorous had been used).

The next paragraph, describing a cluster bomb and unexploded munitions, also graphically and poignantly evoked the horrors they might inflict.

At the other end of Sam-Neua, the sight was even more painful. Everywhere enormous craters, the church and many houses were demolished. In order to reach the people who might be living there, the Americans dropped their all-too-famous, "*bombes a billes*" (fragmentation bombs). Here lay a "mother bomb" disembowelled, by the side of the road. All around, over a dozen metres, the earth was covered with "daughter bombs," little machines that the Vietnamese know well, unexploded and hiding hundreds of steel splinters. One of them had rolled into a shelter, under a mat, mortally wounding the three people who had taken refuge there.

The litany of their misfortunes continued. The inhabitants asked the reason for this storm of fire and steel. 'I don't even know where America is,' said a peasant mother whose daughter had just been killed and who had lost all her belongings. A peasant said: 'I understood nothing before when people spoke against the United States. After the raids on my village, I know, what they mean.' Decornoy told the Senate how 'Everything American far and wide is hated by the people.'

Branfman included an interview of former life of the refugees:

In a village there live 223 families containing 2219 people. Before 1964 in the region of Tasseng Phan in the province of Xieng Khouang, there was only prosperity in the ricefield and fish in the plentiful waters. There were no floods and no droughts because the water which fed the rice plants came from the mountains and not simply from rainfall... Many animals were raised very comfortably. Each family had not less than 20 cows and numerous pigs, dogs, ducks, and chickens... After 1964 the conditions of the area changed greatly in many different ways. Sometimes the administration of the area belonged to the Royal Lao Government and sometimes the area was under Pathet Lao administration. But more often the Neo Lao Hak Sat (NLHS) controlled the area. At that time began the bombing increasing the misery of the people until finally it became impossible to live in the region.... If the planes couldn't select a place to bomb, but they saw some animals or people, they would

simply drop the bombs on them. This was the primary reason why the refugees fled from the homes of their birth and came here.... fleeing from hell... The poverty of living, eating and sleeping in holes, the fear of all the different kinds of bombs dropped by the airplanes, the fatigue of constantly being ordered to move, the conscription into working, the conscription of food by the Neo Lao, all added to the sorrow of these fellow Laotians, who had done no evil but still reaped such misfortune.

Their house where they had always lived and always slept, and the land on which they had always planted their crops, the land where they had spent all of their days, all of the animals which they used to sell to earn profit for their homes were completely bombed. From this damage there remained only many ponds, two or three times a man's [height] in depth. Of trees there remained only a few mango trees and coconut trees. There was left only the remains of the earth which had lost its fertility for growing crops.'

Branfman cited, part of a newsletter from a former U.S. volunteer, writing in 1967. The volunteer said that 6.45 on a Monday morning, February 13th, three American 105 jet fighter-bombers bombed the village of Muong Phalane. Eighteen 750 pound bombs were dropped and fifteen have so far exploded. Six were immediate impact and the rest were delayed action bombs. Branfman explained 'the power was frightening and the damage was awesome. It's something most Americans need to experience to see how inhuman and out of scale war has become – but most likely will remain ignorant and irresponsible...' The volunteer said the demolition experts had said that only about one-third of the bombs had exploded and that the rest would soon explode.

The people soon realized the danger and we all realized how lucky we had been that the bombs did not explode as we were looking at them – which is their purpose. The area was evacuated and as the teacher and I walked away we heard a tremendous blast, looked in the direction of his house, saw the great burst of dirt flying and ran helplessly, defencelessly, not knowing where to hide..."I have lost all, I have nothing."

Eight bombs had since exploded leaving two unexploded bombs remaining in the centre of the village. The demolition experts reported it might be two weeks before the buried bombs could be reached and detonated.

This tragic list of bombing continues through thousands of interviews cited in the hearings. According to Thompson, a prosperous, non-communist Southeast Asia grew on the periphery of the carnage. In the long rivalry between Vietnam and Thailand, the Vietnam War helped Thailand move ahead economically through the infusion of dollars from the U.S. Air Force

wings based there.⁴³⁵ The American air war over North Vietnam and Laos was waged mostly from Air Force bases in Thailand although the Thai government had tried to keep its role in the Vietnam War quiet, the planes taking off were not permitted to bomb in South Vietnam and the U.S. Air Force were required to pretend that missions into North Vietnam and Laos had actually launched from bases in South Vietnam. Not until 1968 did Thailand permit fighter aircraft based there to strike targets, with four million tons of ordnance on South Vietnam, and little more than two million tons of ordnance on Laos.⁴³⁶ A B-52D navigator – bombardier, Robert O. Harder, states that in the region-wide conflict the geographic targets of the B-52s: 55 per cent were in South Vietnam, 27 per cent in Laos, 12 per cent in Cambodia, and 6 per cent in North Vietnam.⁴³⁷ According to the Congressional research service, Laos has been characterised as the most heavily bombed country in history, on a per capita basis.

In summary, we know that U.S. bombing in Laos was designed to cut of North Vietnamese supply lines that ran through Laos, that the American public were not aware that the U.S. had undertaken ‘the most protracted bombing of civilian targets in history’ as Fred Branfman put it in a statement in the 1971 hearings.

In the Senate Hearings Congressman McCloskey pointed out that in Nixon’s secret war, the fact was that the bombing was directed and controlled by the U.S. Ambassador to Laos, that if all the bombs were not used on Hanoi, then whatever amount of ordnance was left, rather than bringing it back to the station in Thailand, was just dropped on Laos. Mr. Faleomavaega added that ‘If you look at the southern portion of where all those red dots are (see Figure 10) – they are literally obliterated with bombing operations... 39 years later we find out that these people were devastated, literally, by the bombing operations that we conducted. They never attacked us, they never declared war against the United States, but we did exactly what we felt like doing, and we did.’⁴³⁸

In summary Kant’s general solution to the question of international morality is pertinent here: ‘All actions relating to the right of other men are wrong’ if their maxim is not consistent with

⁴³⁵ Wayne Thompson, *To Hanoi and Back: The United States Air Force and North Vietnam 1966-1973* (Dept. of the Air Force, 2003), 3.

⁴³⁶ *Ibid.*, 5.

⁴³⁷ Robert O’Harder, *Flying from the Black Hole: The B-52 Navigator-Bombardiers of Vietnam*, 1st ed. (Naval Institute Press, 2009), 155.

⁴³⁸ United States: Congress.: House.: Committee on Foreign Affairs.: Subcommittee on Asia, the Pacific, and the Global Environment., ‘Legacies of War: Unexploded Ordnance in Laos : Hearing before the Subcommittee on Asia, the Pacific, and the Global Environment of the Committee on Foreign Affairs, House of Representatives, One Hundred Eleventh Congress, Second Session, April 22, 2010’ (Washington: U.S. G.P.O., 2010), 11–15, <http://origin.www.gpo.gov/fdsys/pkg/CHRG-111hrg56094/pdf/CHRG-111hrg56094.pdf>.

publicity. Roughly: ‘If you are a statesperson contemplating a public act that you cannot publicly acknowledge... without arousing everyone’s opposition,’ it isn’t moral and you shouldn’t do it.’⁴³⁹

3.4.1. Bombing run

It is relevant to look at an example in nine years of war, of how the bombs were dropped on Northern Laos – the Plain of Jars. This important extract is from the formerly ‘Secret’ document, *The War in Northern Laos*, published in 1993 but still heavily redacted. From the 409 scanned pages that could be accessed there were blanked out areas on every page, including the index. The following is from page 336:

An improved radar had been installed at Udorn in Thailand in September 1970. This new set covered the whole Plain of Jars, including interdiction points on Route 7, and its accuracy surpassed both the previous radars. The RF-4s flying out of Udorn began photomapping the principal roads and large areas along the western Plain of Jars. The aircraft’s computer recorded the loran coordinates at the point directly beneath the aircraft at the instant the photo was taken. Using this data, a photomap was made with a grid overlay that provided exact coordinates of every position on the map. These maps were distributed to the forward air controllers and major ground units. A chief advantage of the system (dubbed “It gap” for loran targeting, grid annotated photography) was that the pilot did not need a map. Once the target coordinates were determined, they could be passed either to the Skyspot site at Udorn or straight to loran-equipped F-4s. In the case of Combat Skyspot, the controller vectored the aircraft to the proper release point. For F-4s fitted with loran, the target coordinates were set into the plane’s bombing computer, which provided the same function. A series of tests held during November 1970 of one hundred drops on five targets produced an accuracy of ninety-eight yards from ninety-eight impacts, with two gross errors discounted.

The Air Force also brought two new types of ordnance into Barrel Roll during the 1970 wet season – the Snake Eye high-drag bomb and the CBU-38. The Snake-Eye weapon, designed to increase the accuracy of high-speed jets, had flaps attached to a five-hundred-pound bomb. The flaps deployed when the bomb was released, slowing it and reducing the forward throw distance. In practice, the bomb proved to be accurate to within three hundred feet, about twice as accurate as slicks (low-drag bombs).

The CBU-38, a cluster bomb new to the theatre, was a canister containing forty 14-pound bomblets. Each bomblet yielded bigger fragments, greater fragment velocity, and more incendiary effect than earlier cluster bombs. Unlike earlier CBUs, the canister holding the bomblets, which cost fourteen hundred dollars, remained attached to the aircraft. All bomblets could be ejected in two seconds, but the pilot could control the number of bomblets dropped by the length of time he held his thumb on the firing button. Most pilots preferred a one-second burst to allow a second run on

⁴³⁹ Christopher D Stone, *The Gnat Is Older than Man: Global Environment and Human Agenda* (Princeton, N.J.: Princeton University Press, 1993), 248.

the target. In one-second, three canisters (the F-4's normal load) dispersed sixty bomblets in a one-hundred-foot by three-hundred-foot area.

With Snake Eye and the CBU-38, the Air Force had begun to employ every weapon of its Southeast Asia arsenal in Barrel Roll – though in smaller numbers than elsewhere; but the foremost question was how to best use these weapons. Because no major wet-season offensive was in the offing, the Air Force believed the bulk of its effort should center on the enemy logistic network. During the preceding dry season, with Route 7 closed, the communists had been unable to restock their supply bases on the Plain of Jars. With this in mind, two interdiction points were selected on Route 7. While the Royal Lao Air Force and the quick reaction force were left to support Vang Pao, the rest of the sorties focused on the interdiction points in an attempt to again close Route 7. Between April and June, 844 sorties hammered these two road segments. The mixture of bombs and rain did the job. A roadwatch team reported that the route was closed for twenty-six days in April, twenty-nine days during May, and continuously from May 23 through the close of the rainy season.⁴⁴⁰

This one example confirms that Thailand was being used as a base, indicates that there were 'exact coordinates for every position', the cost saving of using a re-usable canister, and pilot preference to how cluster bombs were dropped (randomness), and the strength of the rains. What is also evident throughout the publication is that Laotian observers were in the backseats of the aircraft. The pilots received target information from roadwatch teams and identified targets by flying at tree level. When targets were validated fighters were diverted from alert to strike missions. For example, on one occasion, 45 trucks were destroyed and the pilots also performed good bomb damage assessments since they flew lower and slower than jets. (Footnote in the source text.)⁴⁴¹ There were mishaps, for example, a⁴⁴² U.S.AF F-4 accidentally dropped a 2,000 pound bomb. Frequently areas were 'seeded' with CBUs.⁴⁴³

⁴⁴⁰ Anthony and Sexton, *The War in Northern Laos 1954-1973*, 336.

http://www.gwu.edu/~nsarchiv/NSAEBB/NSAEBB248/war_in_northern_laos.pdf Available on line at the George Washington University Archive.

⁴⁴¹ Victor Anthony and Richard Sexton, 'War_in_northern_laos.pdf', 191, accessed 4 July 2010, http://www.gwu.edu/~nsarchiv/NSAEBB/NSAEBB248/war_in_northern_laos.pdf.

⁴⁴² Kenneth J Conboy and James Morrison, *Shadow War: The CIA's Secret War in Laos* (Boulder, Colo.: Paladin Press, 1995), 297.

⁴⁴³ *Ibid.*, 191.

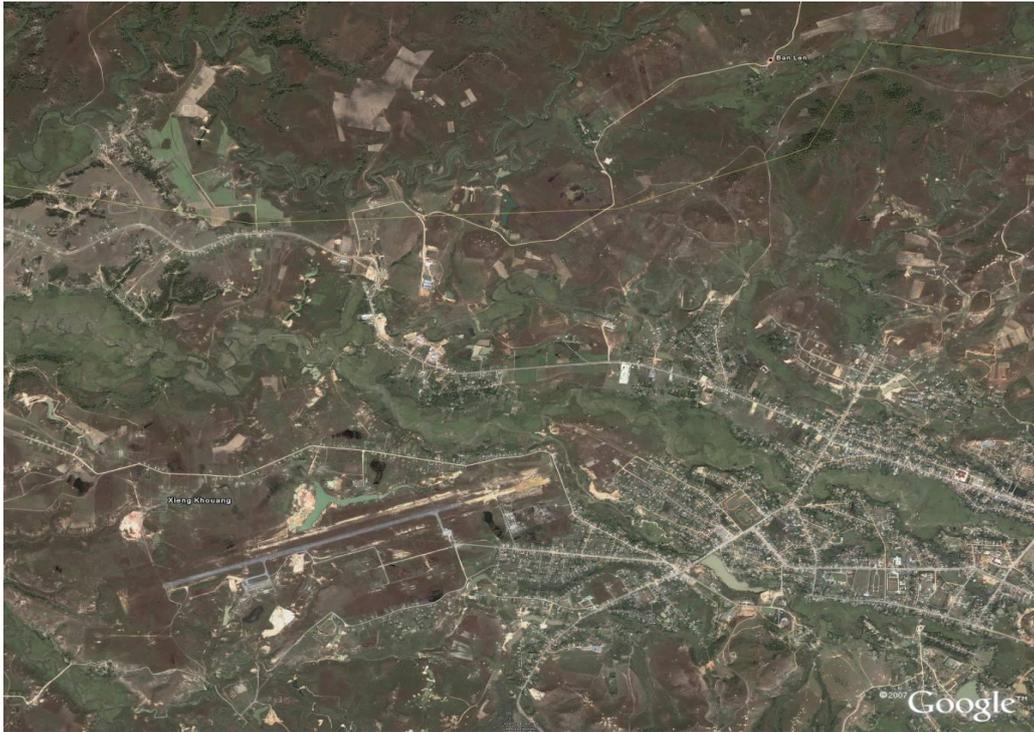


Figure 8. Aerial view of Xieng Khouang runway



Figure 9. Aerial view of Xieng Khouang airfield from about 600 metres

Figure 8 and Figure 9 (19° 26' 56.15" N, 103° 09' 31.06" E) show a pilot's air view of Xieng Khouang air field at about 10,000 metres and the bottom image at about 600 metres, using the zoom in and out feature tool of Google earth pro. The bottom image would indicate that there certainly must have been a priority clearing of UXO. In a siding off the main runway are parked 10 air force planes, as well as the civilian plane to the south.⁴⁴⁴

Cluster munitions apply an area effect for a military advantage; therefore, the effects of any attack should be in proportion to the target and the importance of the military goal. Cluster munitions used in an area of civilian and military cohabitation, however, almost guarantee civilian casualties. The military efficacy of cluster munitions has been further questioned as a result of U.S. troops being killed post-conflict by their own UXO, not to mention the impediment to mobility when operating in contaminated areas.⁴⁴⁵

3.4.2. Example of bombing in other provinces

In Khammouane province there were two principal entry points from North Vietnam into Laos and were obvious selections for strikes the Mu Gia and Nape passes. As Prados points out 'in combat action typical of this period in 1965, on July 16 and 17 F-105 fighter-bombers dropped 18,000 pounds of munitions on each of the two passes.'⁴⁴⁶ To increase the destructiveness of the bombing, the biggest bombers were used the B-52 Stratofortresses. The first strike of these aircraft, as part of Operation Tiger Hound, an intensification of attacks against a segment of the Ho Chi Minh Trail closest to South Vietnam, was on December 10, 1965. Twenty four B-52s took part. 'This strike also featured the first use in Southeast Asia of cluster bombs, weapons that separated on impact into many small bomblets that could subsequently explode like land mines.'⁴⁴⁷ By March 1972 U.S. tactical aircraft had flown about 31,500 sorties, while the B-52s had participated in flying 3,176 strikes in the Laotian panhandle. The typical payload carried by a B-52 was 60,000lb -30 short tons – so these B-52 attacks alone could have delivered 95,000tons of munitions. The B-52 strikes continued till April 1973 against targets on the Plain of Jars, when all American air operations in Laos ceased.⁴⁴⁸

In a poignant quote, Carl Sagan reflects on the terrible irony of American peace and the moon landing:

⁴⁴⁴ Google Earth Pro, 'Southeast Asia' Xieng Khouang Laos. Accessed 4 January 2013 .

⁴⁴⁵ Henry Dowlen in Adam J. Brooks et al., eds., *Ryan's Ballistic Trauma: A Practical Guide*, 3rd ed. 2011 (London: Springer, 2011).57-58.

⁴⁴⁶ Prados, *The Blood Road*, 158.

⁴⁴⁷ Ibid.

⁴⁴⁸ Carl Berger et al., *The United States Air Force in Southeast Asia, 1961-1973: An Illustrated Account* (Washington, D.C.: Office of Air Force History, United States Air Force, 1984), 119.

For me, the most ironic token of [the first human moon landing] is the plaque⁴⁴⁹ signed by President Richard M. Nixon that Apollo 11 took to the moon. It reads, “We came in peace for all mankind.” As the United States was dropping seven and a half megatons of conventional explosives on small nations in Southeast Asia, we congratulated ourselves on our humanity. We would harm no one on a lifeless rock. That plaque is there still, attached to the base of the *Apollo 11* Lunar Module on the airless desolation of the Sea of Tranquility. If no one disturbs it, it will still be readable a million years from now.⁴⁵⁰

Given that Sagan and Frank Drake designed the Pioneer 11 plaque for communication with extraterrestrial intelligence, launched on April 5, 1973, he might have reflected on a message from the people of Laos, ‘Our land is contaminated with bombs we need somewhere new to live, please.’

Sekong a town, at 558 feet in the valley of the Bang Hieng, had its own airfield with a 4,000-foot-by-65-foot (1,220-by-20 metre) runway. The field served a district that extended all the way to the Vietnamese border and included about 200 villages and towns, with 45,000 inhabitants in all. Perhaps reflecting the repeated and long competitions among surrounding powers for this portion of Laos, the villagers exhibited no animosity toward the North Vietnamese. ‘Large numbers of the Kha and other tribesmen who inhabited the region served as porters in the supply parties, even young girls of the tribal minorities, ‘who were so poor they wore skirts of tree bark instead of woven fabric.’⁴⁵¹

One more document *Relief and Rehabilitation of War Victims in Indochina: One Year After the Ceasefire* from the Office of Senator Kennedy and dated January 1st, 1974, displayed only the ‘summary of findings’ page, but it contained this paragraph:

Before true peace can come to the Vietnamese countryside a vast program of ordnance removal must begin in order to defuse the estimated 300,000,000 to 600,000,000 pounds of explosive left behind in the fields. Mines and unexploded ordnance remain one of the principal causes of civilian casualties. No U.S. assistance in ordnance removal has been offered or accepted.

This clearly shows an awareness of some sort of obligation for RoW post-conflict in Indochina.

⁴⁴⁹ The plaque was attached to the descent ladder with the inscription ‘Here men from the planet Earth first set foot upon the Moon July 1969, A.D. WE CAME IN PEACE FOR ALL MANKIND (signatures)United States Congress, ‘National Aeronautics and Space Act of 1958’, *National Aeronautics and Space Administration*, 29 July 1958, <http://history.nasa.gov/spaceact.html>.

⁴⁵⁰ Carl Sagan, *Pale Blue Dot: A Vision of the Human Future in Space* (New York: Random House, 1994), 169–170.

⁴⁵¹ Prados, *The Blood Road*, 27.

Chapter 4. Defining the UXO Problem

Henry Dowlen points out that cluster munitions were used in World War II. The German forces dropped containers filled with ‘anti-personnel bomblets, the so-called SD2 ‘butterfly bombs’ that could detonate on impact or be set for delayed and anti-handling settings. Civilians were specifically targeted (bomblets were camouflaged to kill farmers at harvest time), and unexploded bomblets were found too unstable to disarm. They were first used against England in 1940 and the Soviet Union in 1942. The disruption caused was significant enough to be kept secret by the British in order to avoid encouraging further use by the Germans. It is significant that butterfly bombs killed as many people after air raids as during them, and the bombs’ last casualty occurred 11 years after the end of the war.⁴⁵² The U.S. copied the SD2 as the M83 cluster munition, which was used in Korea and Vietnam.

The anthropologist Eric Prokosch has written extensively on antipersonnel weapons and was a contributor to the 1994 Stockholm International Peace Research Institute report.⁴⁵³ He found that from 1966 to 1971, the Pentagon ordered 482,970 CBU-24-series bombs and bomblet-filled units, ‘making a total of approximately 285 million ‘guava’ bomblets - nearly seven bomblets for every man, woman and child in Vietnam, Laos and Cambodia. ‘It was’, he wrote, ‘in effect, a war against civilians, even if the people in charge of the bombing could claim to be trying to minimize civilian casualties.’⁴⁵⁴

McGrath notes that cluster bombs are one of the cheapest air-delivered weapons available and the U.S. was using many different designs. The most prolific was the CBU-24 (CBU stands for ‘Cluster Bomb Unit’). The CBU-24 consists of a dispenser containing some 640 to 670 one pound (0.45 Kg), spherical BLU-26 bomblets. Dropped from an aircraft, the CBU-24 opens in the air, releasing the bomblets, which are aerodynamically designed to scatter in a pattern. When the bomblets hit the ground they explode. Each bomblet has some three hundred 7/32-inch steel balls embedded in its casing. The use of one CBU-24 should result in some 200,000 steel balls shooting in all directions over a wide area. Later bomblets contained double the number of balls or fragments. However, not all the bomblets explode on impact and the self-destruct or self-deactivate mechanisms on recent models often do not work. The failure or ‘dud’ rate, consistently higher than manufacturers and militaries claim, means the

⁴⁵² Henry Dowlen in Brooks et al., *Ryan’s Ballistic Trauma*, 58.

⁴⁵³ Eric Prokosch, ‘Arguments for Restricting Cluster Weapons: Humanitarian Protection versus “military Necessity”’, *International Review of the Red Cross (1961-1997)* 34, no. Special Issue 299 (1994): 183–93, doi:10.1017/S0020860400078347.

⁴⁵⁴ *Ibid.*, 183–193.

bomblets become in effect land mines and thereby target non-combatants,⁴⁵⁵ during the conflict and in the post-conflict environment.

Cluster weapons are composed of two primary elements: a container or dispenser; and submunitions, often called bomblets. The container may be a specially-made bomb casing released from an aircraft, missile, rocket or artillery projectile, which carries submunitions towards the target area and incorporates a system to release them close to or above it. The container may also be a re-usable dispenser attached to an aircraft and designed to release the submunitions, again close to and above the target area. These cluster weapons encompass the whole range of submunition types and, especially in the case of Multiple Launch Rocket Systems (MLRS), can blanket large areas of territory with bomblets or mines from considerable distances. The submunitions or bomblets themselves are explosive projectiles, which usually include some design feature so they can separate and spread as they are dispensed from the container or dispenser, in order to distribute them to cover as much ground as possible. The four main categories of submunitions are:

- Anti-personnel: normally a fragmentation bomblet with properties similar to a grenade.
- Anti-tank/anti-material: its effect is to kill or injure the tank crew, and cause the explosion of ammunition carried in the tank.
- Combined Effects Munitions (CEM): a CEM Submunition typically combines the properties of an anti-tank bomblet with the addition of an incendiary capacity to cover the impact area with burning fragments causing secondary fires especially where fuel is present.
- Landmines: Submunitions may be victim-activated anti-tank or anti-personnel mines.

A particular point that is raised is the failure rate of cluster bombs to function as designed, and which is important to highlight here as it is central to the theme of this section, McGrath lists a number of reasons:

- Manufacture: damaged or faulty parts being in either the dispenser or one or more bomblets.
- Movement and storage: weapons spend long periods of their serviceable life in storage. Depending on the professionalism of the forces involved, stores will be subject to varying levels of care, preservation and servicing where errors may be made, leading to eventual failures in use. Transportation may result in damage.
- Loading, flight and landings: in wartime, under the pressures of conflict, ground crews make mistakes and the mechanical stresses of flying in combat increase the potential for failure.

⁴⁵⁵ T A Cavanaugh, 'Temporal Indiscriminateness: The Case of Cluster Bombs', *Science and Engineering Ethics* 16, no. 1 (March 2010): 135–45, doi:10.1007/s11948-009-9152-3.

- Ground impact: the environment is critical in determining the detonation as designed of all impact-initiated bomblets. The ground surface must offer sufficient resistance to impact or the bomblet will not detonate. Mud, snow, sand and surface water all lead to substantial numbers of duds and also result in bomblets penetrating ground cover and going sub-surface. The reliability of cluster bombs is further affected by plant overgrowth and forest. Bomblets strike trees during descent and get caught up. Since there is no impact, the bomblet fails to function. Alternatively, branches and overgrowth reduce the speed of falling bomblets which then fail to detonate on impact.⁴⁵⁶

It has been estimated that from 1964 to 1973, as part of its strategy during the Vietnam War, the U.S. dropped a planeload of bombs on the Lao people every eight minutes. Some 30 tons of bombs could be carried by each B-52. The failure rate could be as high as 30 per cent. United Nations estimates in 1996 put the estimates of unexploded ordnance (UXO) at about 500,000 tonnes, much of it cluster bombs and bomblets. A 1995 study of two districts in Laos, 24 villages in Moung Pek and 56 villages in Moung Kham, found 1,153 UXO-related accidents recorded in a population of 97,562. Information was gathered on 66 such accidents during 1995 in these districts. Of the 66 victims, 36 were children under the age of 15. Thirty-two of them were boys. Of the 30 adults involved in accidents, 20 were men and ten women. In total 14 people died and 52 were injured. The most common injury was severe shrapnel wounding to the body. The statistics from a group of subsistence farming villages showed that at least 65 per cent of these incidents occur when the victims are engaged in essential daily tasks such as working in fields. And, critically, these were not communities that had alternative lifestyles available to them.⁴⁵⁷

⁴⁵⁶ McGrath, Lloyd, and Action, *Cluster Bombs: The Military Effectiveness and Impact on Civilians of Cluster Munitions*, 5–6.

⁴⁵⁷ *Ibid.*, 7.

MAP OF UXO IMPACT AND BOMBING DATA 1965-1975

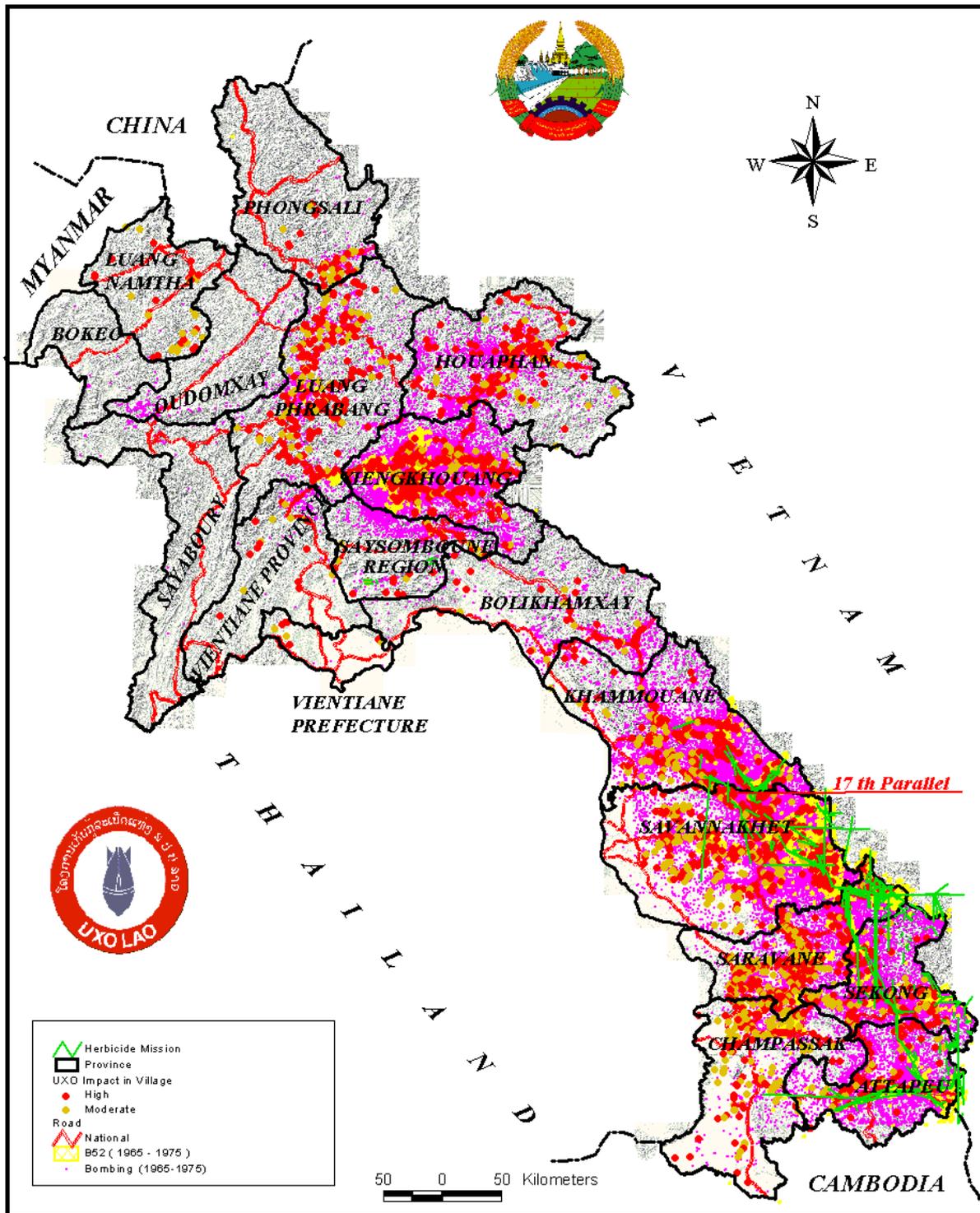


Figure 10. Map of UXO impact on Laos and bombing data (1965-75)

(Image supplied by UXO LAO)

The map in Figure 10 gives an indication of the UXO contamination, and concentration of bombing of Xieng Khouang a northern province, and in the east of the country along the Ho Chi Minh Trails.

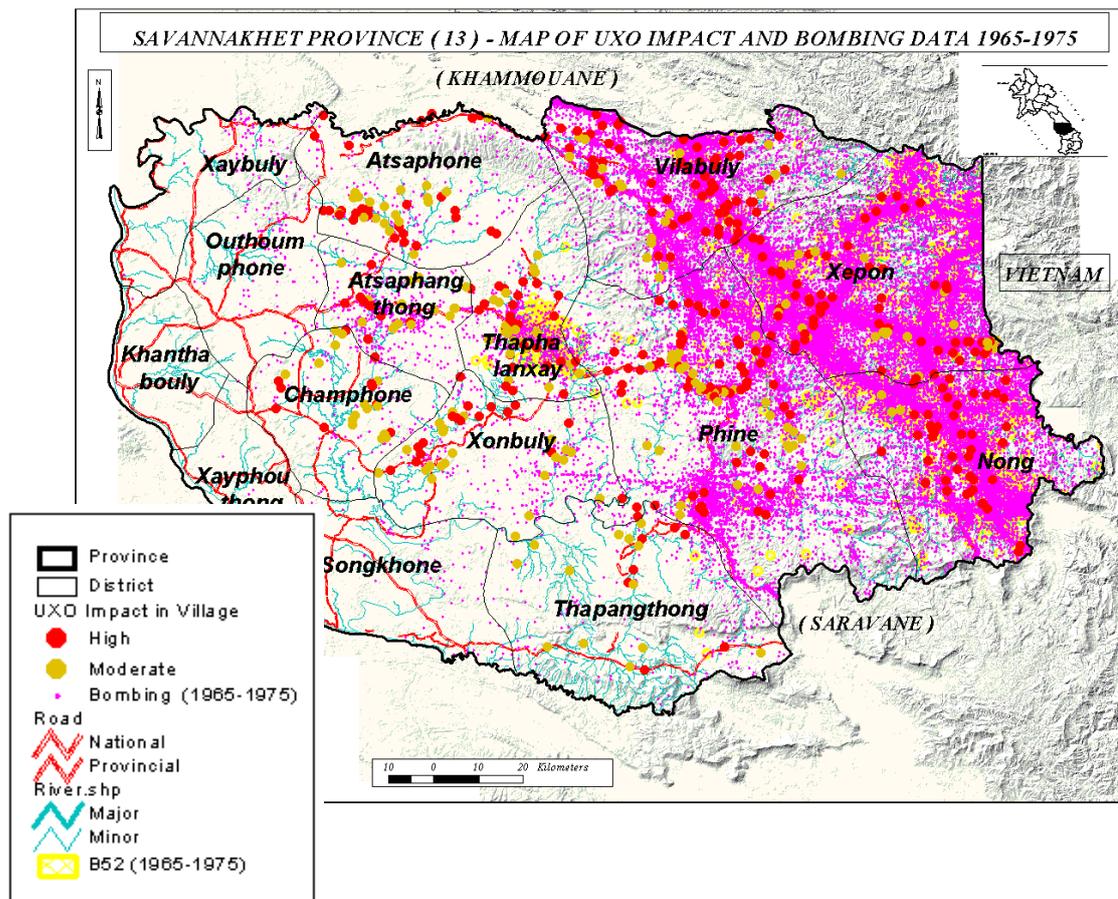


Figure 11. Map of UXO impact and bombing data Savannakhet Province, Laos
 (Images supplied by UXO LAO) (See Figure 17 for location within Laos)

The key information required to speed bomb clearance is to know exactly where the bomblets are, where each bomb in each strike was delivered and that collateral damage is not time-limited. As McGrath, Lloyd and Action explain

If a child finds and disturbs a bomblet six months after the bomb was dropped it is no less a measure of the impact of that attack than if the child had become a casualty after just one day'. As time passes the bomblets become harder to locate and, often, increasingly unstable. Further civilian deaths and injuries will continue to illustrate the uncontrollable and disproportionate nature of cluster bombs.⁴⁵⁸

The estimated number of sub-munitions (called bombies in Laos) from cluster bombs dropped over Laos PDR between 1964 and 1973 was in excess of 260 million, with an estimated failure rate of 30% - about 78 million failed to explode. Between 1996 and 2008 UXO Laos destroyed only 0.49% or just 387,645. In *The Technology of Killing – a Military*

⁴⁵⁸ Ibid., 9.

and Political History of Antipersonnel Weapons, Eric Prokosch states that more soldiers and civilians have died from land mines and other ‘conventional’ antipersonnel weapons than from any other type of modern armament, and yet outside defence circles little is known about them. His book is the story of the terrifying development and widespread proliferation of antipersonnel weapons since World War II. They are, in effect, weapons of mass destruction, but in slow motion.⁴⁵⁹ Henry Dowlen summarises the history, utility and legacy of cluster munitions:

Cluster munitions have been used in at least 23 countries, produced in 33, and stockpiled in over 70; their submunitions number in the billions. The year 2008 heralded an international agreement prohibiting the use, production, transfer, and stockpiling of cluster munitions due to the unacceptable harm they cause to civilians.⁴⁶⁰

Some submunitions fuses are armed through the spinning motion that occurs after they are jettisoned from the parent casing, and malfunction can occur during either of these processes. The ‘all-ways acting fuse’ is designed to ensure the device explodes even if it does not land in the correct alignment; however, it also acts as an anti-handling device, making unexploded ordnance UXO much more likely to detonate with a small movement.

Failure rates for cluster munitions are high enough that they are accounted for in the planning of military operations. In the past 42 years, nine countries confirmed the use of at least 440 million cluster submunitions, with average failure rates between 5% and 30%. A minimum of 22-132 million would therefore have become Explosive Remnants of War (ERW). Several operational factors influence the reliability of submunitions, including poor delivery technique, age of submunitions, weather, and terrain. Recent tests in Norway have shown that self-destruct features are often not as reliable as manufacturers claim.⁴⁶¹

During the nine year period the U.S. conducted over 580,000 bombing sorties over Laos, equivalent to one sortie every eight minutes. Two million tons of bombs were dropped over 33,000 square miles (87,000 hectares) on 14 out of 17 provinces, affecting 37% of the country.

⁴⁵⁹ Eric Prokosch, *The Technology of Killing: A Military and Political History of Anti-Personnel Weapons* (Zed Books, 1995).

⁴⁶⁰ Dowlen in Brooks et al., *Ryan’s Ballistic Trauma*, 57.

⁴⁶¹ *Ibid.*, 58.

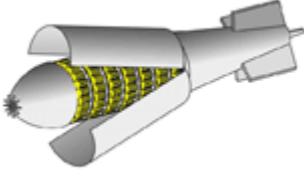
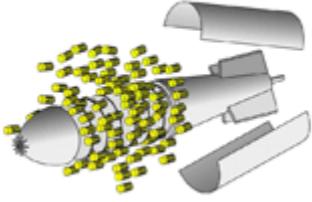
<p>A cluster munition, (in this example carrying 202 'BLU 97 A/B' submunitions), is dropped from a plane. The bomb can fly about 9 miles by itself before the submunitions are released</p>	
<p>A short time before the submunitions are released, the container begins to spin, and opens at an altitude of between 100m and 1000m. The height, velocity and rotation speed determine how big an area will be covered by the submunitions when they hit the ground.</p>	
<p>Depending on the wind conditions and the altitude at which the submunitions were released, each bomb container can cover an area of up to 80,000 square metres with submunitions.</p>	<p>When the submunitions explode, they cause injury and damage across a wide area. The blast of one submunition can cause deadly shrapnel injuries in a 20 metre radius and injure anyone within a 100 metre radius.</p>
<p>This map shows the area that would be covered if a single cluster munition container was dropped on the bandstand in Hyde Park, London. The red area shows the 50m area where fatalities are guaranteed. The orange area shows the 100m area where serious injuries are likely.</p>	

Figure 12. Cluster Munition strike explained (adapted from the HI website)⁴⁶²

The UXO survivors often suffer severe injuries with considerable blood⁴⁶³ loss, and thus need immediate attention, both to save lives and reduce the extent of the injury. UXO injuries are dirty, since the device is often in the ground and its explosion throws up quantities of soil and other materials which become embedded in the casualty's flesh, together with fragments of footwear and clothing, leading to a high risk of tetanus (see Figure 13 below).

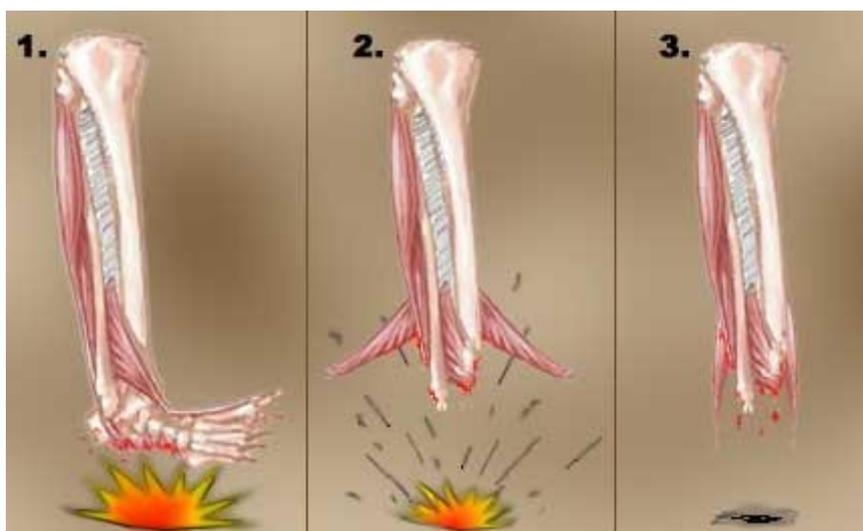


Figure 13. Impact of explosion on lower limb⁴⁶⁴

This diagram is based on one devised in 1995 by Robin Coupland,⁴⁶⁵ MD, then of ICRC, and demonstrates the impact of an anti-personnel landmine explosion on a lower limb.⁴⁶⁶ The diagram should be taken as indicative but graphically illustrates what can happen when a person steps on a below ground anti-personnel landmine.⁴⁶⁷ The rescue and first aid procedure involves getting the wounded person out of the minefield and stopping the

⁴⁶² 'Handicap International UK | Cluster Munitions | How Do They Work?', accessed 26 March 2009, http://www.handicap-international.org.uk/what_we_do/landmines_cluster_munitions/cluster_munitions/cm_howtheywork/index.

⁴⁶³ C. Souksakhone, 'Organizing Blood Establishment in Laos', *ISBT Science Series* 7, no. 1 (2012): 96.

⁴⁶⁴ a diagrammatic illustration of the type of injury from landmines 'Landmine Victims', n.d., <http://members.iinet.net.au/~pictim/mines/victims/victim.html> accessed March 26, 2013.

⁴⁶⁵ R. M Coupland and H. O Samnegaard, 'Effect of Type and Transfer of Conventional Weapons on Civilian Injuries: Retrospective Analysis of Prospective Data from Red Cross Hospitals', *BMJ* 319, no. 7207 (14 August 1999): 410–12, doi:10.1136/bmj.319.7207.410.

⁴⁶⁶ Illustration of a minestrike victim where amputation was the only treatment. M. J. World, 'Preparation for Deployment Abroad', *Journal of the Royal Army Medical Corps* 147, no. 2 (6 January 2001): 115, doi:10.1136/jramc-147-02-02.

⁴⁶⁷ For detonation of a mine beneath a model of the human lower limb using red deer bone. K. Trimble and J. Clasper, 'Anti-Personnel Mine Injury; Mechanism and Medical Management', *Journal of the Royal Army Medical Corps* 147, no. 1 (2 January 2001): 115, doi:10.1136/jramc-147-01-07; G. J. Cooper and D. E. M. Taylor, 'Biophysics of Impact Injury to the Chest and Abdomen', *Journal of the Royal Army Medical Corps* 135, no. 2 (6 January 1989): 58–67, doi:10.1136/jramc-135-02-04.

bleeding. Most bleeding can be stopped by a firm dressing or 'compress'. However, a traumatic amputation may require some sort of tourniquet which must be applied as close as possible to the wound. Many limbs are lost or have to be amputated higher than otherwise necessary because tourniquets are applied too high on a limb and left on for too long. The surgery presents a challenge to even the most experienced surgeon.

There is still room for research on the disastrous effect of UXO, but *Explosion and Blast-Related Injuries* discusses the effects of explosion and blast from military operations and acts of terrorism. It provides information on explosion and blast injury patterns, as well as the mechanism of blast-induced injuries, with global experiences of blast injury and mass casualty management.⁴⁶⁸ Exploding 'bombies', as some villagers call them, produce wounds different from those caused by antipersonnel mines. Robin Coupland, the medical adviser to the International Committee of the Red Cross, and a former ICRC veteran surgeon who treated land mine victims in Cambodia, Thailand, Angola and Afghanistan is well acquainted with blast and explosive wounds. 'The injury [from cluster munitions] is an explosive injury, with fragments, that affects the parts of the body closest to the device,' Coupland explained. 'When picked up [the bomblet] is closer to the chest and face.'⁴⁶⁹

The NRA and COPE carried out surveys of victims in Laos and found that since 1973 there have been over 22,000 killed or maimed. Some 26% of these were children under 18. The majority of the casualties are the result of unexploded cluster munitions. Although incomplete, the records show 270 million cluster munitions were dropped on Laos and it is now known that the failure rate was approximately 30% (although it may be higher). This means that, at a conservative estimate, 80 million air dropped cluster munitions contaminate one third of the 9,500 villages. UXO contaminate more than 50% percent of the arable land, farmers and related occupations are affected most, and there is a high correlation between UXO and food insecurity and those who live at or below the poverty line live in the heaviest UXO contaminated areas. Thus, when faced with food insecurity farmers are forced to take

⁴⁶⁸ Nabil M. Elsayed and James L. Atkins MD Atkins, *Explosion and Blast-Related Injuries: Effects of Explosion and Blast from Military Operations and Acts of Terrorism* (Academic Press, 2008). This is an authoritative text that brings together diverse knowledge gained from both the experience of clinicians treating blast casualties and the insights of scientists obtained from research and modelling of blast exposures.

⁴⁶⁹ Philip C. Winslow, 'Cluster Weapons: On the Way Out', *Guernica*, 19 May 2009, http://www.guernicamag.com/blog/1044/philip_c_winslow_cluster_weapo/.

the risk of cultivating the contaminated land, thus putting themselves and their families in danger of being injured or killed by UXO that are barely chronicled.⁴⁷⁰

The

Figure 14 below depicts a farmer preparing a paddy field for planting. As the Figure shows; the farmer is unable to see the surface of the ground. Often farmers move UXO to what they believe to be a safer place.⁴⁷¹ This field has been ploughed and wetted many times since 1974, but probably with a wooden plough and oxen. A rotivator is much faster, and the Rocket Propelled Grenade (RPG) has only just been discovered. Population growth in rural areas and other socioeconomic trends are increasing demand to put UXO contaminated land into production,⁴⁷² a development that also increases human contact with dangerous remnants of war (ROW). The photograph

Figure 14 was supplied by UXO Lao and although, at this distance, the key item, indicated, is unclear, UXO Lao deemed that the package was Rocket Propelled Grenade (RPG). Agricultural land needs to be tilled and, the removal of metals is an excellent and vital practice that also makes a significant contribution to environmental stewardship.⁴⁷³



⁴⁷⁰ A.A. Berhe, 'The Contribution of Landmines to Land Degradation', *Land Degradation and Development* 18 (2007): 1–15.

⁴⁷¹ Christian Österlind, 'Blast from the Past' (Malmo, 2008), 37.

⁴⁷² M. Pennington, 'Action against Hidden Killers Helps Laos', *Choices. The Human Development Magazine* 8, no. 3 (1999): 11–13.

⁴⁷³ Ampleman, G.; Thiboutot, S.; Lewis, J.; Marois, A.; Gagnon, A.; Bouchard, M.; Jenkins, T.; Ranney, T.A.; Pennington, J.C., 'Evaluation of the Contamination by Explosives and Metals in Soils, Vegetation, Surface Water and Sediment at Cold Lake Air Weapons Range (CLAWR), Alberta, Phase II Final Report', 1 October 2004, 22, <http://pubs.rddc.gc.ca/BASIS/pcandid/www/engpub/DDW?W%3DAUTHOR+inc+phrase+like+%27Jenkins%2C+T.%27+sort+by+redate+descend%26M%3D2%26K%3D522640%26U%3D1>.

Figure 14. A UXO – in this case a Rocket Propelled Grenade - propped against tree stump (left) as farmer with rotivator wet ploughs (photo supplied by UXO Lao, 2008)

Children are the real casualties of landmines,⁴⁷⁴ but more so from UXO.⁴⁷⁵ Patients injured by landmines were typically during the summer when mines are washed up or moved by heavy rainfall.⁴⁷⁶ After conflict, land will revert to being used by civilians.⁴⁷⁷ The presence of explosive remnants of war poses a substantial threat to the regeneration of post-conflict and disaster affected areas.⁴⁷⁸ Without mines, agricultural production could increase an estimated 135% in Cambodia.⁴⁷⁹ In Cambodia the annual rate of injuries and mortality from road traffic accidents overtook those related to UXOs.⁴⁸⁰

Because the bombing data has so many unclear variables and different types of weapon vary so widely in their efficiency, it is not possible to reach an absolute figure on what remains unexploded, but the Ambassadors' letter (see section 5.3) confirms the following:

During the war, over 2 million tons of U.S. munitions were dropped on Laos, more than was dropped on Germany and Japan combined in the Second World War. On a per capita basis, Laos is the most heavily bombed country in history. Up to 30 percent of these bombs failed to detonate, and UXO in Laos continues to impede development and cause hundreds of casualties each year.⁴⁸¹

The U.S. government supplied some information in 1998 and that was updated in January 2010, but these data appear less complete than the 1998 data. The NRA had figures of 2 million tons of ordnance dropped by U.S.A.F; the 1998 dataset calculated about 1.5 million tons of ordnance, and 260 million cluster sub-munitions. The 1998 figures did not include ordnance from the U.S. Navy, which the 2010 figures do. They also appear to include

⁴⁷⁴ Z. A. Bhutta, 'Children of War: The Real Casualties of the Afghan Conflict', *BMJ* 324, no. 7333 (9 February 2002): 349–52, doi:10.1136/bmj.324.7333.349.

⁴⁷⁵ O. O. Bilukha, M. Brennan, and B. A. Woodruff, *Death and Injury from Landmines and Unexploded Ordnance in Afghanistan*, vol. 290 (Am Med Assoc, 2003).

⁴⁷⁶ K. Hanevik, 'Landmine Injuries in Eritrea', *BMJ* 321, no. 7270 (11 November 2000): 1189–1189, doi:10.1136/bmj.321.7270.1189.

⁴⁷⁷ Nick Wilson, 'Are Cluster Bombs the New Land Mines? | BMJ', 2 September 2006, <http://www.bmj.com/rapid-response/2011/10/31/are-cluster-bombs-new-land-mines>.

⁴⁷⁸ M. Kett, 'Vulnerable Groups Of Displaced Populations', *Journal of the Royal Army Medical Corps* 150, no. 4 (12 January 2004): 261, doi:10.1136/jramc-150-04-06.

⁴⁷⁹ N. Andersson, C. P. da Sousa, and S. Paredes, 'Social Cost of Land Mines in Four Countries: Afghanistan, Bosnia, Cambodia, and Mozambique', *BMJ* 311, no. 7007 (16 September 1995): 718–21, doi:10.1136/bmj.311.7007.718.

⁴⁸⁰ Gregory Rose, 'Road Mortality in Developing Countries and Aid | BMJ', *British Medical Journal* 328, no. 1260.2 (20 May 2004), <http://www.bmj.com/rapid-response/2011/10/30/road-mortality-developing-countries-and-aid>.

⁴⁸¹ Legacies of War, 'U.S. Funding for UXO Sector in Laos', 1.

information on bombing by the South Vietnamese Air force, carried out over Laos. None of the figures include ordnance jettisoned by missions returning from North Vietnam. Nor do they include CIA (Air America), Royal Thai, Royal Lao or Hmong mercenary air force statistics.

The HIB UXO Reference Manual catalogues all of the 188 different types of ordnance used in Laos: Artillery, 61 types; Aircraft bombs, 16 types; Clusters, 10 types; Grenades, 23 types; Mines, 14 types; Mortars, 21 types; Rockets, 18 types; Submunitions, 19 types; Miscellaneous, 6 types. The manual gives a detailed account of each one.⁴⁸²

4.1. Background history of the data and defoliant missions

There is a large body of historical data that the U.S. National archives have now made available online through the Special Collection Initiative.

Christian and White noted that there were 12,000 linear metres of Vietnam War records that were returned to various archive centres in the U.S. They reported that the records from Vietnam arrived in an assortment of conditions and in many different types of containers because ‘troops were fighting a war and were not worrying about such niceties, a price that was paid latter in trying to find the records and the centers.’ In addition, some records may not have been returned at all. Many of the records from early in the war may not have been retained because it was only late in the war that all records were frozen to prevent their destruction. Soldiers and airmen on one-year tours barely had time to organize their files before they were transferred and someone else took over.⁴⁸³ Although this section relates specifically to the dioxins dropped, it is indicative of the paucity of ordnance sources more generally, furthermore, as is shown below, defoliant missions were also accompanied by attacks with conventional explosives. ‘Operation Ranch Hand’ is fully covered by Major William Buckingham.⁴⁸⁴ At a luncheon with President Johnson, the Lao Prime Minister Souvanna Phouma formulated in great detail that the ‘U.S. should continue to bomb very intensively all access roads leading from North Vietnam into Laos to preclude the infiltration of men and supplies through Laos. This could easily be achieved by blocking a limited number of mountainous terrains with no population and no Lao citizen would suffer from

⁴⁸² Handicap International Belgium, *UXO Reference Manual*.

⁴⁸³ Richard S. Christian and J.K. White, ‘Battlefield Records Management and Its Relationship with the Agent Orange Study’, *Chemosphere* 12, no. 4–5 (1983): 761–68, doi:10.1016/0045-6535(83)90234-5.

⁴⁸⁴ William A. Buckingham, *Operation Ranch Hand: The Air Force and Herbicides in Southeast Asia, 1961-1971* (USA: University of Michigan Library, 1982), 171.

these bombings.⁴⁸⁵ This would indicate that the Lao Prime Minister at the time requested the bombing.

Young gives an example of an herbicide mission:

When heavy suppression was involved, fighters would strike strong points in the target area with 500- or 750-pound bombs two or three minutes before a spray run. At the start of the spray run, fighters would fly slightly ahead of and parallel to the spray planes and drop antipersonnel CBU to force enemy gunners to stay under cover until the spray formation had passed. CBU-12s containing white phosphorous were highly effective in suppressing ground fire due to their lethal anti-personnel effect, and they provided a dense cloud of white smoke to hide the approaching RANCH HAND aircraft.⁴⁸⁶

The Agent Orange Act of 1991 requested the U.S. Institute of Medicine to assess the strength of the evidence for association between exposure to military herbicides and disease in veterans and recommended that the Department of Veterans Affairs develop historical reconstruction methods that Stellman et al presented.⁴⁸⁷ In 2003 with the assistance of the U.S. National Archives staff they identified 200 new missions that pre-date August 1965, the date of the earliest missions on the defoliant files. Crop destruction required White House approval until 1963, after which final approval was delegated to the U.S. Ambassador to the RVN. The information cited on Laos is relevant here:

Operation RANCH HAND flew its first missions outside RVN in December 1965 to defoliate the major reinforcement and supply route through Laos known as the 'Ho Chi Minh trail'... A small amount of crop destruction using Agent Blue was also documented. Laos was also the site of a brief experiment to determine whether F-4E Phantom II jet fighters could successfully be used to carry out spray operations and avoid anti-aircraft fire. At least five F-4E missions were flown until a fighter was shot down and the strategy was abandoned. Documentation of spray activities in Laos is incomplete. The Services-HERBS file shows flight paths for 210 missions, which sprayed about 1.8 million litres. NARA-held documentation shows as much as 14% more herbicides as having been sprayed but no coordinates are given so that these data cannot be included ... Unlike in Laos, it was official U.S. policy to avoid spraying Cambodia either directly or indirectly by spray drift... In May 1969 a diplomatic crisis arose when Cambodia charged the U.S. with repeatedly spraying it... Records are not available to resolve the controversy, particularly since the area was devastated by U.S. B-52 bombing raids in 1970.⁴⁸⁸

⁴⁸⁵ 'Foreign Relations of the United States, 1964–1968, Volume XXVIII, Laos - Document 313', accessed 19 May 2013, <http://history.state.gov/historicaldocuments/frus1964-68v28/d313>.

⁴⁸⁶ Young, Cecil, and Guilmartin, 'Assessing Possible Exposures of Ground Troops to Agent Orange during the Vietnam War', 352.

⁴⁸⁷ Jeanne Mager Stellman et al., 'The Extent and Patterns of Usage of Agent Orange and Other Herbicides in Vietnam', *Nature* 422 (17 April 2003): 681–87.

⁴⁸⁸ *Ibid.*, 685.

Cross-referencing of these defoliant missions' operational folders, with their accompanying aircraft records could shed further light on mission coordinates, over Laos. Is it possible that the pre-strike aircraft (four to twelve) on the HERBS missions are missing from the 'bombing missions' data?

At the end of 2009, the U.S. Department of Defense through the National Archives and Records Administration (NARA)⁴⁸⁹ finally provided UXO Lao with a searchable database known as the 1965-1970 Combat Activities Asia (CACTA),⁴⁹⁰ and the 1970-1975 Southeast Asia Databases (SEADAB), which is the most comprehensive collection of strike information and ordnance over Cambodia, Laos and Vietnam.

The U.S. Department of Defense contemporaneous records of combat activities are on a MicroSoft Access database created from NARA databases by the Management Support Technology Inc. Fairfax, Virginia. They were under contract to the Defense Security Cooperation Agency Humanitarian Assistance and Mine Action unit (DSCA-HAMA) U.S. Department of Defense. The records were declassified in 1976 and provided to the U.S. National Archives on computer compatible tapes for safekeeping. In 1994-5, the Cambodian Mine Action Center (CMAC) requested the U.S. Humanitarian Demining Assistance Teams to provide information about the bombardments during the war. Tom Smith of DSCA-HAMA (a veteran of the U.S. Army, who saw combat in Vietnam) contacted the national archives and was informed of the extensive tapes. He initiated the quest to read the data on the tapes and make it useful to Lao PDR and Vietnam. Data was recovered for the express purpose of providing support to humanitarian demining operations in Southeast Asia. The project concept and every dollar of funding was provided by DSCA-HAMA, management and monitoring were provided by Tom Smith. This effort was specifically related to ordnance dropped and was not concerned with search operations for prisoners of war and those missing in action. Prisoner of war and missing in action, search operations had absolutely nothing to do with this effort.

The source data for Combat Air Activities (CACTA) and SEADAB were debriefs of pilots returning from missions. Records were written down in pen or pencil on paper forms. Data entry was accomplished via 'keypunching' – typing a key which punches a hole in a paper

⁴⁸⁹ Listed are 1,895,916 'NARA - AAD - Series Description - Records About Air Sorties Flown in Southeast Asia, Created, 1/1970 - 6/1975, Documenting the Period 1/1970 - 6/1975', accessed 10 July 2012, <http://aad.archives.gov/aad/series-description.jsp?s=464>.

⁴⁹⁰ 'US Air Force Bomb Data Vietnam War 1965-75 - Google Groups', accessed 10 July 2011, <http://productforums.google.com/forum/#!topic/gec-dynamic-data-layers/TuIe143j2dU>.

card or along a roll of paper tape. Data was recorded using an IBM 360 mainframe – this machine is the size of a small office. The data was copied from the tapes to hard drives. The data had been compressed to save space and had to be decompressed. The machine used to implement the algorithm was found in a garage.⁴⁹¹ However, it was never used. There was a search for the original IBM programmer. Finally the person who wrote the algorithm was located. He was employed in the same building as Management Support Technology Inc., the DSCA contractor. He explained the algorithm and the data was uncompressed to a format fulfilling the terms of the DSCA contract. The data was provided on a CD rom to Michael Sheinkman in Laos (a Handicap International employee working with the database unit at UXO Lao) in 1997. But it could no longer be used in that format. Codes were used to represent ordnance types, aircraft types and airfields. The records were a series of unintelligible numbers and letters, without explanation. UXO Lao requested that the U.S. Humanitarian Demining Programme convert these raw data into a relational database with explanations for the ordnance; aircraft; target; bomb damage assessment. This work was later done by Mark Jacobs (who worked at MIT). He found that the geographic coordinates were recorded in military grid reference systems (MGRS) format and were not directly usable. Some records recorded location data with four digits, others with six digits, others with eight digits. Jacobs then passed the MGRS character strings to two fields (north and east) containing numeric data (meters). Sheinkman checked the sample data produced by Jacobs by overlaying it onto scanned maps and GIS vectors and conveyed recommendations to reduce errors.⁴⁹² The problem was further complicated in that pilots may have given incomplete or incorrect data; there may have been human error at the data entry stage, or errors introduced during the conversion, and omissions on crew status and launch base.

The information management unit of the NRA⁴⁹³ has now started reconstruction, analysing a consolidated, consistent list of ordnance dropped; this team of experts has been creating linked reference tables, called ‘New Ordnance List’ and ‘New Aircraft List’. Significant research was done into the number and type of submunitions in cluster munitions, the weight of different types of ordnance and maximum aircraft loads. Gathering this information was not straightforward; for some ordnance types there is very little available, or the ordnance

⁴⁹¹ ‘US Air Force Bomb Data Vietnam War 1965-75’, accessed 4 September 2012, https://productforums.google.com/forum/#!msg/gec-dynamic-data-layers/Tule143j2dU/_NyCcH7I2S0J This Google Earth file for Lao PDR was produced from an updated copy of the US Air Force Bombing Database for SE Asia provided by the US Embassy in Vientiane, Lao PDR in April 2006 to the Swiss Federation for Mine Action.

⁴⁹² Daniel Lovering, ‘Taming the Killing Fields of Laos’, *Scientific American* 285, no. 2 (August 2001): 66.

⁴⁹³ ‘Bombing Information’, accessed 20 January 2012, <http://www.nra.gov.la/bombinginformatio.html>.

itself is unclear and some figures are disputed. It was thought to be of interest to include lower and upper band calculations, taking into account the possible range, but with the large volume of data involved, these make no difference to the magnitude of the figures. Also, given the many inconsistencies within the dataset, absolute accuracy in these figures has little bearing on calculations since they are estimates only.

The USAF bombing data from CACTA and SEADAB contains 526,969 individual records; this does not represent individual missions or individual sorties. There is a separate record for each type of ordnance dropped at each location; hence there are multiple records for aircraft carrying multiple types of ordnance and or targeting multiple locations. NRA records do not have mission-specific or sortie-specific identifiers attached to the records, although no doubt there was in the original data. This renders it impossible to group records by sortie or mission, and even with records that are directly connected it is still not possible to analyse them together. For example, it is not possible to look at a single sortie, its associated missions and the total ordnance dropped during that sortie.

The database is not limited to: attack, bomber and fighter aircraft, although these aircraft comprise most of the data. There are also aircraft with primary roles in photo and reconnaissance,⁴⁹⁴ transport, search and rescue and so on. Many of these dropped non-explosive ordnance such as detector equipment, photographic equipment, ration cans and leaflets. It is also important to note that the database only contains information for occasions when some types of ordnance was expended or jettisoned.

It is important to understand some of the challenges, for the data entry team in extrapolating data with so many fields and inconsistencies of; aircraft loads, ordnance types, categories and weights. The Geneva International Centre for Humanitarian Deming (GICHD) also provides support to the NRA and other mine action actors in Laos in the field of programme management and operations on mapping and pre/post clearance assessments.⁴⁹⁵ The Congressional Records from the Senate for May 14, 1975 has a summary table of 'U.S. Bombing Records in Laos, 1964-1973'. It details figures by month for 'Fighter-Bomber aircraft and B-52s'. Looking at the total weight quoted: 2 million total tons dropped, which compared with the fighter-bomber records in the database of 1.42 million total short tons

⁴⁹⁴ H.R McMaster, *Dereliction of Duty: Lyndon Johnson, Robert McNamara, the Joint Chiefs of Staff, and the Lies That Led to Vietnam* (New York: HarperPerennial, 1997), 103.

⁴⁹⁵ 'GICHD: Laos', accessed 10 April 2013, <http://www.gichd.org/country-and-area-pages/laos/>.

dropped.⁴⁹⁶ If this record figure is accurate, it could give some indication of the volume of data missing, which could possibly be as much as 30%.

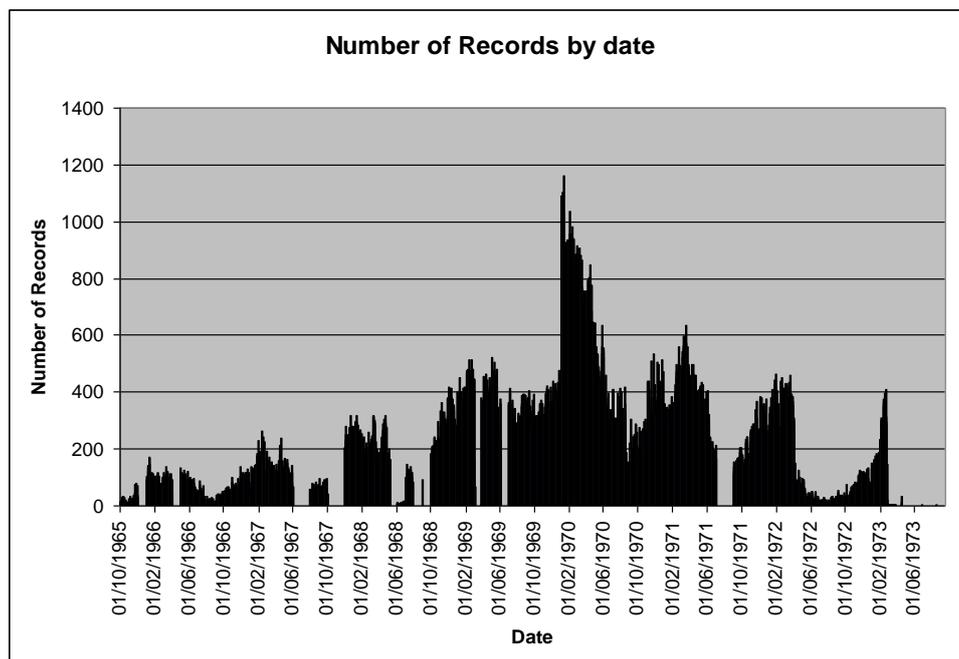


Figure 15. Number of records by date
(supplied by Boddington and McClure)

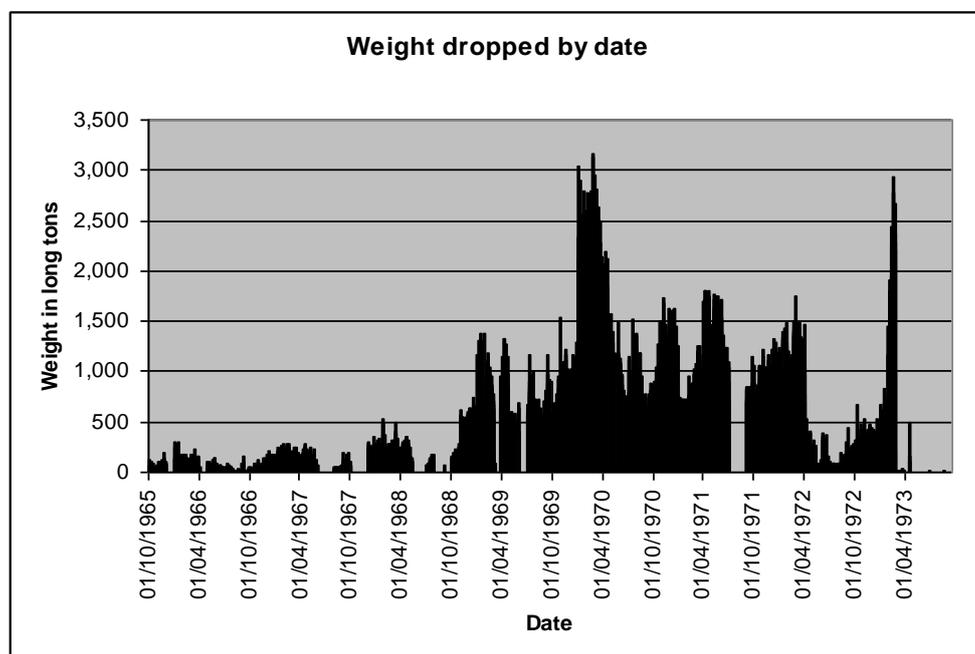


Figure 16. Weight of ordnance (all types) dropped by date
(supplied by Boddington and McClure)⁴⁹⁷

⁴⁹⁶ In the US, a short ton is 2,000 pounds usually known as a 'ton', without distinguishing it from tonne 1,000 kilograms or 2,204 pounds, known in the US as the 'metric ton, or the long ton 2,240 pounds or 1,016 kilograms known as the 'Imperial ton.' 'National Institute of Standards and Technology', accessed 17 July 2013, <http://www.nist.gov/index.html>.

The vagaries of human error are also problematic rising significantly for military in the field, tiredness and stress levels increase as Jane's EOD points out

In a region with steep slopes, a small error in range can lead to a substantial miscalculation of altitude. This might result in a cluster projectile opening too high (thereby contaminating a larger area than intended), too low, (giving the bomblets insufficient time to arm), or impacting before it has time to deploy its payload. Testing, in which munitions are generally fired one by one, also gives little indication of the effects produced when multiple weapons interact. Bomblets from large payloads tend to collide in the air, not only causing impact damage that may result in failure, but also triggering some mid-air detonations. In and above the impact area, the maelstrom of high-velocity fragmentation from nearby detonations causes an unpredictable range of damage to falling submunitions.⁴⁹⁸

4.2. The Consequences of Unexploded Ordnance dropped on Laos

The following sequence of photographs – supplied by UXO Lao - aims to illustrate the particular hazards involved with cluster munitions. The first image is the disaster, the second image is the legacy and the third image is the mitigation. Figure 17 shows how difficult it is to recognise a cluster munition as a bomb. The second, Figure 18, shows what happens when a child mistakes a cluster munition for something else and does not recognise it as a threat.⁴⁹⁹ This illustration is included because it shows that although the sub-munitions are small, they have terrible effects and the nature of the injuries they inflict. It is also included because it dates from about 2000 – between 36 and 27 years after cluster munitions were being dropped on Laos, underlining the protracted legacy of the man-made disaster. As this picture illustrates an injury sustained from a cluster munition, is significantly different to that caused by a mine. The author was presented with this image by UXO Lao in 2002, so that whilst she was in the country it would not only remind her of the danger but also to learn, that accidents also take place when recovering the injured or dead. There is little indication from which direction the victim approached the area, so it is nearly impossible to retrace the

⁴⁹⁷ Supplied by Mike Boddington privately to the author, unpublished.

⁴⁹⁸ 'Jane's Mines & EOD Operational Guide | IHS', accessed 20 April 2008, <http://www.ihs.com/products/janes/defence/det-products/mines-eod-guide.aspx> 'It shouldn't take the proverbial rocket scientist - or other munition designer - to see that better testing is needed. The reality is rather more difficult, since the range of potential operational conditions creates a huge number of possible combinations. In order to have any kind of statistical significance for low failure rates, vast numbers of munitions would need to be tested. And as one government scientist pointed out, with just a hint of irony, this would also create a major UXO problem on test ranges'.

⁴⁹⁹ I. Freckelton, 'Cluster Munitions: Public Health and International Humanitarian Law Perspectives.', *Journal of Law and Medicine* 15, no. 4 (2008): 481–88.

victim's footsteps, to safely enable recovery, without the likelihood of stumbling upon another one.⁵⁰⁰ One cluster munition may also detonate other cluster munitions in the ground. Figure 17 shows the close proximity of some munitions. Figure 19 shows cluster munitions that have been collected by an UXO Lao operative prior to destruction.



Figure 17. This image illustrates the difficulties faced in identifying the munitions by the general public (UXO Laos 2005)

⁵⁰⁰ Sarah Cumberland, 'Banning Cluster Munitions', *Bulletin of the World Health Organization* 87, no. 1 (January 2009): 8–9.

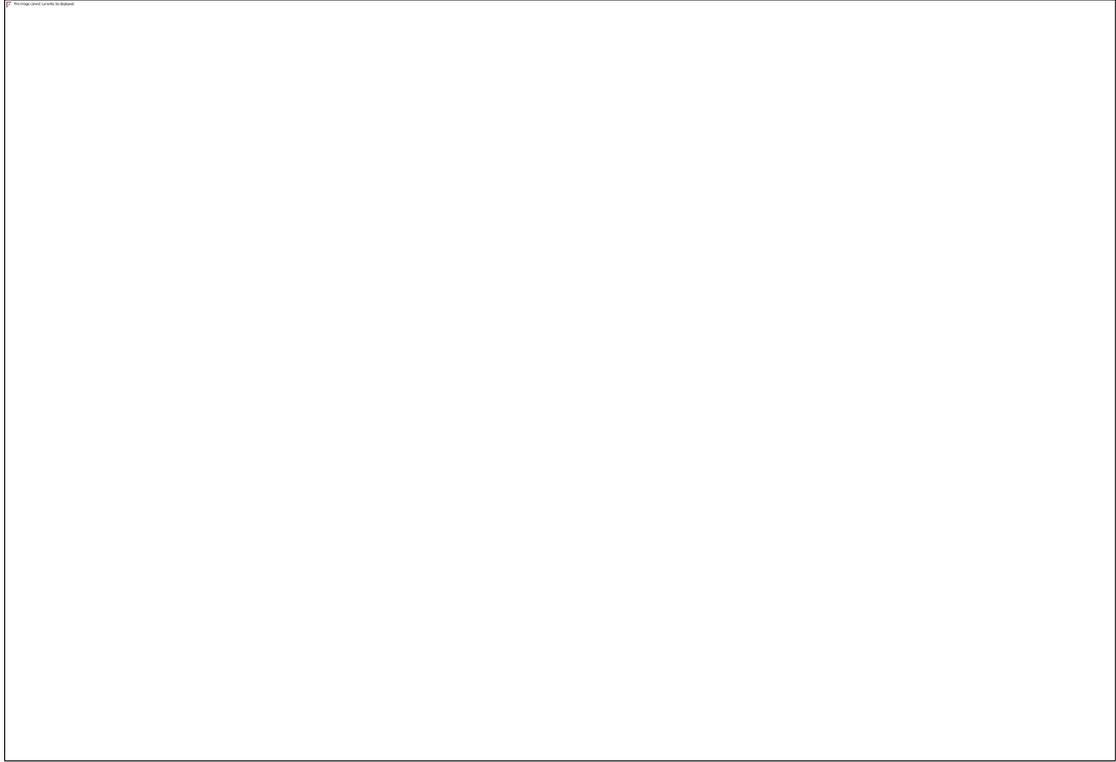


Figure 18. A bombie victim fatally wounded
(UXO Laos taken in 2002)



Figure 19. Bombies collected by a UXO Lao operator
(UXO Laos 2005)

In January 2010, one team leader provided her with copies of photographs of child victims, some of whom had harvested a collection of intriguing grey steel balls. In imitating the adults they had set up a game of boules. The idea and skill is in the throwing and tossing action to try to land a ball as close as possible to a centred smaller target ball. The children, confident that they had collected enough ‘balls’ to play the game, marked and set out a game area to form an ‘alley’ and placed a tree branch at the end of it, to stop the balls running on. Other children had gathered close-by to watch. They commenced their innocent game, by starting to throw the balls down their lethal new bowling alley, unaware that they were tossing unexploded cluster munitions. On landing, the bombies exploded, killing several children, the blast and shrapnel severely injuring the other innocent onlookers.

This incident occurred in 2010, during the present research, perhaps 40 – 45 years after the cluster munitions were dropped. The above story clearly implies that some of the Community Awareness programmes are failing to reach all children and that the teaching is not being observed and practised, which results in the terrifying consequences shown in Figure 18.

The Lao maps (Figure 10 and Figure 11) indicate the intensity of bombing and the severity of unexploded ordnance in one Province Savannakhet, but 15 of the 17 provinces have significant problems and ten provinces have districts considered to be severely contaminated. Two districts, Nong and Sekong, have separate files due to the large number of sorties flown in these areas.

UXO and landmine incidents involving death and injury occur, on average, every two days. UXO contamination ‘is a major constraint to development and contributes to endemic poverty. The continuing presence of UXO has a significant impact in terms of loss of productive labour force; limits the agricultural and forest-based activities plus rural infrastructure projects; whilst also adding a burden on the limited and over-taxed health care system.’⁵⁰¹

⁵⁰¹ McGrath, *Landmines and Unexploded Ordnance*, 2000, 77.

Table 4. Reported UXO accidents, 2006.

Provinces	No of accidents	No of victims	Injury	Death
17 Attapeu	25	49	33	16
07 Huaphanh	5	9	6	3
09 Xieng Khouang	1	6	3	3
13 Savannakhet	6	11	11	-

As Clapham and Gaeta point out cluster munitions might be accurately targetable at the point of use but can leave many unexploded and potentially lethal bomblets lying around for long periods following an attack. These ‘left over’ munitions (or lethal remnants of war) often kill or severely injure civilians, especially curious children who stumble across them. This might be an unintentional indiscriminate consequence of this type of weapon, but it is an unlawful consequence nevertheless.⁵⁰²

4.2.1. Legacy of Unexploded Ordnance in Laos

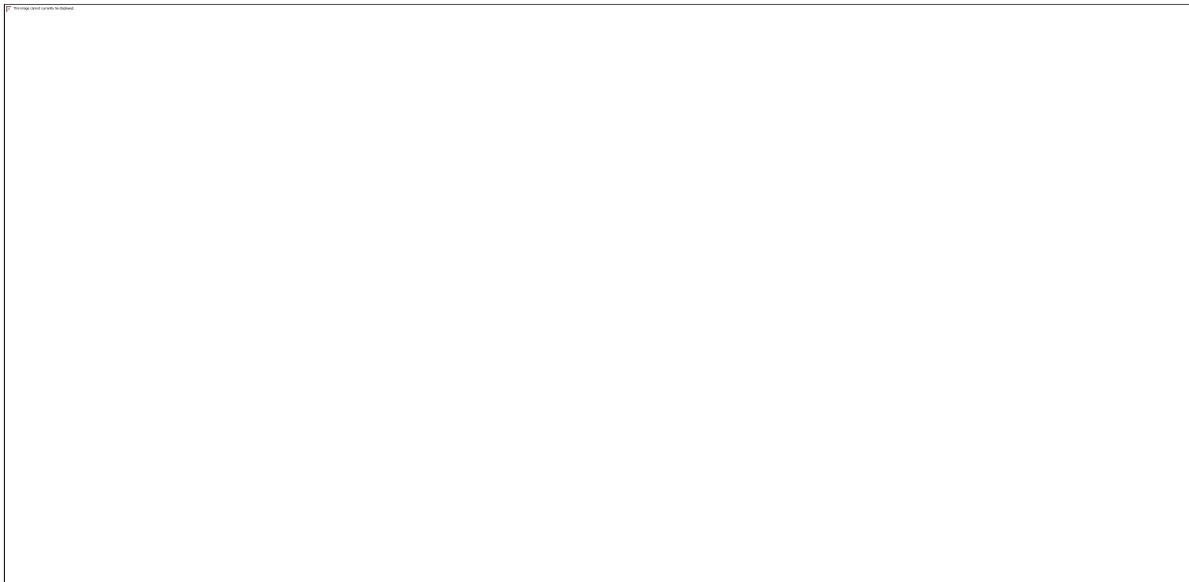


Figure 20. Incorporating UXO into the vernacular architecture of rural Laos (UXO Lao)

⁵⁰² Clapham and Gaeta, *The Oxford Handbook of International Law in Armed Conflict*, 284.

The image in Figure 20 was supplied by UXO Lao, in 2002, and depicts how the Laotians have adapted bomb casings, for housing supports. In traditional vernacular buildings, the local builders will use source materials readily available. For instance, in a wooded area one would build in timber.⁵⁰³ However, shell casings have become the new building material of choice as depicted above. Therefore, their cultural heritage has adapted to a new resource, that of metal – for example – in this case, remnants of war have been incorporated into their vernacular architecture. The shell casings provide a more resilient building material for the stilts and therefore it could be argued that the remnants of war have provided a new readily available resource.

4.2.2. Scrap metal

It is the saturation of ordnance that has to be addressed; otherwise there is little chance of making inroads into the culture of engagement with ordnance that supports risk-taking in the scrap metal trade⁵⁰⁴ and dismantling.⁵⁰⁵ Cluster munitions – area denial weapons, initially, may have been aimed at hillsides, but after nearly 50 years of monsoon rains, many will have migrated to the bottom of the hills, where it is easier to look for them as scrap.

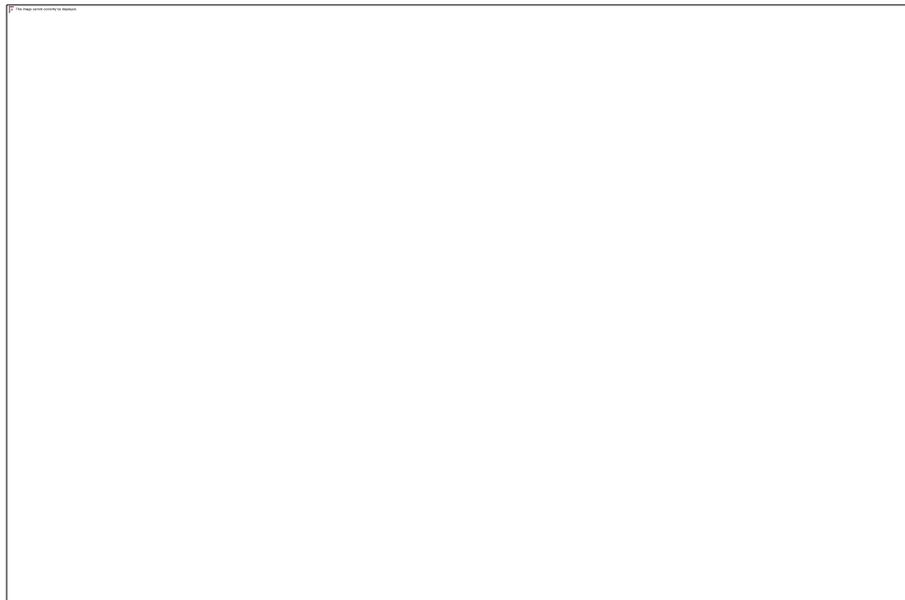


Figure 21. Lao mother metal detecting (Photo supplied by UXO Lao 2012)

⁵⁰³ Haddlesey *pers.comm.* 2010.

⁵⁰⁴ Richard Moyes and Lamphane Vannachack, *A Study of Scrap Metal Trade Collection in Lao PDR* (Geneva: Geneva International Centre for Humanitarian Demining, Sept 2005b), 45.

⁵⁰⁵ Tim Lardner, *Lao PDR Risk Management and Mitigation Model* (Geneva: Geneva International Centre for Humanitarian Demining, 2007), 57.

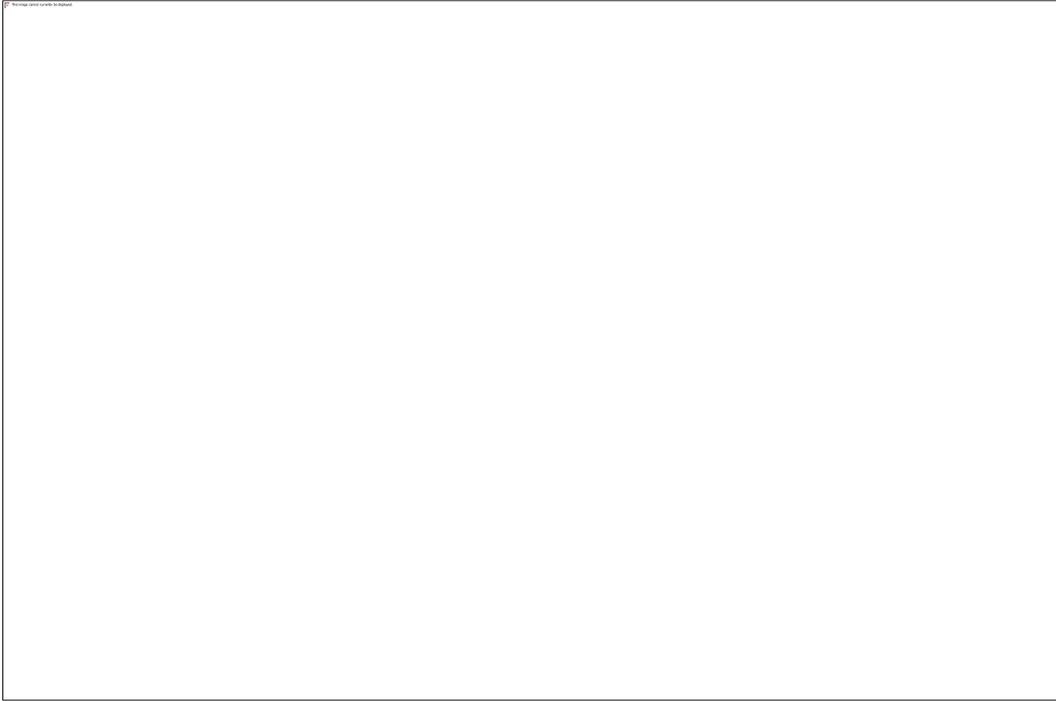


Figure 22. Lao children metal detecting
(Photo supplied by UXO Lao 2012)

The photograph at Figure 22 was taken at some distance by a UXO Lao operator in 2006. The children were unaware that they were being photographed. Such photographs are suppressed in Laos but its inclusion here is considered legitimate as it clearly represents a reality which the Government conceals. The collection of scrap metal is banned but with a per capita income of less than \$1,000 per year, locals find it hard to resist using cheap Vietnamese-made metal detectors.⁵⁰⁶ Using them, families can collect six or seven kilogrammes of metal per day. As the price of imported Chinese and Vietnamese steel rises, commercial enterprises are making use of the potentially lethal scrap. ‘Absolutely everyone does it, everywhere’ said one foundry manager.⁵⁰⁷

Figure 23 shows that UXO can often be found in inconvenient places – in this case next to an antiquity. The tendency of UXO to migrate below the surface is a major complication in solving the problem. The TNT explosive within UXO was a problem but is less so now as

⁵⁰⁶ Ambassador Inderfurth gave a presentation at the Mine Action Roundtable in Ottawa 4 December 1997, he said then ‘We need to intensify research into better methods of demining, for in this era of technological miracles, the most common tool we have for detecting landmines is still a stick attached to a person’s arm’. Karl Inderfurth F, ‘Demining 2010 Initiative: Coordination of Resources for Mine Action’, *Royal United Services Institution. Journal* 143, no. 1 (February 1998): 9.

⁵⁰⁷ Arantxa Cedillo, ‘Xieng Khouang Province Laos’, *Time International (Atlantic Edition)*, 1 October 2011.

most recycled explosives are used for UXO and EOD disposal anyway, followed by land clearing and fishing. Vietnam is probably the biggest buyer. Scrap metal, however, has much wider uses, and in Sepon and Phin Districts of Savannakhet province the scrap metal recovery by locals was on an industrial scale. Scrap metal merchants buy from the locals and sell it to the markets in Vietnam.

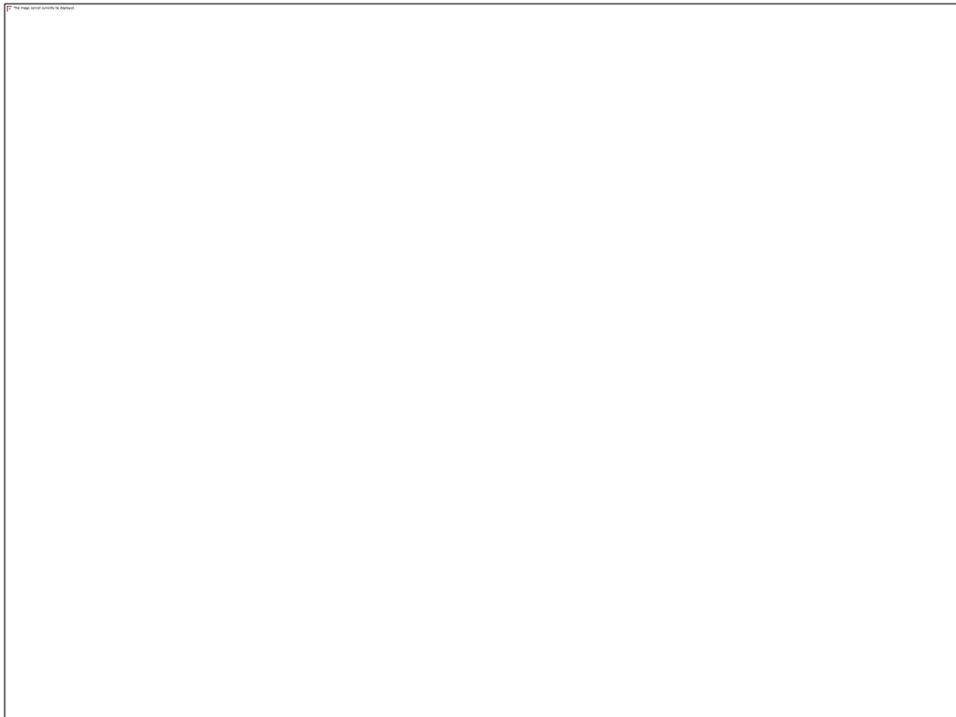


Figure 23. UXO Lao operator uncovering an antiquity and UXO
(Photo supplied by UXO Lao 2010)

The explosive remnants of war continue to impede development and UXO is a threat to the population, especially because of the value of UXO scrap metal, the pursuit of which brings people into direct contact with the weapons and is still a significant threat to public safety in Laos.

Scrap metal collecting is customary in other former theatres of war as well. In North Africa in World War II vast numbers of mines were laid, and they formed a characteristic feature of the campaign.⁵⁰⁸ According to Anthony Ham's book on *Libya* 11 million unexploded mines lay on or under the soil. In the 1950s seemed overwhelmed with the task of building state institutions and rebuilding its shattered economy, whilst the Monarchy outlawed political parties. For a time, before oil was discovered in the country, its only export was scrap metal

⁵⁰⁸ John Keegan, ed., *The Times Atlas of the Second World War* (London: Times Books, 1989), 115.

left over from WWII.⁵⁰⁹ Derek John Mulvaney in *Digging up the Past* also notes that scrap iron from battles that were fought during World War II was Libya's main export in 1952. He noted that, ironically perhaps, it was shipped to Naples. 'We later saw a veritable mountain of scrap at Derna', he wrote. 'Many Libyans died procuring the material.'⁵¹⁰

4.3. The work of UXO Laos, MAG and other agencies

The Mennonite Central Committee and the American Friends Service Committee, supplied between 1977 and 1991 a total of 30,000 shovels as a safer alternative to the traditional Lao hoe which is swung over the head when hand tilling the soil and which strikes the ground with a heavy impact.⁵¹¹ They also worked with the Mines Advisory Group (MAG)⁵¹² and the Lao government to set up the Bomb Clearance Project. In 1994 MAG had trained the first 20 Lao Bomb Removal Technicians (deminers). The deminers had had a good safety record but on 15th March 2002 Mr. Bounda and Mr. Khamsouk, two deminers, were killed whilst trying to destroy an unexploded cluster bomb.

The Plain of Jars, in the Northern Province of Xieng Khouang, is owned by the State and was put forward for inclusion in UNESCO's World Heritage list. The UNESCO definition of such a site is as follows:

““Historic and architectural (including vernacular) areas" shall be taken to mean any groups of buildings, structures and open spaces including archaeological and paleontological sites, constituting human settlements in an urban or rural environment, the cohesion and value of which, from the archaeological, architectural, prehistoric, historic, aesthetic or socio-cultural point of view are recognized.”⁵¹³

The Plain of Jars, which was documented in the 1930s by French archaeologist Madeleine Colani *The Megaliths of Upper Laos*.⁵¹⁴ The principal jar site is called Ban Ang and contains more than 250 urns and clearly met the UNESCO definition.

⁵⁰⁹ Anthony Ham, *Libya* (Footscray, Victoria; London: Lonely Planet, 2007), 38.

⁵¹⁰ John Mulvaney, *Digging Up a Past* (Sydney, 2011), 81.

⁵¹¹ Bruce Shoemaker, *Legacy of the Secret War* (Xieng Khouang Lao PDR: Mennonite Central Committee, March 1994), 7.

⁵¹² MAG, 'MAG | Mines Advisory Group', 2011, online, <http://www.maginternational.org/>.

⁵¹³ UNESCO, *Resolutions and Recommendations* (Paris: United Nations Educational Scientific and Cultural Organization, 1973), C/107 of November 15, 1972.

⁵¹⁴ Madeleine Colani, *Les Megaliths Du Haut Laos (orig. French)*, 1930.



Figure 24. MAG warning signs

The Mines Advisory Group (MAG) worked on this cultural heritage site (Figure 24-Figure 28) ‘The Plain of Jars’ in Xieng Khouang Province, northern Laos. The funding was provided by New Zealand aid. They destroyed 127 UXO.⁵¹⁵ The signs (shown in Figure 24) are in English and Laotian and provide visitors with information to stay between the concrete markers that are painted red and white in the ground. The white indicates the area that has been sub-surface cleared of UXO. The red indicates the area that has not been sub-surfaced cleared, but has been visually cleared only. MAG also advises the visitor not to walk outside of the ‘boundary’. This clearance programme was conducted in 2004.⁵¹⁶ MAG cleared to a depth of one metre. UNESCO intends to add the Plain Of Jars to the World Heritage list. Visitors to the site will be well advised to stick to the path.

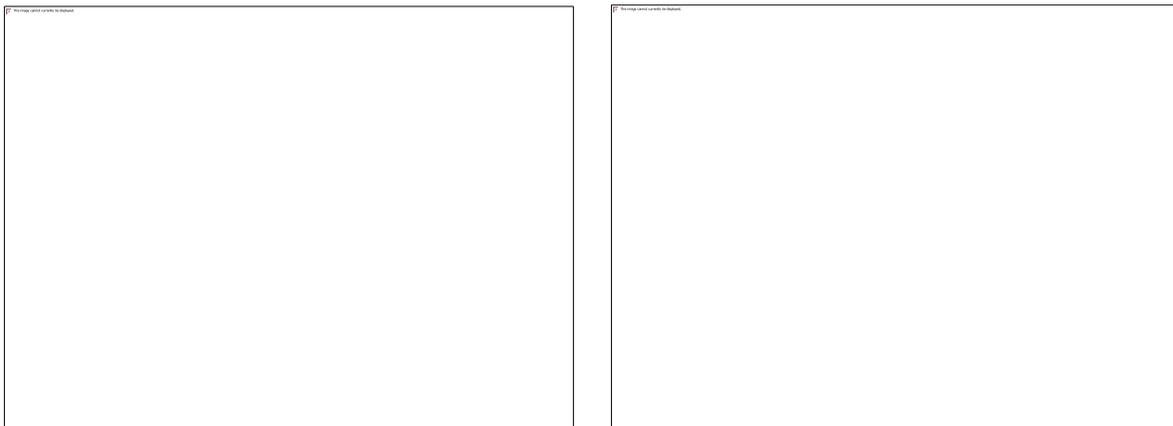


Figure 25. Plain of Jars, Xieng Khouang, with the airfield

⁵¹⁵ Kevin Fagan, ‘Legacy of War: “Bombies” That Go Boom’, *San Francisco Chronicle*, 30 March 2003, <http://www.sfgate.com/opinion/article/Legacy-of-war-Bombies-that-go-boom-2624894.php#src=fb>.

⁵¹⁶ MAG, ‘Plain of Jars Village Assisted Clearance Xieng-Khouang Ongoing (2004-2007)’, accessed 13 September 2010, <http://www.maginternational.org/silo/files/snapshot-archeouxo-village-assisted-clearance-on-the-plain-of-jars-xieng-khouang.pdf>.

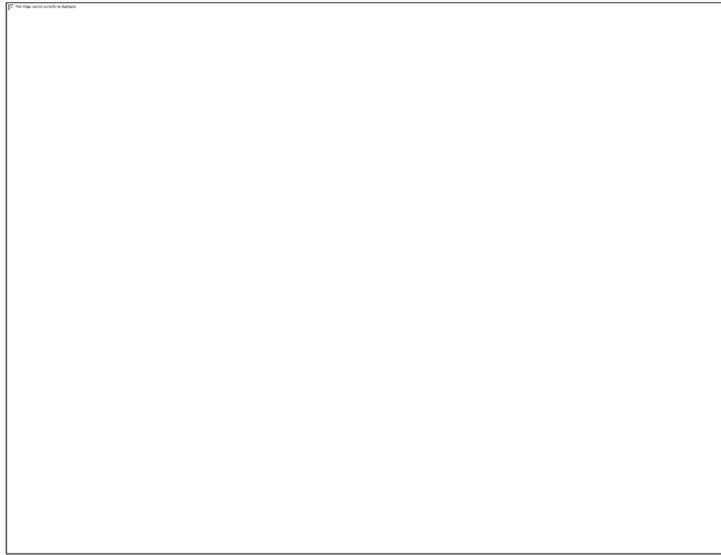


Figure 26. Author's 'guides': the Mayor of the town, Sam Lan- translator, the senior archaeologist Khammoun and the site guard at Plain of Jars

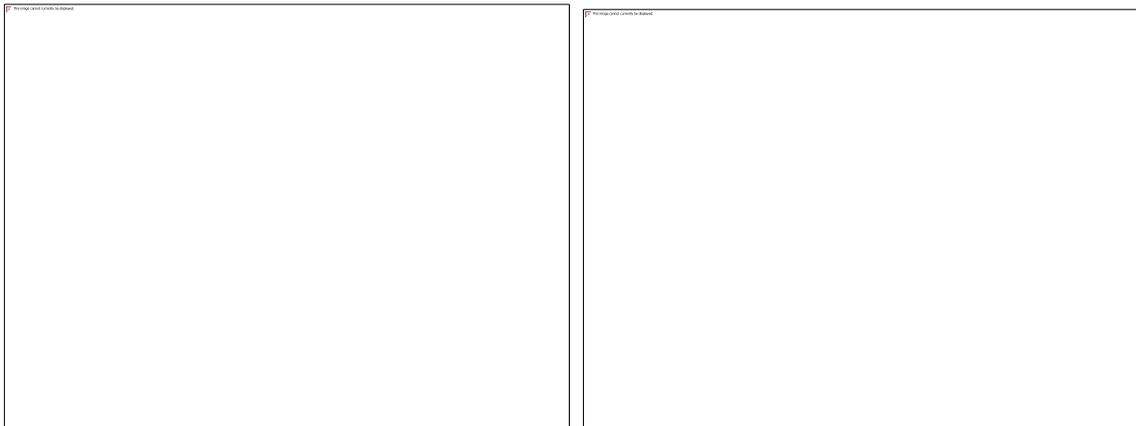


Figure 27. Bomb craters are a marked feature of the area

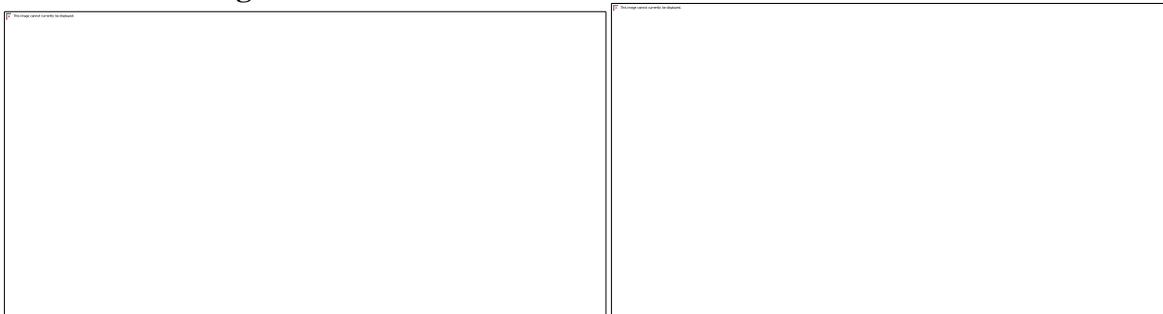


Figure 28. A safe place to play after it has been cleared.

4.3.1. The organisation of UXO Lao

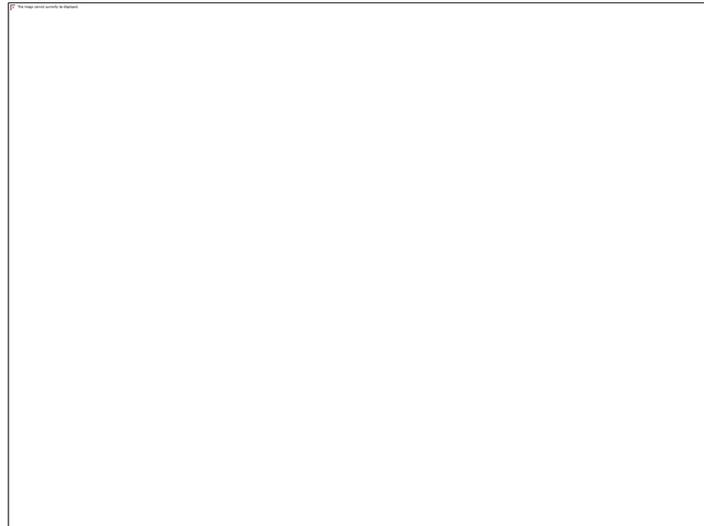


Figure 29. Training ground for UXO Lao personnel, in Luang Prabang.

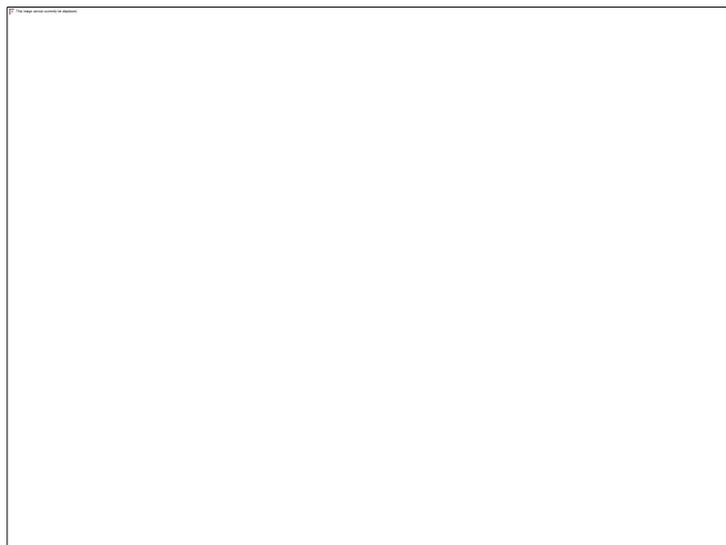


Figure 30. The indistinct Marking reads Aircraft CBU- 24B/B 711 on an 800lb cluster bomb containing 650 bomblets.

The Lao Government established the Lao National Unexploded Ordnance Programme (UXO Lao) with the support of UNDP, UNICEF, and other stakeholders through Prime Minister’s Decree Number 49, dated 13 February 1996. UXO Lao is a Nationally Executed Project of the Ministry of Labour and Social Welfare and UNDP. The Ministry of Labour and Social Welfare is the implementing partner while UNDP provides program oversight and program assurance. UXO Lao maintains its National Office in Vientiane and operates in nine of the most UXO impacted provinces in the country: Huaphanh, Luangprabang, Xiengkhuang,

Khammuane, Savannakhet, Saravane, Champasack, Sekong, and Attapeu (see map at Figure 10). In every province, the provincial office works closely with their respective Provincial Labour and Social Welfare Departments and coordinates with other departments such as health, education, agriculture, and forestry for work planning purposes. According to UXO Lao their mandate is to reduce the number of casualties caused by unexploded ordnance, and to increase the amount of land available for food production and other socio-economic development activities. Their operations reflect the generic principles of humanitarian mine action and are defined thus⁵¹⁷:

Roving Tasks – this team removes and destroys surface UXO. This increases the confidence and safety of people living in UXO affected areas and enables them to engage in their livelihoods and lead normal lives.

The Area Clearance Tasks – these teams search for and remove UXO, which lie under the ground surface using detectors. Their aim is to increase the amount of land available for agriculture and other socio-economic development projects.

UXO risk education tasks. Community Awareness (CA) teams work to raise the awareness of people living in UXO affected villages. CA teams utilise various methods to communicate their message and include puppet shows, songs, dances, and games. The teams support survey operations by noting locations of UXO pinpointed by villagers during CA activities.

Survey Tasks. Two person teams conduct survey tasks. They provide detailed maps and information on locations of any UXO reported. The enhanced technical survey (ETS) task is a new methodology developed by UXO Lao in 2007. ETS teams evaluate a clearance request by studying available UXO records for a particular area which may include bombing data, reported UXO, and UXO victims. Combined with a 25 per cent sampling of the land area, this leads to the request being either: (1) tasked to an area clearance team or (2) designated low priority or low UXO impact threat (for possible clearance at some future date). If the ETS team determines the task to be low priority, landowners are advised that there is little reason to believe that UXO is present and that they may start using the land. The ETS makes more land available

⁵¹⁷ Information supplied to the author by Vatchana Songvilay, and Khamsay Xayabouth, UXO Lao.

faster than area clearance and utilises fewer resources. UXO Lao complies with the national standards implemented by the UXO National Regulatory Authority (NRA).⁵¹⁸

UXO Lao cleared an average of 31,253 items of UXO per annum between 2006 and 2010. This jumped to 136,217 items in 2011. The average cost per item cleared by UXO Lao over the years is:

2006	\$64
2007	\$94
2008	\$101
2009	\$122
2010	\$192
<u>2011</u>	<u>\$44</u>
<u>All years</u>	<u>\$84</u>

This sharp increase in the number of UXO cleared in 2011 combined with the diminution of cost is due to improved Area Clearance and Roving Tasks.⁵¹⁹

4.3.2. UXO Lao planning

The development of the annual UXO Lao work plan begins at the village level. Villagers discuss among themselves and identify priority families (factors include family size, income, capacity to farm the land, amount of land available, among others.) District planning authorities receive the final villages' requests and evaluate them in accordance with the ability of the district to support such activities as well as if they fall within the district's development plans and priorities. District authorities submit their final list to provincial planning authorities. The authorities then evaluate the requests according to the provincial development plans and priorities, taking into consideration the capacity of UXO Lao. The development agencies receive support and priority if they submit requests for clearance to the provincial authorities before the annual work planning takes place around July of every year.

⁵¹⁸ UXO LAO, 'National Regulatory Authority for UXO/Mine Action Sector in Lao PDR (UXO-NRA)', 2010, online, <http://www.nra.gov.la/>.

⁵¹⁹ Bounpone Sayasenh, *Lao National Unexploded Ordnance Programme*, Annual (Vientiane Laos: UXO Lao, 2011), 4.

With a final list, UXO Lao classifies requests as either a roving, survey, area clearance, or an ETS task. UXO Lao then schedules the tasks according to village, district, and wet or dry season.

As of December 2007, UXO Lao employed 1,013 project staff in both the National and Provincial offices. More than 82 per cent of the personnel were in operations. Fourteen per cent of personnel were female, of whom 66 per cent are in operations as deminers, medics, and Community Awareness personnel. UXO Lao had 21 Senior Explosive Ordnance Disposal (SEOD) technicians who were gradually replacing international EOD advisors in the field. UXO Lao worked with eight international advisors, four at the national office and four in the provinces, nationwide, UXO Lao deploys ten community awareness, 23 survey, 23 roving, and 23 clearance teams.⁵²⁰

UXO Lao utilises a wide range of equipment, including different types of metal detectors, each with different abilities. As a result of a study it conducted in 2004, UXO Lao was acquiring the German made Vallon VMXC1 detector. This detector has the ability to discriminate metal sizes. Conventional detectors detect very tiny pieces of metal and slow down clearance work. The Vallon VMXC1 detects pieces of metal that are at least half a bombie (BLU-26) with fuze in size and ignores smaller pieces. As this detector allows faster clearance work, UXO Lao can therefore clear more land of UXO, even exceeding the Lao Government's annual UXO clearance targets. UXO Lao needed 400 units to replace its existing detector inventory but at more than, as of 2004, U.S. \$3,800 per unit, UXO Lao was limited by available funding.

In 2007, the organisation also maintained a fleet of around 154 vehicles of varying types, most received during the early years of the programme. This translated to increased maintenance and operating costs. They also aimed to standardise their fleet to Toyota Troop Carriers, as this vehicle type is rugged, easy to maintain, and functions as both personnel and equipment carriers. Vehicle replacement, as with detectors, is subject to funding availability.

UXO Lao is funded primarily through cost-sharing with UNDP. This mechanism has replaced the UXO Trust Fund agreements established in 1996. Funds channelled through

⁵²⁰ UXO Lao, 'Lao National Unexploded Ordnance Programme', accessed 13 September 2011, <http://uxolao.gov.la/uxolao%20accomplishments.html>.

UNDP are charged a seven per cent management fee as agreed upon by the Lao Government and UNDP. The current donor countries (still relevant at the time of writing), include: Australia; Germany; Japan; Ireland; Luxembourg; Switzerland; United Kingdom; United States of America; World Without Mines. Funds are usually earmarked to support operations in specific provinces or for specific projects. Un-earmarked funds – allows UXO Lao the flexibility to utilise funds as needed such as acquisition of new equipment or to cover shortfalls in funding in provinces.

The United Nations Development Programme (UNDP) provides programme oversight and programme assurance, both substantive and financial, through its own UXO Unit as well as through the provision of the Senior Technical Advisor, the Programme Technical Advisor, and a field based EOD Technical Advisor. It raises funds for UXO Lao and manages such funds through cost-sharing agreements. Funds channelled through UNDP follow UNDP's rules and regulations. In addition, UNDP assists UXO Lao in the following key management functions:

- Quarterly financial monitoring of the project, both in terms of progress of activities and expenditures and of conformity of activities with stated mandate and work plans;
- Contracting for yearly external financial and management audits of UXO Lao, with full reporting to donors and other stakeholders, thereby confirming full accountability and transparency of UXO Lao accounts and practices;
- Provision of a coordination mechanism for donors, and between donors and the Government of Lao PDR, in order to ensure that support to the UXO programme is channelled as and where it is put to best use for the ends of the programme; and
- Procurement needs of UXO Lao.

The above information was supplied by UXO Lao and the UXO National Regulatory Authority (NRA).⁵²¹

The Lao Government established the National Regulatory Authority (NRA) in 2004 along with the adoption of the National Strategic Plan for the UXO sector. The NRA is responsible for the coordination and regulation of the UXO/mine action sector in the country, including the planning, tasking and monitoring of all UXO/mine action activities in the country. UXO Lao actively takes part in different Technical Working Groups (TWGs) organised by the NRA aimed at coordinating and planning all clearance, community awareness, and victim assistance activities, as well as sharing best practices and experiences. With the assistance of

⁵²¹ UXO LAO, 'National Regulatory Authority for UXO/Mine Action Sector in Lao PDR (UXO-NRA)', online.

implementing partners who channel funds from donors to UXO Lao and also provide technical advisory support to the programme. These include ArmorGroup of North America; Japan Mine Action Service (JMAS); Mines Advisory Group (MAG) and the Norwegian People's Aid (NPA).

The author interviewed the Head of UXO Lao Bounpone Sayasenh on 13th February 2013. She first asked about the progress of the national UXO Lao EOD operations and finance. He replied that

‘UXO Lao has made a lot of progress in the last few years, in terms of UXO clearance and management. We increased our productivity every year, despite having fewer resources.’

Asked what having ‘fewer resources’ meant for your work, he replied

‘In 2011, I lost 125 field staff because I could not increase their salaries, most of them, having been trained by UXO Lao, have joined with other demining organisations like NGOs who pay more than UXO Lao, however, we have met the work plan target every year. In 2012, we met the work plan target over 100% and all activities improve the good reputation of UXO Lao.’

He said that the anticipated clearance target for 2013 was higher than 2012, and that for the area clearance he expected to clear up to 3167 hectares for the priority land areas. He added

‘Regarding the budget requirement for 2013, we have budgeted about U.S. \$8.2 million and still have the fund in hand both from the UNDP trust fund and bilateral amount of U.S. \$5.3 million, so we have a shortfall of about U.S. \$1.8 million. We have to work hard with UNDP to mobilise more funds for this year to meet the requirement, however, we hope to get more fund from donors, because we are doing a good job to support the Lao government on the poverty reduction programme in many poor districts and provinces.’

Mr. Sayasenh added that he might be about to leave UXO Lao [March 2013]. He said he was informed by the National Regulatory Authority, that he was

‘useless now, after UXO Lao officially has been moved from under the Ministry of Labour and Social Welfare to a new government agency late last month’ [January, 2013].

Asked what this would actually mean in terms of management, he said

‘I understand that from now on UXO Lao will be closely managed by the NRA rather than the Rural Development Committee.’⁵²²

⁵²² This was an interview at the UXO Lao office in Vientiane, following several previous meetings during the author's field work between September 2012 and February 2013.

The information in Table 5 is compiled from UXO Lao from inception to 2009 and gives an indication of clearance tasks accomplished.

Table 5 UXO Lao accomplishments from 1996 to 2009⁵²³

	From 1996 to 2008	January to August 2009 Eight month period
Community Awareness conducted Risk Awareness activities	7,651 villages reaching around 1,948,626 people	391 villages, reaching around 102,055
Area tasks cleared	16,401 hectares of land, including 2,779 hectares for development agency programs	1,887 hectares of land, including 121 hectares for other development projects
Roving tasks conducted	18,361, removing or destroying UXO found on the surface in 3,660 villages	884, removing or destroying UXO found on the surface in 628 villages
Survey tasks conducted	8,347, collecting information and mapping out UXO in 3,082 villages	1,159, collecting and mapping out UXO in 803 villages
UXO removed or destroyed through roving/clearance tasks	886,830 items 4,565 big bombs 424,391 bombies 5,943 mines 472,498 other UXO	39,230 items 233 big bombs 20,263 bombies 62 mines 18,672 other UXO

The Ministry of Information and Culture distributed the poster in Figure 31 below to advise people about the dangers of lighting fires directly on the ground surface. The advice said that it is better to dig out a depression, loosen the soil, then back-fill, before starting a fire. One of the problems with this is that whilst excavating the hole, with a metal trowel or spade, one has to be careful not to come into contact with UXO. The poster shown in Figure 31 illustrates the following points: (1) Be careful when you make a fire on the ground – because in the ground there may still be UXO. Do not make a fire directly on the ground. (2) Do not

⁵²³ UXO Lao, 'Lao National Unexploded Ordnance Programme'.

cook on the ground (3) Do not make a fire in a rice field to burn off the stubble (4) Do not make a fire on the ground for rubbish.

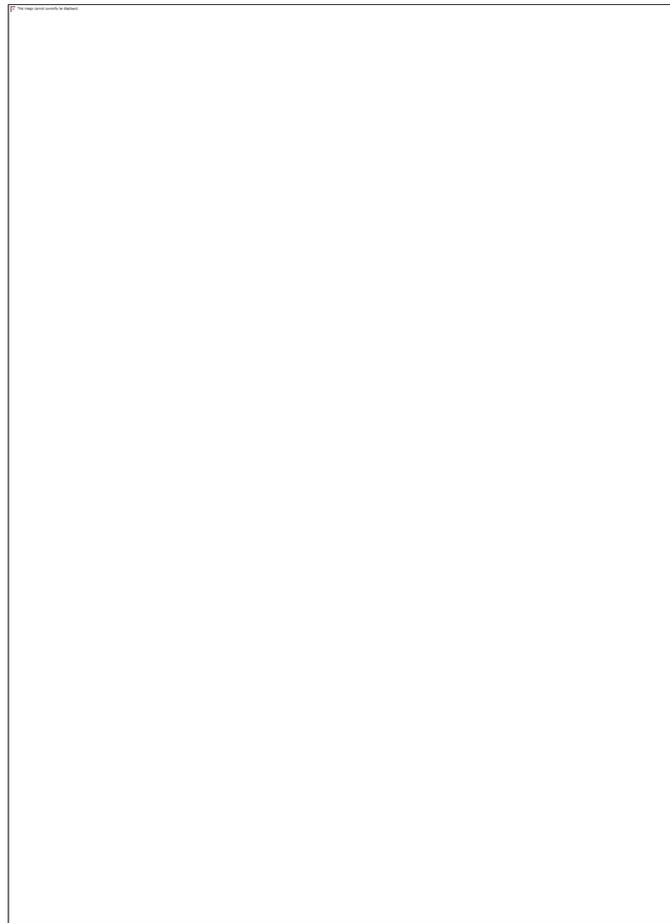


Figure 31. UXO Laos warning poster and explosive awareness

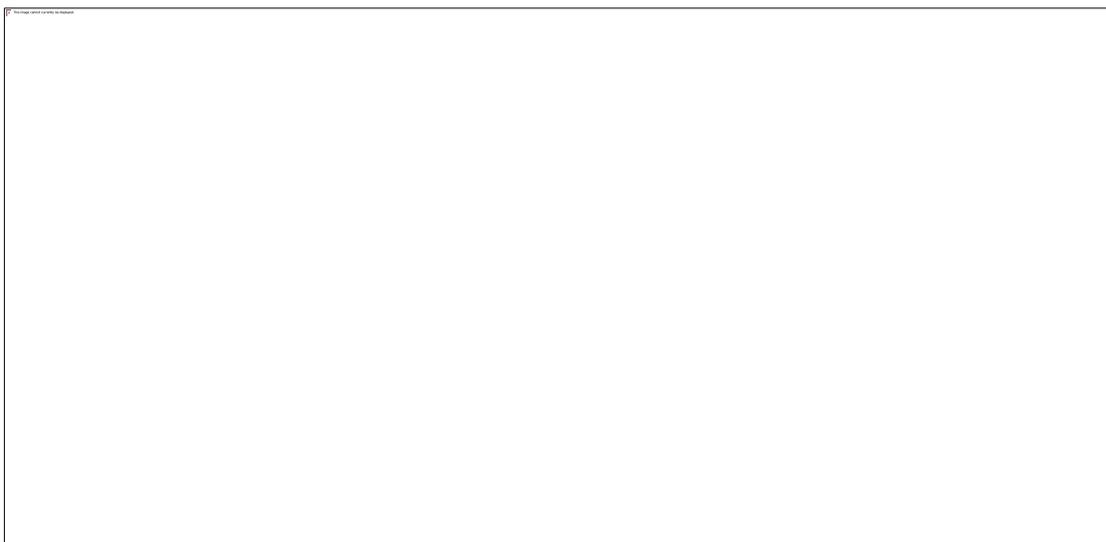


Figure 32. UXO Lao Xieng Khouang headquarters Phonsavan.

4.3.3. How do UXO Lao detonate unexploded bombs?

The best way to show the nature of the work is through photographs taken by the author in 2007. The sequence of photographs taken at four test sites, illustrates many of the key issues, starting with the hilly and heavily forested nature of the terrain. Figure 32 through to Figure 54 are an example of some of the work with which the author was involved in the field during 2007 in the Luang Prabang province.⁵²⁴ The images present the average day duties for a UXO Lao team.

Test Site One



Figure 33. UXO Laos team in Luang Prabang Province

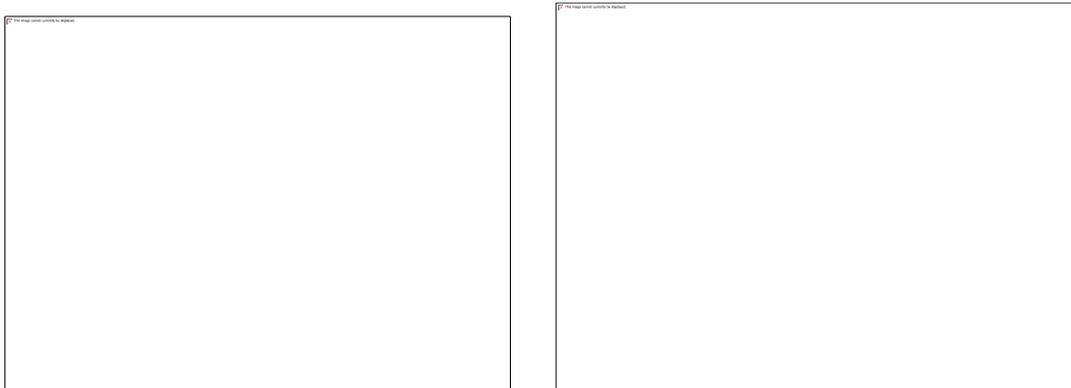


Figure 34. Farming terrain where bomb was found and village elders

⁵²⁴ David Berliner, 'Multiple Nostalgias: The Fabric of Heritage in Luang Prabang (Lao PDR)', *Journal of the Royal Anthropological Institute* 18, no. 4 (2012): 769.



Figure 35. UXO team in safe detonation post



Figure 36. Checking the amount of TNT necessary to detonate a 250lb bomb

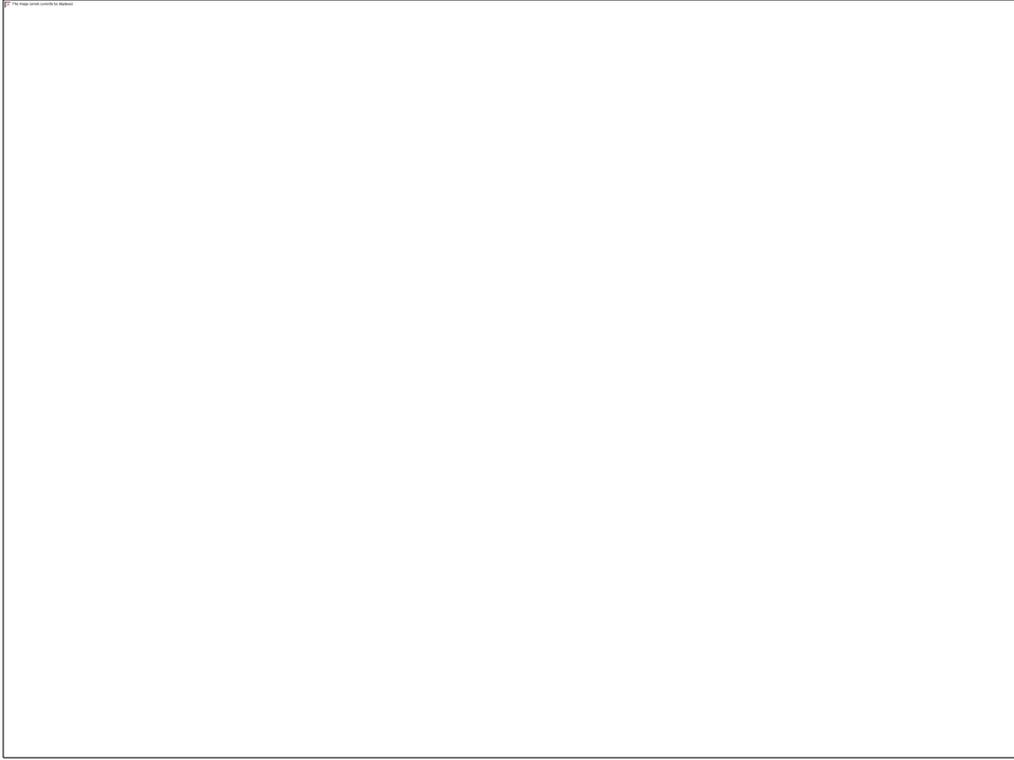


Figure 37. Placing the TNT for maximum effect

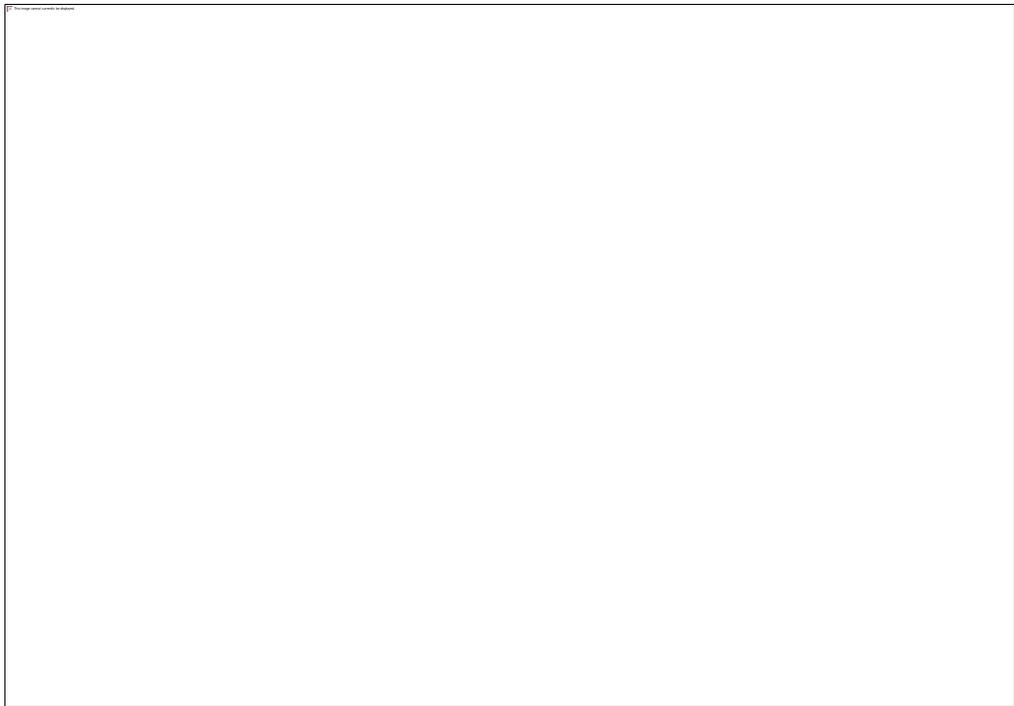


Figure 38. Detonator inserted and UXO ready for disposal



Figure 39. Detonation post

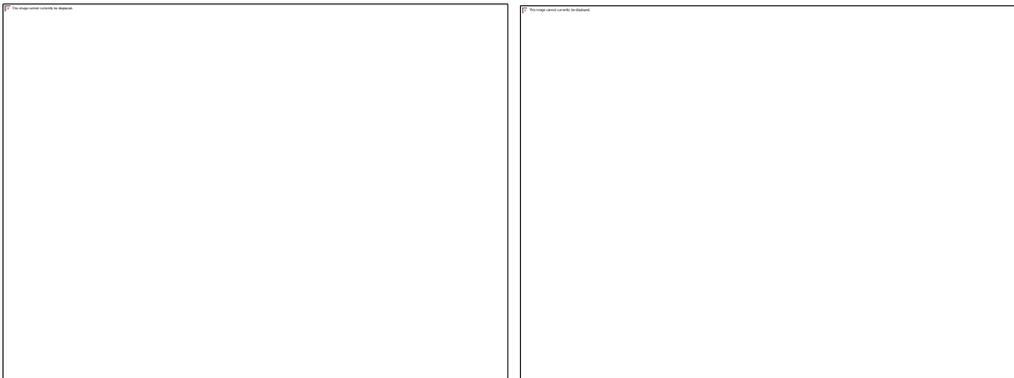


Figure 40. Inspecting the bomb crater after detonation and recovered scrap metal



Figure 41. Villager back in the village, making sugar cake

Test Site Two

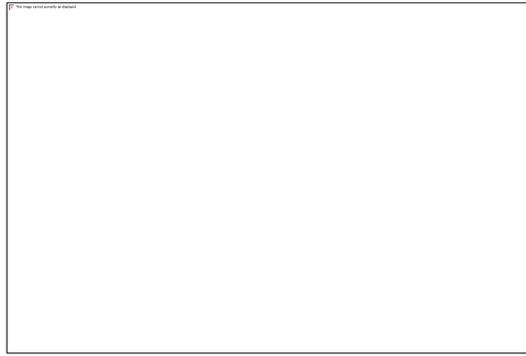


Figure 42. Mr Houmphanh Chanthavong the Provincial Coordinator explaining the dangers of UXO to the house owner

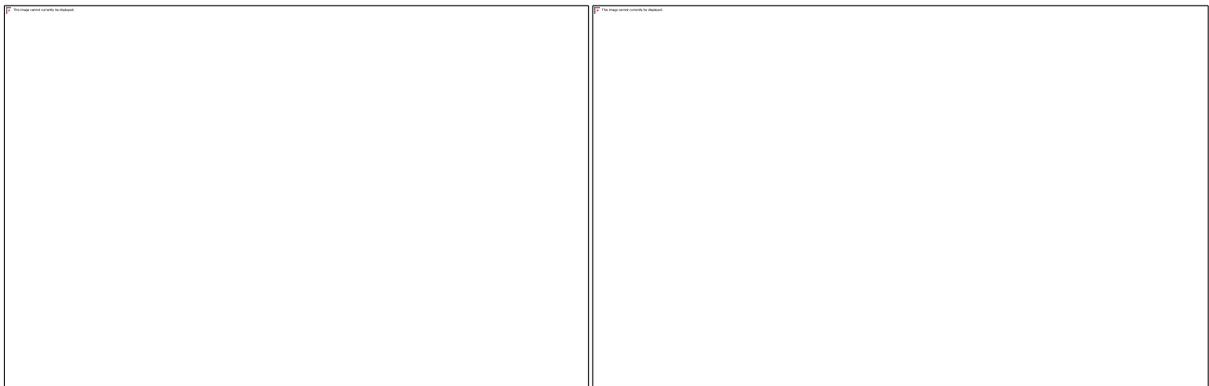


Figure 43. This bomb with fuze intact was lying under a family bed in one of the houses in the village

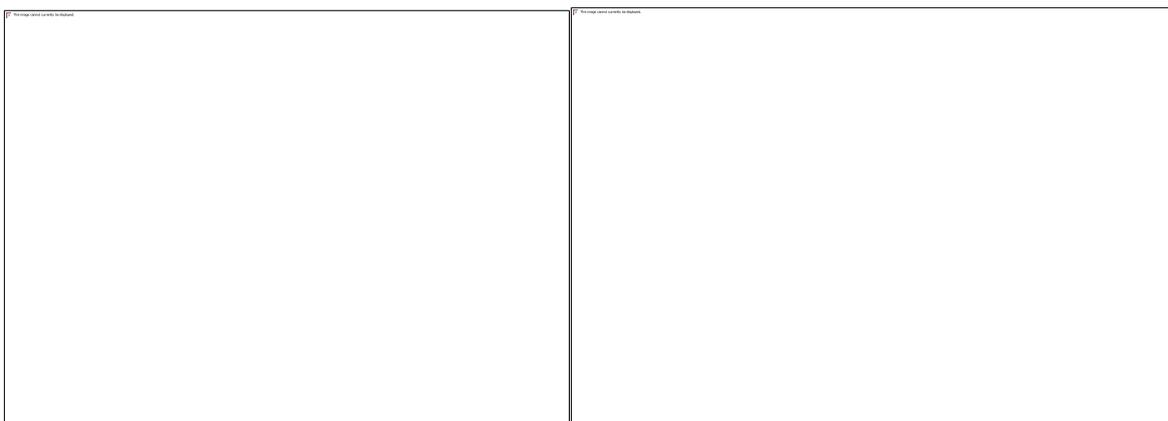


Figure 44. The EOD team carry the bomb away and explode the fuze off



**Figure 45. Shell casing being returned to home owner for scrap metal
Test Site Three**

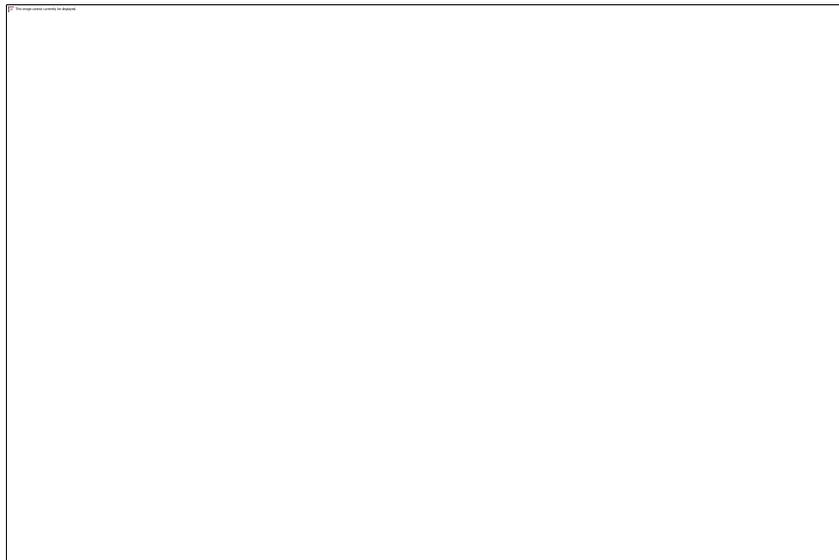


Figure 46. Bomb located half way up the hill on the left

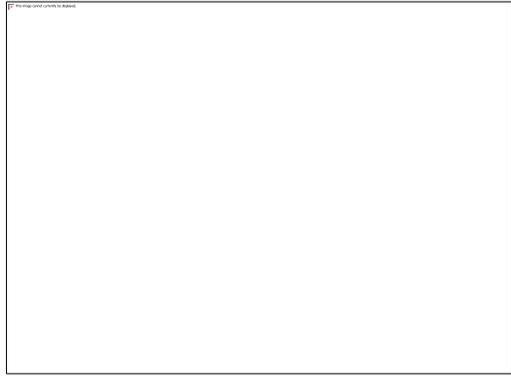
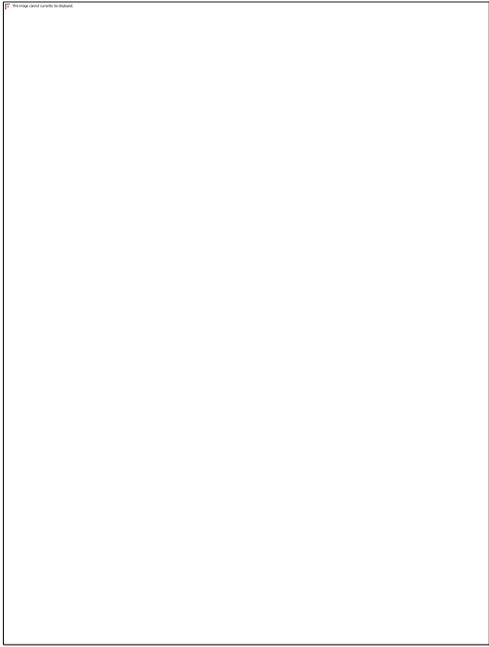


Figure 47. The red marking indicates the route to climb up the cliff to the located bomb

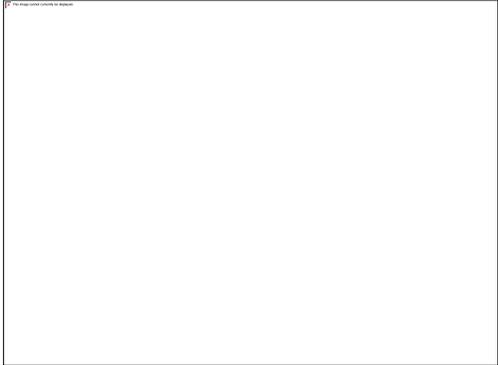
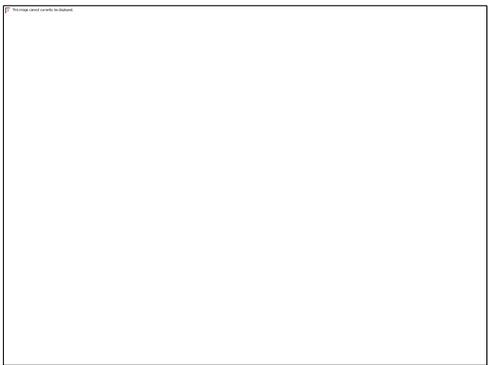


Figure 48. The Bomb is located (photographed with camera case as scale)

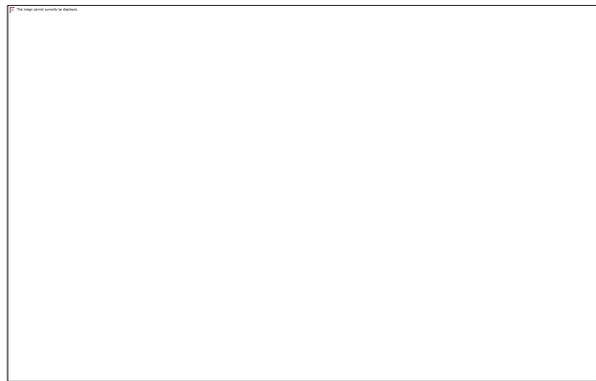


Figure 49. The Explosive charge is placed for detonation

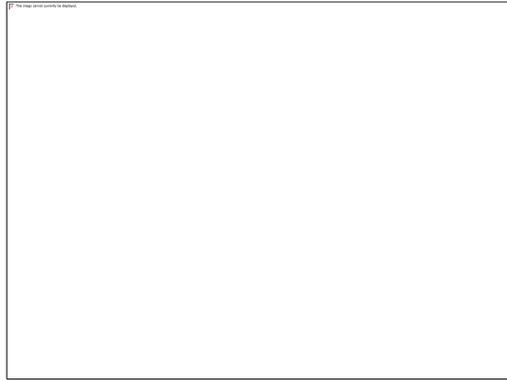


Figure 50. The team check that the village has been evacuated

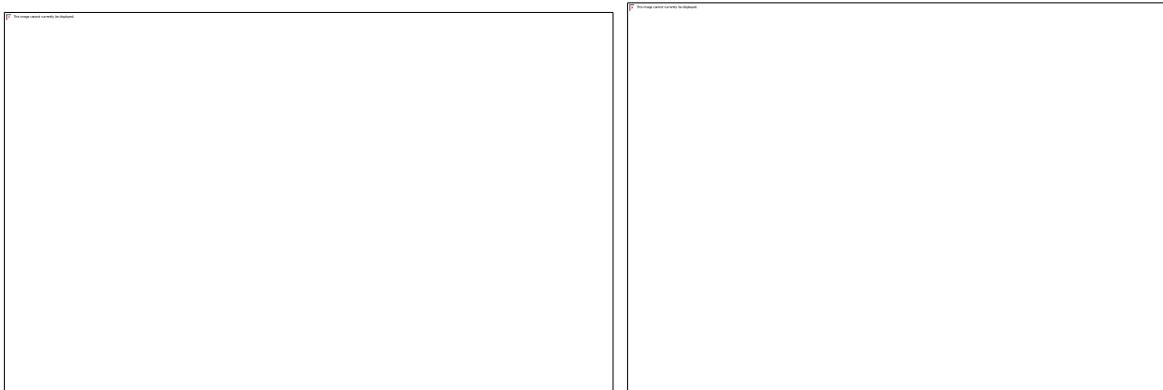


Figure 51. The Bomb detonation and part of the cliff face removed by the explosion

Test Site Four



Figure 52. The Bomb is sandbagged for containment before disposal

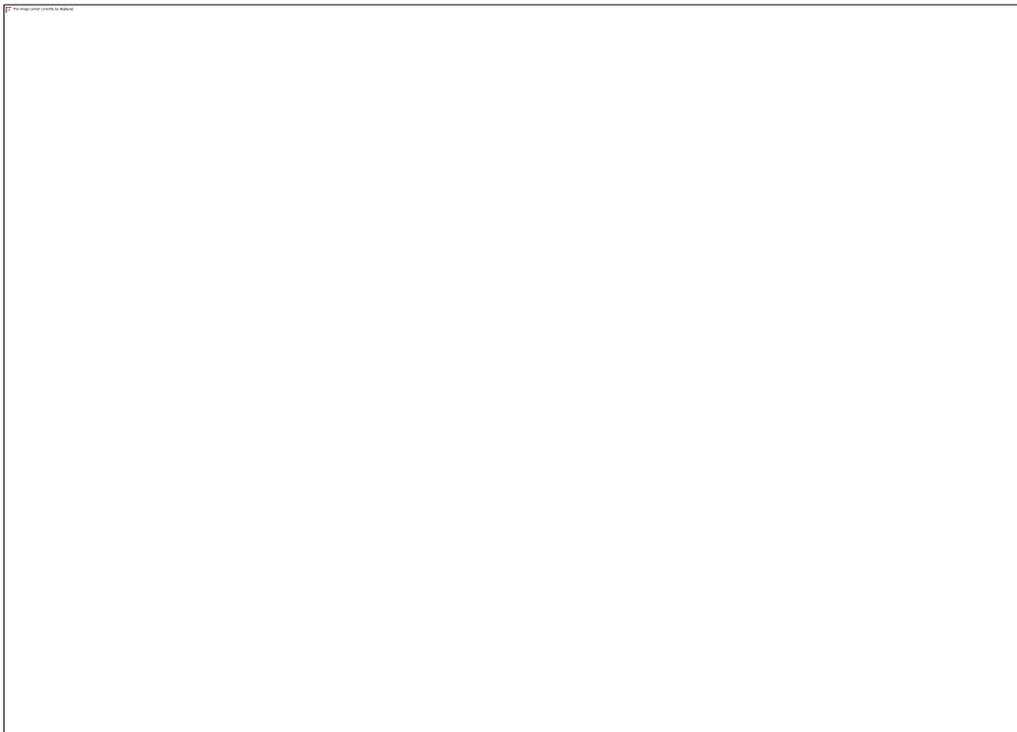


Figure 53. The controlled explosion from the safety of the opposite river bank



Figure 54. Bomb crater from the above sandbagged UXO

In Figure 35 the team has run the detonation cord from the UXO to a safe zone about 900 metres away, and is in radio contact with all team members. The debris all caught up in the tree on the left of the image which indicates the height of this river during monsoon period. Hence most field UXO work can only be carried out in the dry season. Figure 36 is double checking the required explosive for the detonation, and this is always checked and verified with team members. This bomb was excavated with a metal shovel – carefully. Team members depart the zone, and only one team member fits the explosive with the detonator. Once in the safe zone the all clear is given, and the bomb is detonated. This actual operation took three days to set up, disaster management meetings with the head of the village; instructions on the time and date that the UXO will be cleared have to be circulated so that the village is evacuated and nobody is left in the danger zone at the point of detonation. The bomb was discovered accidentally by a farmer preparing some land for cultivation. It was a two hour hike from the nearest road, where we had to leave the vehicles. The team medics had to carry the stretchers through difficult terrain.

The details from Test Site Two, Figure 42 are of a typical Lao family. They had lent a small sum of money to a neighbour, who was unable to repay the cash, and so instead supplied a 250 lbs bomb shell casing – the equivalent value in scrap metal. This house was near the roadside, where the scrap metal collectors visit weekly. The ‘casing’ was placed for safe keeping, under the family bed we discovered that the bomb was still live, the nose still contained explosive and a fuze. Fortunately one of the neighbours had attended Community Awareness training, and alerted a village elder, who then managed to contact a UXO team. The team removed it, blew off the nose cone and returned the now inert casing, so that the family could sell it for scrap metal.

In terms of managing this disaster, each action enforces a message – the wrong message, especially to the children. ‘Collecting scrap metal is rewarding!’

On Test Site Four, Figure 52 is another 250lb bomb (115Kg), discovered by children, who were out frog hunting, this part of the river had recently become exposed, because of a newly constructed dam upstream, resulting in a lower river level. Again there was a three day warning, and river traffic had to be halted for several hours. This bomb had to be sandbagged, which took six men two hours, to contain the UXO and flying debris of rocks, the result of which is shown in Figure 53 and Figure 54. The damage is still widespread, and these were controlled explosions.

On the road to Sekong in southern Laos, part of the Ho Chi Minh Trail is fenced off, much of it remains in deep forests. The tourism department advises visitors on sign posts ‘not to enter without local guides since unexploded bombs still remain’.

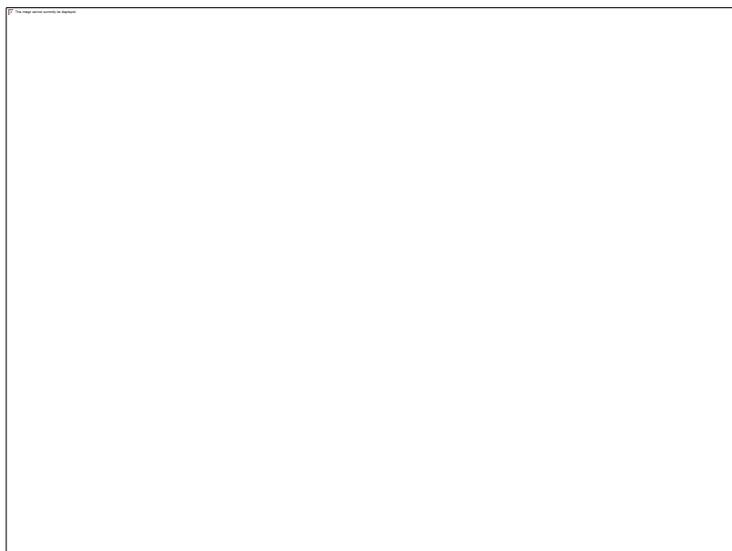


Figure 55. Ho Chi Minh Trail marked by fencing

We travelled with the National Regulatory Authority by road, from the capital Vientiane to all the southern provinces, whilst they were carrying out their inspections. We then met the local UXO team, who were keen to show U.S. their progress.

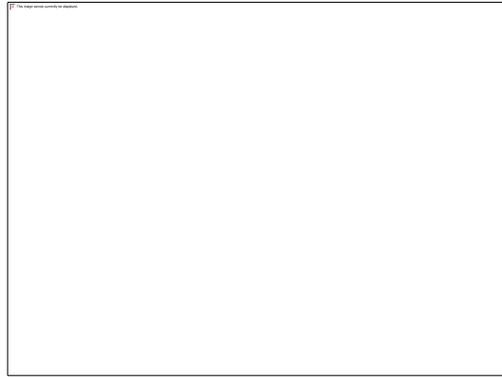


Figure 56. Typical roadside comfort break and refreshments

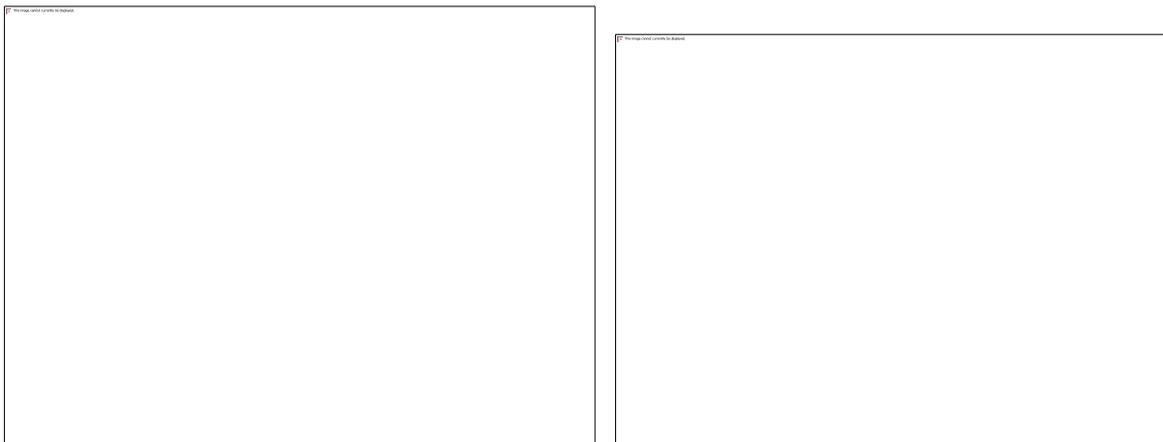


Figure 57. Basic canvas accommodation for in field UXO Lao teams



Figure 58. Party headquarters in Sekong

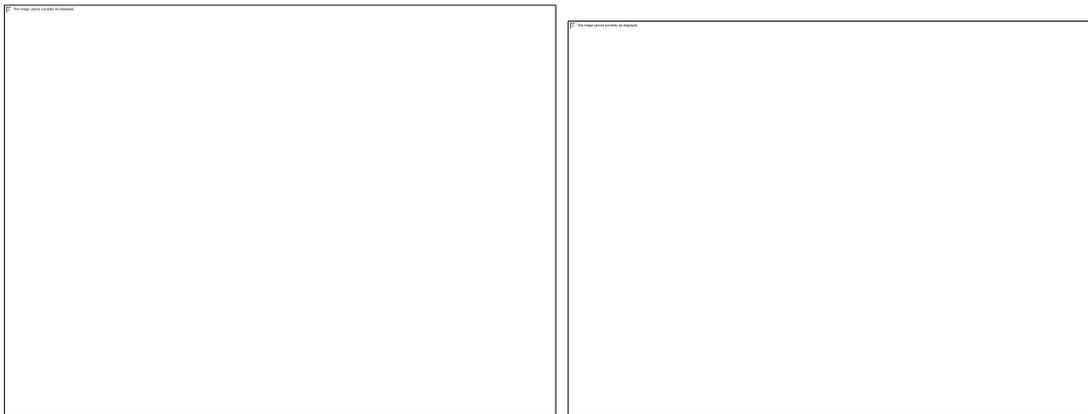


Figure 59. Telecommunications installation

When the situation witnessed by the author on the ground is compared with historical accounts of the war, the speed of progress is striking. Half a century later, after the communist forces defeated the Royal Laotian Army garrison of Sekong⁵²⁵ and used the villagers, who were clad only in tree bark, as porters, the town's Communist Party were commissioning mobile telephone aerials and solar panels as shown in Figure 59.

4.3.4. Comparison with EOD in other countries

UXO from the Vietnam War, and earlier wars, continue to pose a problem elsewhere and provide relevant comparisons. An incident illustrating attitudes to UXO in south-east Asia occurred in central Vietnam in December 2004. A suspected 50 kilogram U.S. naval shell,

⁵²⁵ Prados, *The Blood Road*, 33.

left over from the Vietnam War exploded when four men tried to cut it open. Two died, one was seriously injured and a fourth man survived unharmed.⁵²⁶

Landmines also affect the Thai-Cambodian border as reported in January 2011. Four anti-personnel landmines were dug up at a road construction site in tambon Ta Prik in Muang district, Thailand, by an employee of the company contracted to build the road. He did not know what the four objects were and tossed them aside. Police said the old mines had been discovered in the soil, which had been taken from an area near a paratrooper unit in nearby Cham Rak. The soil was needed as landfill to build the Trat-Klong Yai road number 318. The Highways Department stumbled on the mines later and alerted the bomb disposal officer, who said the Chinese mines were still live and believed to be remnants of clashes near the border during the Cambodian-Vietnamese war 32 years before.⁵²⁷

An accident on 15th January 2013, in neighbouring Cambodia, involved four American demining experts who were injured whilst an UXO exploded, at a mine clearance training field in Cambodia's northern Kampong Chhnang province. Heng Ratana, director general of Cambodian Mine Action Center reported that 'two of them are in critical condition, our officials had sent them to hospital in Phnom Penh by a helicopter soon after the incident.' The incident happened at the Training Center in Kampong Chhnang, about 91 kilometres north of Cambodian capital Phnom Penh. The UXO exploded at the UXO disposal training field, the injured experts were sent from the U.S. Department of Defense to train Cambodian de-miners for a 3-week course. It was the first time that foreign experts were injured during the mine clearance course in the country. Cambodia is one of the world's worst countries affected by mines as the result of almost three decades of war and internal conflicts from the mid-1960s until the end of 1998. Since 1979 to November 2012, landmines have killed 19,661, injured 35,623 others and amputated 8,898, according to the government record. The country needs an estimated 30 million U.S. dollars a year until 2020 to totally eliminate mines and explosive remnants of war.⁵²⁸

An example of how the U.S. Navy clears UXO was on the tiny island of Kaho'olawe in the Hawaiian Islands, part of the United States. Barely 115 square kilometres in size and sparsely populated. It was subjected to heavy naval bombardment and torpedo testing by the

⁵²⁶ Australian Broadcasting Corporation, 'Two Killed by Vietnam War-Era Shell', 29 December 2004, <http://www.abc.net.au/news/2004-12-29/two-killed-by-vietnam-war-era-shell/609850>.

⁵²⁷ 'Sunday 23/01/11', *Bangkok Post*, 23 January 2005, 4.

⁵²⁸ Simon Lewis, 'Unfired Ammunition Injured Demining Experts', *The Cambodia Daily*, 22 January 2013, 1.

U.S. Navy. The U.S. Senate mandated that the U.S. Navy pay for the clearance or removal of UXO on 80 square kilometres, in order to restore safe use of the island. The EOD process took nearly ten years till 2003. The project cost U.S. \$460 million – in U.S. history this was the largest UXO clearance and environmental restoration operation. ‘The half-billion dollar price tag for this cleanup was spent to remediate an island that had been all but uninhabited for nearly two centuries, was almost devoid of vegetation, and arguably had no economic value.’⁵²⁹ There are parallel lessons to be learned from this example.⁵³⁰ Clearly, U.S. territory, even if completely uninhabited, occupies a very different position in the EOD order of priorities.

It should be noted that in contrast to the cartoon depicted in Figure 3 an illustration of field work, Figure 43 shows a bomb with a nose-cone fuze still intact, lying under the family bed, as an accurate example of the hazards of field work in Laos.

⁵²⁹ Jeff Lewis, ‘Unexploded Ordnance and the Environment - A Legacy of Past Practice’, *Canadian Military Journal* 10, no. 4 (n.d.): 46.

⁵³⁰ For further information on the contamination from explosives see Ampleman, G.; Thiboutot, S.; Lewis, J.; Marois, A.; Gagnon, A.; Bouchard, M.; Jenkins, T.; Ranney, T.A.; Pennington, J.C., ‘Evaluation of the Contamination by Explosives and Metals in Soils, Vegetation, Surface Water and Sediment at Cold Lake Air Weapons Range (CLAWR), Alberta, Phase II Final Report’.

Chapter 5. Mitigation, Disaster Prevention and the role of technology

The international and national communities clearly have a role to play in helping to clear away the bombs.⁵³¹ Writing in 2003, Carey and Richmond said that in the light of a growing acceptance of the transnational nature of contemporary international relations, of globalization and of grassroots contributions via a global civil society, a debate had emerged indicating that NGOs have a role to play.⁵³² The detection and mitigation of UXO is recognised to be a serious global issue. Many millions of landmines have been deployed in recent conflicts, with few records of what has been laid and where. As well as landmines, other types of UXO include unexploded shells, mortar bombs and missiles, scatterable mines fired from mortars or artillery or dropped from aircraft or helicopters, and cluster munitions. As the present case study of Laos demonstrates, not only do such weapons cause injury and death to innocent civilians, but also they deny the use of substantial areas of land for agricultural and other economic purposes, which may be critical in countries where the threshold of poverty is already low. Ground-penetrating radar (GPR) is one of a family of sensors that may be used to detect UXO. In addition, GPR may also be used to detect other classes of target such as Improvised Explosive Devices (IEDs), weapons caches, and tunnels. Griffiths presents an account of the principles of ground-penetrating radar and their use in detecting buried UXO.⁵³³

It is not possible to guarantee that an area has been cleared of UXO or other explosive remnants of war with one hundred percent certainty. A major incident occurred in an area reported 'cleared' by UXO Lao in Xieng Khouang on 22 October 2007, when a tractor driving along a track ran over a mine. The resultant crater is shown in Figure 2 in Appendix E, and the effect on the tractor in Fig 5. The tractor driver's body was blown to pieces. The Senior Explosive Ordnance Disposal Director⁵³⁴ and Japan Mine Action Service investigated the crater on 24 October and found plastic fragments which led them to believe that a mine was responsible. Subsequent investigation detailed in the official report, reproduced in Appendix E, suggested that a U.S. M19 plastic Anti-Tank Mine was the cause of the explosion. Until this time there had been no known mine threat, so the clearance

⁵³¹ Pennington, 'Action against Hidden Killers Helps Laos'.

⁵³² Henry F. Carey and Oliver P. Richmond, *Mitigating Conflict: The Role of NGO's*, 1st ed. (Routledge, 2003).

⁵³³ Hugh Griffiths and Alastair McAslan, 'Low Frequency Radar for Buried Target Detection', in *Unexploded Ordnance Detection and Mitigation*, ed. Jim Byrnes, NATO Science for Peace and Security Series B: Physics and Biophysics (Springer Netherlands, 2009), 125–40, http://link.springer.com/chapter/10.1007/978-1-4020-9253-4_6.

⁵³⁴ John Dingley who was the Senior Technical Advisor in 2007 initially brought this incident to the attention of the author by email.

methodology used by UXO Lao, was considered adequate. Thereafter, UXO Lao recognised that although unlikely, the presence of mines could not be ruled out. Clearly, the possible presence of mines as well as unexploded air bombs and submunitions from cluster munitions further complicated UXO disposal work.

In fact, if the presence of mines had been known, one of the solutions for dealing with mines had been invented by Cranfield University,⁵³⁵ the ‘Dragon’ – a device which disarms landmines safely. It can be produced in portable production units by local communities without specialist knowledge and is a user-friendly,⁵³⁶ although it will not work with cluster munitions. The device burns out rather than explodes landmines, which is the method favoured by the UN. The Dragon was funded by the Department for International Development (DFID), and its effect is produced by mixing plaster with water and an aluminium powder to produce a slurry mixture, which is poured down a cardboard tube onto the mine. The mixture is then set alight using an electrical fuse and burns the landmine out like a firework.

5.1. The 2008 Convention on Cluster Munitions

As Karen Hulme explains, further ground-breaking obligations were included to deal with the existing problem of cluster munition remnants for many States. Having been modelled closely on the Ottawa Treaty here, the CCM provides for the clearance of unexploded cluster munitions within a State party’s own jurisdiction or control ‘as soon as possible’, but ultimately allowing for up to ten years where needed. This period for clearance was extended for Laos due to the magnitude of the problem. The real gains were made with regard to imposing obligations on past ‘user’ States, who under the ERW Protocol ‘shall provide where feasible’ technical and financial assistance to the affected State. Whilst this obligation is limited to new uses under the ERW Protocol, Article (4) of the CCM expands it to prior uses of cluster munitions, uses that pre-date the entry into force of the CCM for a State party. This had been a sticking point for many historic user States who feared clearance obligations extending back for thirty years or more. Whilst these States did not manage to remove the provision, they did manage to weaken it from the mandatory language in early drafts of ‘shall provide’ to ‘strongly encouraged to provide’ such assistance and to facilitate the marking,

⁵³⁵ Cranfield University, ‘Queen’s Anniversary Prize 2007’, accessed 12 September 2008, <http://www.cranfield.ac.uk/about/history/queensaward/page20036.html>.

⁵³⁶ Information supplied to the author by Graeme Creighton, who was the Senior Technical Officer of the Ammunition Systems and Explosives Technology Group at Cranfield University. The author had the pleasure of attending the Queen’s Anniversary Prize giving in 2008, for Further Education for its role in humanitarian demining.

clearance and destruction of said cluster munition remnants. As cluster munitions are remotely-delivered weapons, there is a provision also for the transfer of information to the victim State of known strike locations, together with the types of cluster munitions used. From the experience in the de-mining sphere, Article 4 (2) building on the Technical annex, requires the prioritising of clearance needs, a national plan, mobilisation of resources, risk-education and a very clear perimeter marking, fencing and monitoring of areas contaminated with unexploded cluster munitions. This obligation is detailed, specific, and prioritises the needs of civilians and is binding unlike that found in the non-binding Technical Annex of the ERQ Protocol.

While the CCM has many compliance mechanisms, modelled specifically on the Ottawa Treaty, it does not go so far as many would have hoped.⁵³⁷ State parties are to encourage non-parties to adhere to the Convention, it does not contain a general and mandatory fact-finding mechanism or verification inspections. But Article 7 is particularly thorough, insisting that State parties need to submit an annual report to the UN Secretary-General on cluster munitions cleared, destroyed and to be destroyed, together with reports on the size and location of all contamination areas, methods of destruction or stockpiles and remnants to be used and siting of destruction facilities and the safety and environmental standards employed. Reliable data need to be collected on victims, and information provided on risk education adopted, resources allocated, international assistance provided, the national plan adopted and the budget for victim assistance provision. The CCM and the Oslo Process has been rightly hailed as a humanitarian victory in ground-breaking advances in victim assistance and past user – State responsibility.⁵³⁸

The establishment of the Central Land-Mine Database and its inventories of mine-awareness materials and mine-clearance techniques designated the Department of Humanitarian Affairs, the focal point in the UN for coordinating de-mining and related issues, and as the repository

⁵³⁷ Brian Rappert and Richard Moyes, 'The Prohibition of Cluster Munitions', *The Nonproliferation Review* 16, no. 2 (2009): 237–56, doi:10.1080/10736700902969687; Leonard Blazeby, 'The Convention on Cluster Munitions and Its Domestic Implementation', *Commonwealth Law Bulletin* 35, no. 4 (2009): 721–26, doi:10.1080/03050710903387881; Patricia S. Huntington, 'Landmines and U.S. Leadership: A View from the Field', *American Foreign Policy Interests* 22, no. 6 (2000): 1–16, doi:10.1080/10803920.2000.10392069; 'Model Law: Convention on Cluster Munitions', *Commonwealth Law Bulletin* 35, no. 4 (2009): 727–34, doi:10.1080/03050710903387899.

⁵³⁸ Hulme, 'III. The 2008 Cluster Munitions Convention: Stepping Outside the CCW Framework (Again)', 224–227.

of information to improve mine-clearance methods.⁵³⁹ On the donors McGrath pointed out that ‘donors pay the piper but, in the field of landmine eradication, have rarely been clear about what tune they are paying him to play’.⁵⁴⁰ His observation is critical because, regardless of moral or other imperatives, all the implementing agencies must keep their donors happy. He adds, pragmatically, ‘that may not be the ideal to which humanitarian agencies aspire, but it is fact.’⁵⁴¹

The U.S. is clearly aware of the large number of problems caused by the cluster munition bomblets that failed to explode as designed. On 11 December 2000 President Bill Clinton wrote to Handicap International, an NGO campaigning to widen the compliance with the ban on anti-personnel landmines, and said he hoped that the U.S. would join the Ottawa Convention by 2006 (see Figure 60). However, the subsequent Bush Administration did not fulfil this aspiration, nor at the time of writing (spring 2014) has the U.S. signed the 1997 Ottawa Convention or the 2008 ban on cluster munitions.⁵⁴²

⁵³⁹ United Nations General Assembly, ‘Assistance in Mine Clearance. A/RES/50/82.’, 14 December 1995, <http://www.un.org/documents/ga/res/50/ares50-82.htm>.

⁵⁴⁰ McGrath, *Landmines and Unexploded Ordnance*, 2000, xxiii.

⁵⁴¹ Rae McGrath, *Landmines and Unexploded Ordnance: A Resource Book* (Pluto Press, 2000), xxiii.

⁵⁴² Matthew Bolton and Thomas Nash, ‘The Role of Middle Power–NGO Coalitions in Global Policy: The Case of the Cluster Munitions Ban’, *Global Policy* 1, no. 2 (2010): 172.

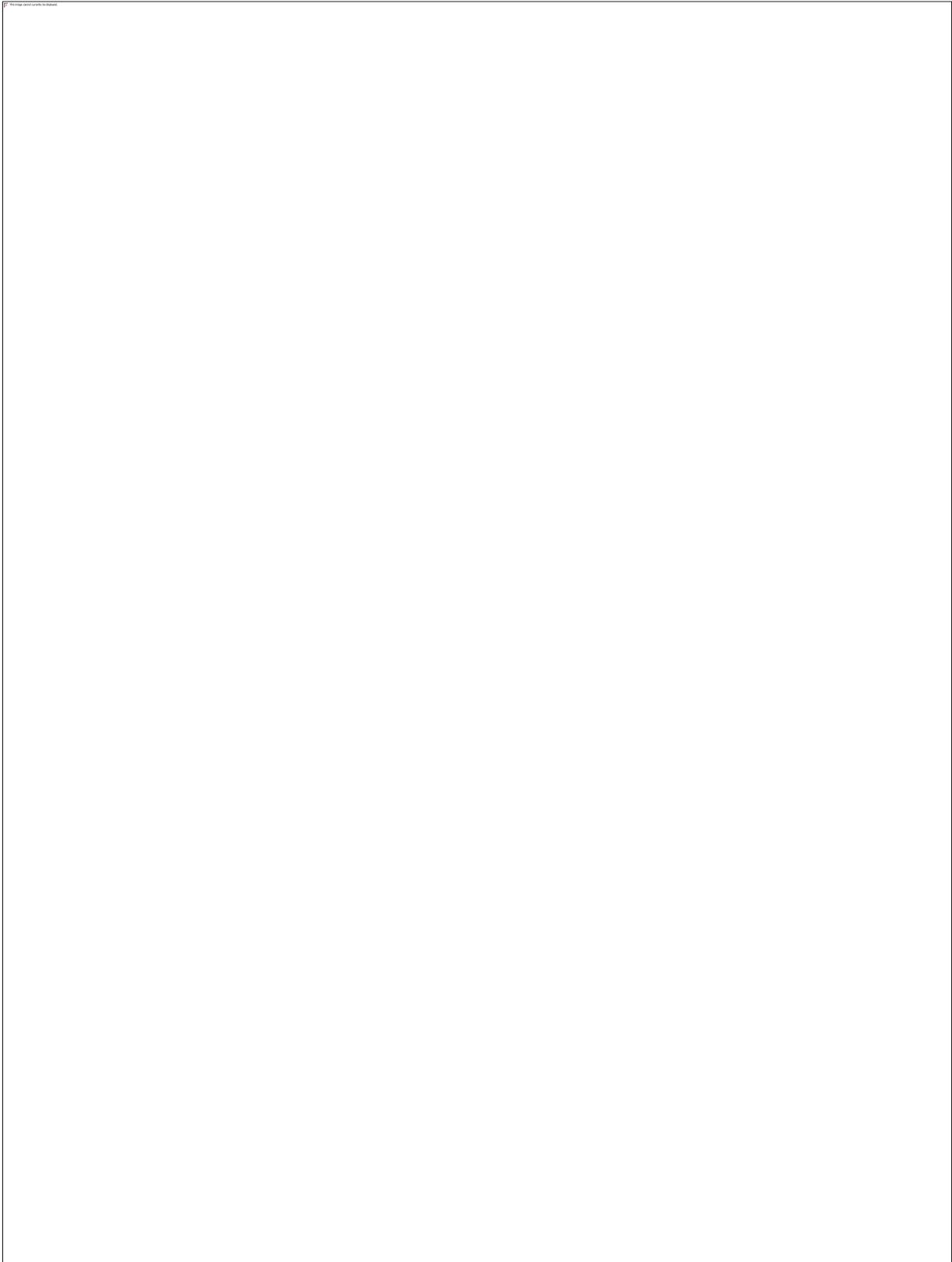


Figure 60. A photograph of a letter from President Bill Clinton to Handicap International (11 December 2000)

Eric Prokosch, who exhaustively researched the terrible toll of antipersonnel weapons, worked with the six organisations in 1992 which called for an international ban on the use, production, stockpiling and transfer of antipersonnel mines. Such mines were finally banned by the Ottawa Treaty of 18 September 1997. The United States has not signed the Treaty but is in *de facto* compliance with many of its provisions.⁵⁴³ Eventually, on 28 May 2008, more than 100 nations reached agreement on a treaty which would ban current designs of cluster bombs.⁵⁴⁴ The Treaty came into force on 1 August 2010, having been adopted by 108 states of which 38 had ratified it. Again, the United States is not a signatory but the treaty makes it extremely difficult for the U.S. to use cluster munitions in combined operations with nations that are.⁵⁴⁵ The U.S. is also trying to ensure that any cluster munitions used after 2018 will have a failure rate of less than one percent. The Ottawa Treaty stimulated renewed interest in controlling indiscriminate and excessively injurious weapons, and the belief that a ban should not be confined to mines but should extend to other classes of modern antipersonnel weapons as well.

The Convention on Cluster Munitions (CMC)⁵⁴⁶ is the latest development in this field of international law. The treaty bans the use, production, stockpiling, and transfer of cluster munitions and places obligations on countries to clear affected areas. However, non-ratifying states do all these things, and they include China, the U.S. and Russia, each of which is estimated to have more than a billion cluster munitions.⁵⁴⁷ It is the most significant treaty of its kind since the ban on anti-personnel landmines in 1997. This treaty is likely to have a powerful effect in stigmatising cluster bombs, so that even those countries that do not join the treaty will not be able to use them without being subject to international condemnation. By 2008, some 107 countries signed up to the Convention on Cluster Munitions, which came

⁵⁴³ United Nations, 'Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on Their Destruction', http://www.un.org/Depts/mine/UNDocs/ban_trty.htm, March 2010, http://www.un.org/Depts/mine/UNDocs/ban_trty.htm.

⁵⁴⁴ 'Cluster Bomb Ban Treaty Approved', 28 May 2008, <http://news.bbc.co.uk/1/hi/7423714.stm>.

⁵⁴⁵ Stuart Hughes, 'Global Cluster Bomb Ban Comes into Force', 1 August 2010, <http://www.bbc.co.uk/news/world-10829976>.

⁵⁴⁶ CMC staff, 'The Convention on Cluster Munitions | To End the Harm Caused by Cluster Munitions'; United Nations, 'Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on Their Destruction'.

⁵⁴⁷ Geoffrey Robertson, *Crimes Against Humanity: The Struggle For Global Justice*, Fourth (London: Penguin, 2012), 284.

into force in 2010 and has seventy-three ratifications. The adoption of this convention represents a major achievement in multilateral humanitarian disarmament.⁵⁴⁸

Laos, very appropriately, was one of the first signatories to sign and ratify the convention to ban the use, production, stockpiling, and transfer of cluster munitions. Laos hosted the first meeting of the States Parties to the Convention in 2010.

As a result of civilian deaths, cluster munitions have been recognised to pose a grave threat to civilian populations because of their limited precision and problematically high rate of initial failure to explode. Efforts are intensifying to ban cluster munitions and to mandate those who have discharged them to defuze them effectively so as to reduce risks to civilians.⁵⁴⁹ Health professionals support efforts to ban their use.⁵⁵⁰ Both in design and in its practical deployment, the most indiscriminate antipersonnel weapon used in the Vietnam War was certainly the cluster bomb.⁵⁵¹

The 2008 Convention on Cluster Munitions comprehensively bans a weapon that causes civilian casualties both during and after attacks. The convention also sets legal precedent in three ways. First, the convention expands the scope of past treaties by, for example, covering munitions that function properly and those that do not. Secondly, it creates groundbreaking humanitarian obligations, most notably those related to victim assistance. Thirdly, it anticipates future concerns by recognizing the threats posed by non-state armed groups. This comparative analysis of the convention shows how it breaks new ground for future weapons treaties and illuminates the process by which international humanitarian law can be advanced.⁵⁵²

⁵⁴⁸ Brian Rappert and Richard Moyes, 'Enhancing the Protection of Civilians from Armed Conflict: Precautionary Lessons', *Medicine, Conflict, and Survival* 26, no. 1 (March 2010): 24–47, doi:10.1080/13623690903553228.

⁵⁴⁹ Freckelton, 'Cluster Munitions', 481.

⁵⁵⁰ S.M. Parikh, 'Cluster Munitions: A Threat to Health and Human Rights', *Medicine, Conflict and Survival* 26, no. 2 (2010): 101–7, doi:10.1080/13623699.2010.491378; O.O. Bilukha, M. Brennan, and B.A. Woodruff, 'Death and Injury from Landmines and Unexploded Ordnance in Afghanistan', *Journal of the American Medical Association* 290, no. 5 (2003): 650–53, doi:10.1001/jama.290.5.650; M.E. Kett and S.J. Mannion, 'Managing the Health Effects of the Explosive Remnants of War', *Journal of The Royal Society for the Promotion of Health* 124, no. 6 (2004): 262–67, doi:10.1177/146642400412400613.

⁵⁵¹ Krepon, 'Weapons Potentially Inhumane', 595.

⁵⁵² Docherty, 'Breaking New Ground: The Convention on Cluster Munitions and the Evolution of International Humanitarian Law', 934.

The adoption of Protocol V⁵⁵³ to the Convention on Certain Conventional Weapons represents a shift in focus for weapons law towards the long-term after-effects of weapons. The seemingly endless ingenuity of man's inhumanity to man has long been lamented. As weapons of greater military utility have been developed, so moral and legal arguments have been evolved and deployed against their possession and use. This uneasy relationship has, until relatively recently, been characterized by an inequality between the rapid advance of science and its capabilities and the comparative glacial development of legal constraints.⁵⁵⁴

The key in this unnatural disaster is simple: prevention, prevention, prevention. This helps to make a country less vulnerable and is more cost effective.⁵⁵⁵

5.1.2. Victim Assistance in Laos

The threat of mines and explosive remnants of war is essentially a threat of physical violence.⁵⁵⁶ Effective mine risk education is a shared responsibility.⁵⁵⁷ Lack of information about UXO casualties impedes the adoption of appropriate policies and programmes, and data collection is central to the role of victim assistance. It is necessary to know who the victims are, where they are, the nature of their injuries, (multiple injuries⁵⁵⁸ are caused by cluster bombs⁵⁵⁹), what assistance they have had, what assistance they need, what assistance is available, and how those in need can be put in touch with the services that exist. This

⁵⁵³ ICRC, '28th International Conference of the Red Cross and Red Crescent Geneva', 2 December 2003, http://www.icrc.org/eng/assets/files/other/irrc_852_28th_conf_resolutions_eng.pdf The Conference warmly welcomed the adoption of the Protocol on Explosive Remnants of War to the Convention on Certain Conventional Weapons (CCW, Protocol V), and encouraged States to consider its ratification as soon as possible. The global human and social costs of explosive remnants of war should be addressed through increased international efforts in the fields of clearance, risk education and victim assistance and, when ratified, the implementation of the new Protocol.

⁵⁵⁴ J McClelland, 'Conventional Weapons: A Cluster of Developments', *The International and Comparative Law Quarterly* 54, no. 3 (July 2005): 755.

⁵⁵⁵ Apurva Sanghi, *Natural Hazards, Unnatural Disasters: The Economics of Effective Prevention* (World Bank Publications, 2010).

⁵⁵⁶ Matthew B. Bolton, 'Foreign Aid and Landmine Clearance | Matthew Bolton | Macmillan', *Macmillan*, accessed 18 March 2013, <http://us.macmillan.com/foreignaidandlandmineclearance/MatthewBolton>; Marue R. Quick and Army War College (U.S.), *Stability Operations and Explosive Ordnance Including Humanitarian Mine Action (HMA)* (U.S. Army War College, 2010).

⁵⁵⁷ Joanne Durham, Sue Gillieatt, and Bounpheng Sisavath, 'Effective Mine Risk Education in War-Zone Areas—a Shared Responsibility', *Health Promotion International* 20, no. 3 (9 January 2005): 213–20, doi:10.1093/heapro/dai014.

⁵⁵⁸ A.M. Mansour et al., 'Cluster Bomb Ocular Injuries', *Middle East African Journal of Ophthalmology* 19, no. 1 (2012): 153.

⁵⁵⁹ Z. Golubovic et al., 'Surgical Treatment of War Wounds with Fractures Caused by Cluster Bombs', *Journal of Bone & Joint Surgery, British Volume* 86-B, no. SUPP III (3 January 2004): 357–357.

section examines the work of the various agencies and initiatives in Laos up to the time of writing.

The Laotian *National Survey of UXO Victims and Accidents* has so far involved two phases. Phase 1, from 1964-2008, has been completed and reported on. Phase 2 from 2008, is still underway. The tracking of survivors through the rehabilitation system is currently being devised and piloted. In order both to understand the magnitude and the diversity of the issues associated with the UXO problem, there is a need for aggregated and general data. There is also a need for individual data so that each casualty may receive the best possible assistance, and also in order to track the progress of the individual through the different stages of assistance. Thus, data are needed in each of the five Victim Assistance pillars of activity for UXO/Mine Victims; Medical Care, Physical Rehabilitation, Psychosocial Rehabilitation, Vocational Training and Economic Rehabilitation and Advocacy.

In the past, understanding of the rate of disability in the Lao population has been scant and data unreliable. Gradually, this situation is improving. Several attempts have been made to collect data in the past, and some are listed at the UXO/Mine Victims (General Data): which contains a description of information collected about UXO victims and/or people with disabilities. With the completion of Phase 1 of the NRA Lao National Survey of UXO Victims and Accidents (historical data from 1964 to 2008), and the implementation of Phase 2 (collection of data for all ongoing accidents), an unprecedented amount of information is becoming available on UXO/Mine victims.⁵⁶⁰

The NRA VA Unit's Phase 2 Survey collects data of casualties and accidents from January 1st 2008 and onwards. The data collection methodology consists of establishing Provincial and Districts Focal Point (PFP and DFP) in each province and district, with seven regional trainings for PFP and DFP by the NRA's VA Unit, with follow-up training in every province. The DFP contact all villages in their districts and require a start-up report stating whether there has been a UXO accident in the village since January 1st 2008. Additionally the police, local authorities, hospital staff, and NGO staff are asked to report any accidents to the DFP or the PFP.⁵⁶¹

In general, as soon as an accident occurs, it is reported rapidly to the NRA; at minimum, DFP report to PFP, who report to the NRA, on a monthly basis. Originally, Victim Assistance

⁵⁶⁰ Boddington and Chanthavongsa, *National Survey of UXO Victims and Accidents*, 58.

⁵⁶¹ *Ibid.*, 20–23.

Phase 2 Enumerators (VAPE) were deployed to collect details of accidents and casualties on forms, initially, this meant collecting a backlog of information, but, as that backlog is worked off, VAPE were to visit accident sites immediately upon notification: however, that arrangement was changed when the collection of accident and victim data was made the responsibility of the 143 DFP.⁵⁶²

All forms are brought to NRA for entering into the Lao Victim Information System database, which requires that data are signed off on a workbench as a means of validation. Details of numbers of casualties and accidents, by province, are provided to stakeholders every month, by e-mail, and at bi-monthly meetings. The NRA has implemented a system for collecting data on the progress of survivors through the rehabilitation services. Essentially, the NRA's District Focal Points travel to visit survivors at set intervals, and collect information about their rehabilitation experiences and ensure that they are aware of the opportunities available. It is open to stakeholders to suggest what information should be gathered as well as the information that should be made available to survivors, according to their location.⁵⁶³

In order to know what the available services are for UXO victims, the VA unit of NRA has undertaken the addition of six Pillar Position Papers, one for each Pillar of victim assistance. The main objectives of which are: to propose an ideal system for UXO victims, to catalogue what exists at present, to identify gaps between the ideal and the reality in service provision across Laos and to propose how those gaps might be filled, to give operators a clear view of what needs doing urgently and to provide an authoritative basis for operators' funding applications.⁵⁶⁴

The organisation called 'Power' began its support programme for the prosthetics and orthotics (design and fitting) service in Lao PDR in October 1995 who determined to conduct a nationwide survey of those in need of mobility assistive devices, and to collect certain other information that could be of use to the NRC with its interest in education of blind and deaf children. The National Survey of Disabled People (NSDP) was quickly planned in the last two months of 1995, with the assistance of WHO and UNICEF, with agreement that it should be implemented through the Extended Program of Immunisation whose immunisers regularly visit every village in the country. The intention was that immunisers would ask village chiefs for details of people in the village with certain disabilities, mainly pictorially illustrated on a

⁵⁶² Ibid., 68–71.

⁵⁶³ Ibid.

⁵⁶⁴ The author had various conversations with Bounphamith Somvichith, NRA, September 2012.

questionnaire form. The survey was carried out from February 1996 and reached a total of 9,274 of 11,778 villages that were recorded by the census of 1995.

Getting a survivor from the accident site to a higher-level source of medical care can be very difficult:

- (a) The accident may have occurred a long way from a motorable road – even in the middle of the jungle
- (b) If the accident occurred in a remote rural area, it may be cut off during much of the rainy season
- (c) Even where it occurred in or near a village, there may be no motorised transport available
- (d) Even if there is motorised transport, if the casualty is in a bad condition the owner of the transport may refuse to carry him/her because it is regarded as bad luck if someone dies in one's vehicle
- (e) Very often, the journey to the nearest medical facility may take many hours over very poor roads
- (f) Transport is still, very often, by boat, down rivers, and this can also take a very long time
- (g) River transport may not be a practicable alternative during the dry season. During the rainy seasons as many as half of all Lao villages become unreachable, and also institutionally isolated.⁵⁶⁵

The total cost of a single ambulance every year, depending on use, is about \$16,000 or \$80,000 over five years. The true annual cost, for all the ambulances, is about \$1.2 million. This system would not be sustainable given the total health budget. Thus, a patient transportation system independent of ambulances should be developed.

The Ministry of Health proposes developing skills in forward planning and budgeting at the district levels, and this will be funded under budgets from IBRD and ADB. It should allow for districts and provinces to develop plans which include such things as maintenance budgets. Whilst some district hospitals now have ambulances, contact between village and hospital⁵⁶⁶ may be difficult or impossible and roads may be inadequate in the vicinity of some villages. On issues of transportation each province has a policy according to the available vehicles (tuk-tuk (taxi), cars, bus) the conditions of the roads and the localisation of the

⁵⁶⁵ International Fund For Agricultural Development, 'Rural Poverty Portal'.

⁵⁶⁶ Moon Fai Chan and Beverly Joan Taylor, 'Impact of Demographic Change, Socioeconomics, and Health Care Resources on Life Expectancy in Cambodia, Laos, and Myanmar', *Public Health Nursing* 30, no. 3 (2013): 183.

accident, whether in a remote area or not. Of particular interest to impoverished UXO casualties⁵⁶⁷ is the Public Welfare Health Insurance Fund or Health Equity Fund (HEF) which has been running in Laos since 2004, their objectives include:

1. To facilitate access to health services for the poor
2. To provide a safety net against catastrophic health expenditures
3. To contribute to the quality improvement of services

All of these are of direct relevance to victims of UXO. Selection of beneficiaries for the HEF takes place in the village once every year or every two years, with the advice of the Village Chief. There must be general agreement in the village about who can be a beneficiary, and that is verified by the visiting team, using the criteria listed below, after which a card with a unique code is issued to the family. The criteria applied on a household basis, are:

- Lack of rice
- Lack of clothes
- Lack of shelter
- Insufficient funds to cover the cost of medical treatment
- Insufficient funds to cover the cost of schooling for children
- Households considered as poor are households with an income (or the equivalent in kind) of less than 85,000 kip (Kip to GBP fluctuating at 12,500) (100,000 kip for urban and 82,000 kip for rural) per person per month (at 2001 prices). This sum allows the purchase of about 16 kilograms of milled rice per person per month; the balance is insufficient to cover other necessities, such as clothing, shelter, schooling and medical costs.⁵⁶⁸

The scheme has been implemented in 31 districts in seven provinces. UXO survivors can benefit from the HEF if they match the criteria. The first challenge is to identify poor families and define criteria which is part of the National Growth and Poverty Eradication Strategy, and is closely aligned with the MDGs of the UN, and aims to lift Lao PDR out of Least Developed Country status by 2020.

World Education set up the Lao War Victims Medical Fund (WVMF) to pay for the cost of medical treatment for survivors. The WVMF encourages accident victims to access medical treatment after an accident and to ensure that the cost of medical treatment does not deplete the family's resources. The fund is administered by the Provincial Department of Health and the hospital doctors, through a committee specifically set up to manage this fund. An important aspect of this fund is that World Education trains, and provides regular follow up support to the Department of Health so they can access funds immediately, manage the funds

⁵⁶⁷ Caroline Guerin, Handicap International, various conversations with the author, September 2012.

⁵⁶⁸ Mike Boddington, various conversations with the author on the implementation of victim assistance, in accordance with the Cluster Munition Treaty.

properly, and provide financial reports on the use of the funds. WVMF presently operates in Huaphan, Savannakhet, Xieng Khouang, Salavan, Khammuane, Sekong and Champasak. The fund is partially supported by the McNight Foundation, the Dutch Embassy in Bangkok, the U.S. Dept of State Office of Weapons Removal and Abatement, and others.⁵⁶⁹

The Lao Rehabilitation Foundation's central activity is to collect funds through donations,⁵⁷⁰ to disburse these funds in the most efficient ways, funding the most critical and urgent needs. The foundation maintains an office in Laos to oversee activities. The primary purpose is to provide medical services to Lao citizens, especially children, recognising that the best guarantee for sound health is adequate nutrition, basic hygiene, decent shelter, education and reasonable access to medical facilities.⁵⁷¹

The report on why investments in maternal and child health care in developing countries is good for America⁵⁷² states that:

Tragically, the fact that we cannot see the faces of the children dying in developing countries makes us less likely to help them. This is something that needs to change. We need to develop a culture of giving, in which giving to help those in great need becomes part of our understanding of what it is to live an ethical life.⁵⁷³

The Charities Aid Foundation found that the level of giving in a country indicates something about the strength and cohesiveness of its civil society – the extent to which individuals are willing and able to contribute, towards addressing the needs of others both at home and abroad, interestingly in the survey World Giving Index, two Buddhist countries rate very high in the top 25 list, Thailand at number three, and Laos at number 11, respectively 73 percent and 64 percent of its population give money.⁵⁷⁴ Development in Laos has occurred slowly.⁵⁷⁵

An exploratory study piloted a bio-psychosocial instrument called the Perceived Impact of Problem Profile on a cohort of landmine/Unexploded Ordnance (UXO) victims with lower limb disability versus a cohort of persons with similar disability due to other trauma or

⁵⁶⁹ Grapes For Humanity Global Foundation, 'Grapes For Humanity Global Foundation War Victims Medical Fund in Laos', accessed 13 September 2012, <http://gfhglobal.org/projects/war-victims-medical-fund-in-laos/>.

⁵⁷⁰ Holly High, 'Ethnographic Exposures: Motivations for Donations in the South of Laos (and Beyond)', *American Ethnologist* 37, no. 2 (2010): 308, doi:10.1111/j.1548-1425.2010.01257.x.

⁵⁷¹ Luc Janssens, 'Lao Rehabilitation Foundation', accessed 13 February 2013, <http://lao-foundation.org/>.

⁵⁷² Peter Singer et al., *Champions for Children: State of the World's Mothers 2011* (Connecticut USA: Save the Children, 2011), 1.

⁵⁷³ *Ibid.*, 15.

⁵⁷⁴ John Low, *The World Giving Index 2010* (Kent UK: Charities Aid Foundation, 2010), 18, www.cafonline.org.

⁵⁷⁵ Brendan Howe and Kearnin Sims, 'Human Security and Development in the Lao PDR', *Asian Survey* 51, no. 2 (March 2011): 333, doi:10.1525/AS.2011.51.2.333.

medical causes. The aim was to provide greater understanding of the psychosocial impact of UXO injury to inform victim assistance interventions within Lao PDR. Fifty one participants were interviewed in both urban and rural locations within Lao PDR. An analysis of the data revealed significant differences in perceived impact for pain, anxiety and how recently the injury/illness occurred. Both groups complained of high levels of anxiety and depression. The UXO victims who complained of anxiety and depression reported a much greater impact on life satisfaction and mood. The perceived impact of the disability is greatest on psychosocial factors for both cohorts, but especially in UXO victims emphasising the need to focus on improving psychosocial interventions for UXO victims, within Victim assistance programmes in Lao PDR.⁵⁷⁶

In 2002, David Alexander pointed out that:

Mitigation comprises all actions designed to reduce the impact of future disasters. These usually divide into structural measures (the engineering solutions to problems of safety) and non-structural measures, which include land-use planning, insurance, legislation and evacuation planning... thus the *planning* of evacuation is a mitigation measure, whereas its *execution* is a form of preparedness.⁵⁷⁷

Twelve years on, Alexander's analysis is difficult to challenge.

5.2. The Explosive Remnants of War Protocol

To militate against the effect of the aftermath of unexploded ordnance there is Protocol V to the UN Convention on Explosive Remnants of War. That was drawn up to minimise the risks and effects of UXO in post-conflict countries. The Charter of the United Nations and the rules of the international law of armed conflict in Protocol V⁵⁷⁸ list the obligations that the High Contracting Parties agree to comply with. The UN general title is:

⁵⁷⁶ Russell B. Wyper, 'An Exploratory Study of the Perceived Impact of Health Problems of landmine/UXO Victims versus Another Disability Group', *Health and Quality of Life Outcomes* 10, no. 1 (1 December 2012): 1–8, doi:10.1186/1477-7525-10-121; Youssef Fares and Jawad Fares, 'Anatomical and Neuropsychological Effects of Cluster Munitions', *Neurological Sciences: Official Journal of the Italian Neurological Society and of the Italian Society of Clinical Neurophysiology*, 3 March 2013, doi:10.1007/s10072-013-1343-7; Youssef Fares et al., 'Pain and Neurological Sequelae of Cluster Munitions on Children and Adolescents in South Lebanon', *Neurological Sciences: Official Journal of the Italian Neurological Society and of the Italian Society of Clinical Neurophysiology*, 7 April 2013, doi:10.1007/s10072-013-1427-4.

⁵⁷⁷ David Alexander, *Principles of Emergency Planning and Management / David Alexander*. (Oxford University Press, 2002), 5.

⁵⁷⁸ ICRC, 'International Humanitarian Law - Prot V CCW', *International Humanitarian Law - Treaties & Documents*, 28 November 2003, online, <http://www.icrc.org/ihl.nsf/FULL/610?OpenDocument>.

United Nations Convention on Prohibitions or Restrictions on the use of Certain Conventional Weapons Which May be Deemed to be Excessively Injurious or to Have Indiscriminate Effects.⁵⁷⁹

The Protocol on ERW (Protocol V to the 1980 Convention), date of adoption was 28 November 2003. The U.S. did not ratify the Protocol until 21 January 2009. This may, in part, explain the fact that six ex-Ambassadors wrote to the U.S. Secretary of State in July 2011, drawing attention to the issue of UXO in Laos (see 5.3). The relevant articles are reproduced in full in Appendix B. The key paragraphs are as follows:

1. *Explosive remnants of war* means unexploded ordnance and abandoned explosive ordnance that existed prior to the entry into force of this Protocol for the High Contracting Party on whose territory it exists.

Article 3. Clearance, removal or destruction of explosive remnants of war

1. Each High Contracting Party and party to an armed conflict shall bear the responsibilities set out in this Article with respect to all explosive remnants of war in territory under its control. In cases where a user of explosive ordnance which has become explosive remnants of war, does not exercise control of the territory, the user shall, after the cessation of active hostilities, provide where feasible, *inter alia* (L among other things) technical, financial, material or human resources assistance, bilaterally or through a mutually agreed third party, including *inter alia* through the United Nations system or other relevant organizations, to facilitate the marking and clearance, removal or destruction of such explosive remnants of war...
- 3 After the cessation of active hostilities and as soon as feasible, each High Contracting Party and party to an armed conflict shall take the following measures in affected territories under its control, to reduce the risks posed by explosive remnants of war:
 - (a) survey and assess the threat posed by explosive remnants of war;
 - (b) assess and prioritize needs and practicability in terms of marking and clearance, removal or destruction;
 - (c) mark and clear, remove or destroy explosive remnants of war;
 - (d) take steps to mobilize resources to carry out these activities.⁵⁸⁰

With Protocol V (see Appendix B) in mind, the justified demand would be that the government and military (in this case the U.S.A. although as a government not in control of the territory) that dropped the bombs ought to be held responsible for clearing up the contamination of war to ensure the safety of the civilian population in peacetime. The military claim that it (the military), should be able to *choose* to be involved in humanitarian

⁵⁷⁹ ICRC, 'International Humanitarian Law - Prot V CCW', *International Humanitarian Law - Treaties & Documents*, 12 November 2006, <http://www.icrc.org/ihl.nsf/INTRO/610?OpenDocument>.

⁵⁸⁰ ICRC, 'International Humanitarian Law - Prot V CCW', 28 November 2003, online.

mine – and ordnance-clearance operations because ‘it is a military matter’ is, arguably, preposterous. The operative word, of course, is ‘choose’ – common sense dictates that the military should be forced by international law to ensure that all landmines and UXO are removed from the battlefield as an integral part of the peace process. Allowing the military to avoid that responsibility but retain the option to gain credit for being involved when it suits it is arguably both illogical and unjust.⁵⁸¹ The author would argue from the research presented in Chapter 4 that it is certainly so in the case of Laos.

In the fiscal year 2010, the U.S. State Department spent U.S. \$5,100,000 for the UXO sector in Laos. The U.S. Congress recommended that no less than U.S. \$7 million be allocated for the fiscal year 2011. The prospects for increased U.S. funding the U.S. State Department Inspector General has recommended that the U.S. Embassy in Vientiane ‘promote a consistent and reliable Department request of U.S.\$5 million a year in funding for the clearance of UXO in Laos’ with a recommendation of an annual U.S. commitment of U.S. \$ ten million over the next ten years.⁵⁸² In July 2011, all six former U.S. ambassadors to Laos supported this goal in a letter to Secretary of State Hillary Clinton.⁵⁸³

5.3. An example of Ambassadors collaborating

There are clear signs of potential action on this issue and on 8 July 2011 six former U.S. Ambassadors to Laos who had served there over more than three decades, between them, wrote to the U.S. Secretary of State Hilary Clinton. The letter sets out many of the facts and issues highlighted in the analysis of the Laos UXO case-study where the Pyramid of Principles applies (see Figure 5), in this thesis. It is therefore worth inserting in full:

Dear Madam Secretary:

Each of us proudly represented the United States in Laos as members of the U.S. Foreign Service. Together, our service in Laos spans more than 3 decades. We are encouraged by the strengthening ties between our two nations, and gratified by your renewed commitment to raising the United States’ diplomatic profile in the Mekong sub-region.

We are delighted that you will be travelling to Bali, Indonesia, to attend a summit of the Association of Southeast Asian Nations. Your commitment to building a strong relationship with our partners in Southeast Asia is to U.S. a source of great

⁵⁸¹ McGrath, *Landmines and Unexploded Ordnance*, 2000, 77.

⁵⁸² Legacies of War, ‘U.S. Funding for UXO Sector in Laos’, 1–4.

⁵⁸³ ‘2011 Former Ambassadors’ Letter to Secretary of State Clinton’, accessed 4 August 2011, <http://legaciesofwar.org/resources/letters-requests/2011-former-ambassadors-letter-to-secretary-of-state-clinton/>.

personal satisfaction and optimism. We are writing this letter to strongly encourage you to visit Vientiane during your trip to Southeast Asia, and to request that you address directly a crucial issue that confronted U.S. during our respective terms in Laos: the scourge of unexploded ordnance (UXO).

The opening references to U.S.-Laotian relations and to Secretary Clinton's trip refer to the strategic level in Ian Davis's pyramid and the diplomatic and international response levels in my revised version (see pp. 48-50). The letter then continues:

During the war, over 2 million tons of U.S. munitions were dropped on Laos, more than was dropped on Germany and Japan combined in the Second World War. On a per capita basis, Laos is the most heavily bombed country in history. Up to 30 percent of these bombs failed to detonate, and UXO in Laos continues to impede development and cause hundreds of casualties each year.

Your upcoming trip to Southeast Asia is a perfect opportunity to visit Vientiane and reaffirm a substantial U.S. commitment to addressing the UXO crisis in Laos. It has been more than 55 years since a U.S. Secretary of State last visited Laos. The important progress Laos has made in the years since in matters of economic liberalization, trade and religious freedom has already led to a remarkable improvement in U.S.-Lao relations. We feel strongly that the United States should acknowledge this progress by reaffirming our commitment to help Laos overcome the UXO crisis.

So much progress has already been made: 23,000 hectares of land have been cleared for agriculture and development. More than a million UXO have been destroyed. Each of U.S. worked hard during our respective terms to ensure that the United States contributed to this clearance work. But there is still so much more to do. It is estimated that some 80 million UXO remain scattered across Laos. The Lao government, in partnership with the United Nations Development Program, has put in place an ambitious plan to reduce casualties from 120 per year to less than 75 per year, also making available large areas of prime land for farming and development. An annual investment of \$30 million will be required to meet these targets.

We endorse the recommendation of Legacies of War, a U.S. non-profit organization dedicated to raising awareness about the UXO problem in Laos, that the U.S. make an annual commitment of \$10 million over the next ten years to strengthen and secure the Lao UXO sector's capacity and bring its already effective programs to scale. Moreover, we ask that the U.S. work with its international partners to ensure that sufficient resources are in place for clearance teams to meet their objectives.

Here the letter moves to the Implementation or Mitigation levels in paragraphs four, five and six. The letter concludes:

As former U.S. ambassadors to Laos, we are truly encouraged by the progress you have made in strengthening America's ties with Southeast Asia, ably supported by Assistant Secretary Campbell. It is particularly timely for you to visit Laos now and

help bring this enduring legacy of the Vietnam War to a safe and honorable conclusion. As President Obama said in September 2010, upon belatedly awarding an American serviceman the Medal of Honor for his heroic service long ago in Laos, “It’s never too late to do the right thing.”

Finally, in the last paragraph, concluding “‘It’s never too late to do the right thing.’” the letter returns to Level 1 in both pyramids – Ethical Core Value or Underlying Principles. The signature block is impressive, underlining the seniority and expertise of the correspondents

Sincerely,

Douglas A. Hartwick, Ambassador (2001-2004)

Wendy J. Chamberlin Ambassador (1996-1999)

Victor L. Tomseth, Ambassador (1994-2006)

Harriet Isom, Ambassador (1986-1989)

Charles B. Salmon, Jr., Ambassador (a.i., 1989-92, 1992-1993)

Theresa A. Tull, Ambassador (a.i., 1983-1986)

cc: Director, Office of Weapons Removal and Abatement, U.S. Department of State
Assistant Secretary of State Kurt Campbell, U.S. Department of State.⁵⁸⁴

Douglas Hartwick was the retired ambassador, who wrote the UXO letter to Secretary Clinton, and who coordinated the other signatures.⁵⁸⁵

The author asked him the following questions:

Question 1. As I see it, this is an historic problem for the U.S.A. but a daily problem for the people of Laos. It is not helpful to point the finger of blame at this stage or talk about justice and injustice. We are no longer talking about culpability but instead we need to deal with solutions that are long overdue. Now that we have assessed the enormity of the problem it is time to sort it out. Only the Western world is capable of that. It has the technology - perhaps Microsoft could be engaged to run a database on what UXO is showing up now, which could then in turn help to speed clearance? And what do you think is the malaise in this 48 year old saga? Is a communist government the cause of the lack of engagement? Ambassador Hartwick’s reply to the author is, again, worth quoting in full:

Let me try to give you a sense of my and my former colleagues' motivations for writing the UXO letter to Sec Clinton and then, more broadly, trying to generate more progress. On to your questions, why did we write to Secretary Clinton?

To be honest, several years ago, (say, 2009?) I reached out to the Legacies of War NGO when I stumbled across their website doing a Google search on Laos. I offered

⁵⁸⁴ Legacies of War, ‘U.S. Funding for UXO Sector in Laos’.

⁵⁸⁵ The author had several meetings with the U.S. Ambassador Karen Stewart in Vientiane, (September to November 2012) who kindly forwarded the email contact of Ambassador Hartwick.

to help them in any way I could, knowing of the tough challenge of keeping focus on the UXO problem to raise resources and sustain progress on the ground.

Some months later, say, 2010, Legacies of War approached me about writing a letter to the State Department about UXO and getting State to be more forward leaning in order to devote more \$\$ to Laos from funds already allocated for UXO removal worldwide. I, in turn, offered to see if I couldn't reach out to former colleagues who had also been chiefs of mission who might be prepared to join me in sending a letter. I managed initially to contact five, I believe, who all eventually said they were prepared to sign a letter to help raise UXO awareness. Obviously, my motivation to reach out was that sending a letter from one lonely former ambassador, me, might easily be dismissed, but a letter with five or six signatures would carry much more weight (and harder to ignore). I worked on a draft, I sent it around, and we eventually got all five to agree to sign the letter urging State to up its \$\$ commitment to Laos.

Since that time, Legacies of War and I have collaborated further with a handful of calls on Hill staff to urge Congress to up the monies allocated to Laos.

Our next letter, in 2011, if I recall correctly, urged Secretary Clinton to visit Laos when we were picking up rumours that a visit might be possible. (This 2011 visit was ultimately postponed but finally did happen, as you know, this past July, 2012). The letter underscored the importance of her visit to help with the UXO problem. This last time I managed to get five other former chiefs of missions to sign. (the U.S. and Laos only resumed exchanging ambassadors in 1993. Consequently, previous to 1993, each government had permanent "*chargé d'affaires*" as chiefs of mission, a lower diplomatic designation).

We were all deeply gratified when Secretary Clinton herself decided to lead a delegation to Laos in July 2012, the first such visit since 1955 by a Secretary of State. To our delight, she visited a prosthesis shop in Vientiane during her brief visit and meet with a young man who had been badly injured by an UXO. Mrs Clinton clearly understood that there was a need here and she acted on it.

As for you final question (what do you think is the malaise in this 48 year old saga!), this is a broad question and it has several aspects to it. First, the UXO problem in Laos was long shrouded in secrecy given the fact that the U.S. would not acknowledge its role for many years even though the Ho Chi Minh bombing was an open secret. The ground war in Xieng Khouang supported by the CIA (where a lot of anti personnel bomblets/bombies were dropped) was mostly a taboo subject. By the 1990s, however, this began to change and the U.S.G began to put modest resources to the task, usually funding NGOs to do the clearance. We also began to seek Lao govt cooperation on POW/MIA work in country and the U.S.G needed to show it was interested in helping the Lao people address the UXO problem. Yes, I think initially the fact that it was a Communist government that remained largely uninterested in improving relations with the U.S.G through the 1980s and much of the 1990s did play some role in facilitating Washington's perception that the Lao government wasn't interested in help. This became a convenient excuse to do very little.

A second factor was that Americans desperately wanted to forget what had been an unpopular and painful war. With the Lao government still nominally hostile to the U.S. and uninterested in reaching out to their former enemy, it was quite easy simply to ignore the problem and move on. There was little appetite to allocate meaningful

funds to help a country that was hostile to U.S. Then, by 1990, Americans had the first Gulf war to focus on and the Vietnam War receded even further from active American memory.

Finally, a third factor, frankly, was that UXO clearance was never a high priority for the Lao government itself. The terrible UXO problem was mostly a phenomenon of the rural areas of Laos, not so much the urban areas where the central government was strongest (and lived). Yes, some provincial or municipal governments were concerned with UXO removal but the central government provided virtually no resources to fund such work. Consequently, many villages simply did the best they could with little or no training with very mixed results (and many accidents).

When I arrived in Laos in Sept 2001, and slowly began to learn about the enormity of the problem, I was struck by how the topic was virtually never raised by the Lao government with me or with any other foreign representatives. It simply wasn't a priority. Yes, the NGO UXO Lao had been created and funded with foreign support but it was not considered a government entity (although it could only function with government permission, of course) nor was it funded by the Lao government. When foreign funds grew scarce from year-to-year, UXO Lao periodically had to let its trained personnel go only to try to rehire and retrain its cadre of technicians two or three years later. As you can imagine, this undermined severely the organization's effectiveness.

As I neared the end of my tenure in 2004, I was pleased to join forces with the new UNDP rep (a Dane whose name now fails me) who early on took an active interest himself in trying to restore momentum to UXO removal. As the leading UN official, he was able to marshal greater 'international' support/funding. I, for my part, was able to get the U.S.G to help the UNDP do more with U.S. international contributions in addition to continuing modest U.S.G bilateral funds. Once I departed post and undertook another assignment, naturally my focus on the UXO issue faded. It only returned when I met up with Legacies of War.

From: Douglas A. Hartwick, Ambassador (2001-2004).⁵⁸⁶

Hartwick believed that the U.S. '... ought to help as much as we can'.⁵⁸⁷As Congressman McCloskey also hoped in 2010 '...that Secretary of State Hillary Clinton may be willing to champion their cause.'⁵⁸⁸

In July 2012 Hillary Clinton visited Laos she came away with the impression that it 'was still in the tight grip of its Communist Party, which it-self was increasingly under the economic and political control of China...' she further articulated that China had also taken '...advantage of the relationship to extract natural resources and push construction projects that did little for the average Laotian.' And that 'Laotians were still paying a terrible price for

⁵⁸⁶ Ambassador Hartwick correspondence with the author, email at 15.51, 27 November 2012.

⁵⁸⁷ Paul Wiseman, '30-Year-Old Bombs Still Very Deadly in Laos', *USA Today*, 12 November 2003.

⁵⁸⁸ United States: Congress.: House.: Committee on Foreign Affairs.: Subcommittee on Asia, the Pacific, and the Global Environment., 'Legacies of War', 6.

the extensive bombing the United States carried out over its territory during the Vietnam War.’ Her visit to the COPE visitor centre project (see Figure 62), supported by USAID, where help is provided in the form of prosthetics and rehabilitation for the thousands of adults and children still losing limbs from the cluster munitions that are found throughout the country ‘...only 1 percent of which had been found and deactivated. I thought the United States had an ongoing obligation and was encouraged that in 2012 Congress tripled funding to speed up the removal work.’⁵⁸⁹ Unfortunately, although the seriousness of the problem is acknowledged, she did not state a figure for this ‘ongoing obligation’.

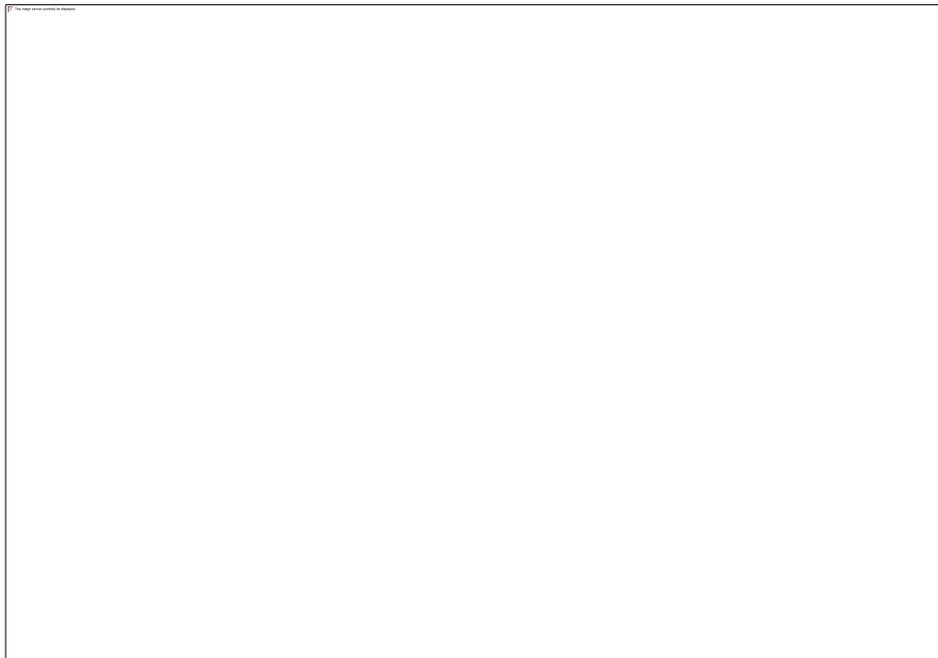


Figure 61. U.K. Foreign Secretary William Hague cutting the ribbon to open the UK embassy in Vientiane 5th November 2012, Lao Minister of Energy and Mines, Dr. Soulivong Daravong (right) and the new UK Ambassador to Laos, Mr Philip Malone (left).

The new embassy of the United Kingdom to Laos officially opened in Vientiane on the November 5, 2012, at the Don Chan Palace Hotel. Secretary of State for Foreign and Commonwealth Affairs of Great Britain and Northern Ireland, Rt. Hon. William Hague, aiming to improve relations between the people and governments of the two countries. He delivered the following speech at the embassy’s opening ceremony:

It is very important that we’re represented here in Laos. This is a country which enjoys strong economic growth and is, at the moment of course, chairing the Asia-

⁵⁸⁹ Hillary Rodham Clinton, *Hard Choices* (London UK: Simon and Schuster, 2014), 61.

Europe Meeting Summit. Laos and the UK established diplomatic relations on September 5, 1955. The original UK embassy to Laos was closed 27 years ago and moved to a base in Bangkok, Thailand. But last month the governments of Laos and the UK agreed to reopen embassies in each country's capital city.

We want to make sure there are closer links again between the people and government of Laos, and the people and government of the United Kingdom. And that's why it's a great pleasure to re-open the British embassy.

Regarding trade between the two countries, UK exports to Laos last year amounted to about 8 million GBP. Although that export volume was double that of the previous year, there is untapped potential in terms of trade and opening the embassy will help to boost relations.

By having an embassy here we will be able to encourage trade in both directions, which will help the jobs and businesses of both countries. The opening of the embassy in Laos is part of the UK's plan to establish embassies in all ten ASEAN member countries, aiming to intensify trade and diplomatic relations with the group and the member states. The UK will also be able to make sure it's well informed on, and maintains good links with, all aspects of ASEAN projects.⁵⁹⁰

The Lao Minister of Energy and Mines, Dr. Soulivong Daravong, welcomed U.K. Foreign Secretary William Hague and the new UK Ambassador to Laos, Mr Philip Malone. Mr Malone also added that 'Britain is now expecting to take a more active role, initially at this diplomatic level, by cementing relations.'⁵⁹¹

5.4. Current work and examples of individual NGOs and their programme of UXO clearance

With so many competing international humanitarian imperatives, why should dealing with the effects of cluster munitions be a priority for government and civil society? Mainly because of the far-reaching impact that EOD clearance has on poverty reduction and sustainable development.⁵⁹² The following is an example of some of the projects (See Appendix G for full details).

⁵⁹⁰ Stenographic record by the author, who was introduced to Foreign Secretary William Hague and Ambassador Philip Malone. The author mentioned her research on UXO and received much encouragement.

⁵⁹¹ At the event the U.S. Ambassador Karen Stewart mentioned to the author that she recalled the fact when the U.K. embassy closed, and was pleased to see that it had returned.

⁵⁹² John Borrie and Rosy Cave, 'The Humanitarian Effects of Cluster Munitions: Why Should We Worry?', in *Disarmament Forum*, vol. 2006, 2006, 11, http://kms1.isn.ethz.ch/serviceengine/Files/ISN/46915/ichaptersection_singledocument/CA9A52A7-1384-4451-86B1-2F86FD261A0A/en/3_The+humanitarian+aspect+of+cluster+munitions.pdf.

The National Regulatory Authority for UXO/Mine Action Sector in Lao PDR needs to implement the NRA Strategy ‘Safe Path Forward II’ and requires a minimum project budget of \$2,000,000.

CARE International in Lao PDR – Sekong Office – has an ongoing project reducing UXO Risk and Improving Livelihood of Ethnic Communities.

Catholic Relief Services Integrated Trauma Care and Mine Risk Education in High Risk Communities is promoting Victim’s Assistance and Mine Risk Education, with a proposed budget of \$267,553 (\$136,750 Year One; \$130,803 Year Two). World Vision Laos has a three year project running in Khammouane Province at a proposed budget of \$868,640, but the author was informed in January 2013, that there was a funding gap of \$579,500.

Handicap International has several continuous projects including the Ban Advocates, Advocacy on the Convention of Cluster Munitions, involving a group of survivors from Laos. This project requires \$50,000 per year from 2012 through to 2016. Together with their ‘Safe Steps Forward: Integrated UXO Threat Reduction and Impact Mitigation’ project which is ongoing and requires \$5.5 million. Plus their programme for Improving access to livelihood services for 1500 UXO survivors, persons with disabilities and their family and strengthening overall coordination of Victim Assistance, which requires 900,000 Euros.

The World Education Laos programme requires \$260,000 for on-going projects to fund 50-100 UXO accident survivors, together with their Quality of Life for UXO Survivors. Other workshops in Laos have also been working on motor cycle helmet safety through the global road safety⁵⁹³ partnership.⁵⁹⁴

5.4.1. Mining and Hydropower Industry in Laos

The major growth sector in Laos is the mining industry. The main administrative authorities for the mining industry are Water Resources⁵⁹⁵ and Environment Agency and Department of Geology and Mining, which is part of the Ministry of Energy and Mining. The Ministry issues exploration and mining licences and maintains the environmental protection by providing information and regulations for environmental protection, to encourage investors to

⁵⁹³ Peter Warr, ‘How Road Improvement Reduces Poverty: The Case of Laos’, *Agricultural Economics* 39, no. 3 (2008): 269–79; Peter Warr, ‘Roads and Poverty in Rural Laos: An Econometric Analysis’, *Pacific Economic Review* 15, no. 1 (2010): 152–69.

⁵⁹⁴ ‘Helmet Action Plan Workshops—Laos and Vietnam’, *Injury Prevention* 13, no. 2 (April 2007): 85–86.

⁵⁹⁵ Maarit Virtanen, ‘Foreign Direct Investment and Hydropower in Lao PDR: The Theun-Hinboun Hydropower Project’, *Corporate Social Responsibility and Environmental Management* 13, no. 4 (2006): 183.

recognise the importance of the environment and of land degradation.⁵⁹⁶ The potential mining gains outweigh any problems.⁵⁹⁷ (For an example of mining concessions in southern Laos see Appendix D).

Much has happened in mineral exploration in the last ten years but information is not liberally given out by the mineral-mining companies. The Raw Materials Group in Stockholm⁵⁹⁸ is the best informant, but information is at a price since they operate commercially. However, they have provided information to the mass media internationally, but never detailed information. The Lao Government has received information from each mining company operating in Laos, but has probably guaranteed each company not to make its information public. All geologists in Laos are working for mineral/mining companies and government agencies. General geology is not even taught at Lao universities and colleges: everything is related specifically to mineral deposits and their exploitation.⁵⁹⁹ Between 2003 and 2011, total government revenue increased from 11% to 19% of gross domestic product, due almost entirely to revenues derived from mining and hydropower.⁶⁰⁰ But Laos still faces a budget deficit.⁶⁰¹

5.5. The role of technology and robots⁶⁰²

Chris Horwood's seminal work on Humanitarian Mine Action (HMA) states that this 'new sector in humanitarian aid' has a relatively short history, dating back to the late 1980s, when the first attempts to address landmines as a humanitarian problem were initiated in Afghanistan. Efforts to mitigate the effects of landmines and unexploded ordnance had traditionally been considered a security task under the domain of the military but the humanitarian aspects have been increasingly emphasised and humanitarian actors play increasingly central roles.⁶⁰³ Horwood's book contributes to demystification of EOD,

⁵⁹⁶ G. Lestrelin and M. Giordano, 'Upland Development Policy, Livelihood Change and Land Degradation: Interactions from a Laotian Village', *Land Degradation & Development* 18, no. 1 (2007): 55.

⁵⁹⁷ Allen L. Clark, James P. Dorian, and Wayne A. Hudders, 'Mineral Development Prospects of the Indochina Area', *Natural Resources Forum* 15, no. 1 (1991): 26.

⁵⁹⁸ 'Raw Materials Group Consulting Services', accessed 10 September 2013, <http://intierrarmg.com/Products/RawMaterialsGroupConsulting.aspx> Rio Tinto are expecting Bauxite concessions in Laos. 'Rio Tinto - Annual Review 2012', 2012, <http://www.riotinto.com/annualreview2012/>.

⁵⁹⁹ Sven Laufeld, various meetings in Vientiane, September 2012-February 2013.

⁶⁰⁰ Jayant Menon and Peter Warr, 'The Lao Economy: Capitalizing on Natural Resource Exports', *Asian Economic Policy Review* 8, no. 1 (2013): 70, doi:10.1111/aepr.12006.

⁶⁰¹ Phouphet Kyophilavong, 'Comment on "The Lao Economy: Capitalizing on Natural Resource Exports"', *Asian Economic Policy Review* 8, no. 1 (2013): 91, doi:10.1111/aepr.12007.

⁶⁰² Robert Bogue, 'Detecting Mines and IEDs: What Are the Prospects for Robots?', *Industrial Robot: An International Journal* 38, no. 5 (23 August 2011): 456–60, doi:10.1108/01439911111153992.

⁶⁰³ Chris Horwood, *Humanitarian Mine Action: The First Decade of a New Sector in Humanitarian Aid* (Overseas Development Institute, 2000), 1–48, www.odihpn.org/documents/networkpaper032.pdf.

providing informative perspectives on mine action and its practical components. It dispels what Andy Smith, a deminer who maintains a database of demining accidents, has suggested is a self-perpetuating myth of demining as a specialised ‘black art’.⁶⁰⁴

In 1997, when James Trevelyan examined the feasibility of using robots for demining, there was little likelihood of solving the global land-mine problem in this way. The proposed robotic solutions were too expensive to be practical for humanitarian demining operations in countries like Angola, Afghanistan and Cambodia.⁶⁰⁵

By 2004 UXO Lao was acquiring the German made Vallon VMXC1 detector, of which (2014) it has 40. This detector has the ability to discriminate metal sizes. Conventional detectors detect very tiny pieces of metal and slow down clearance work. The Vallon VMXC1 detects pieces of metal that are at least half a bombie (BLU-26) with fuze in size and ignores smaller pieces. As the detector allows faster clearance work, UXO Lao can therefore clear more land of UXO, even exceeding the Lao Government’s UXO clearance targets. Other detectors in use at the time of writing are seven Ebinger 421 Detector, six Minelab F3S Detectors and ten of the Large Loop Upex 740M. UXO Lao needed 400 units to replace its existing detector inventory but at more than, as of 2004, U.S. \$3,800 per unit, UXO Lao was limited by available funding, a problem which persists.

But more recently, as the cost of robotic systems has fallen and the ability to collect and process data has increased exponentially, robotic solutions have become more feasible. Less expensive metal detectors and robotic solutions may become feasible given the quantum changes in sensors and information processing expected to take place in the near future. The U.S. National Intelligence Council’s Global Trends report draws attention to the exponential increase in data, combined with the emerging capabilities to analyze and correlate it, will give unprecedented capabilities to individuals and connected networks in nearly every part of the world well before 2030. The use of IT will accelerate due to three projected trends: a 95 percent drop in computer memory cost, a reduction in raw data storage costs to one hundredth of the current price, and a network efficiency increase by more than a factor of 200. In addition, technological developments will provide individuals and groups with new capabilities as the use of IT proliferates with cloud architecture, mobile devices, and cheap

⁶⁰⁴ Andy V Smith, ‘What Use Is a Database of Accidents’, accessed 18 January 2010, <http://www.nolandmines.com/PaperonDDAS2002.htm>.

⁶⁰⁵ James Trevelyan, ‘Robots and Landmines’, *Industrial Robot: An International Journal* 24, no. 2 (1 April 1997): 114–25, doi:10.1108/01439919710165635.

digital storage means nearly all data will be archived indefinitely. Information will be ‘smart’ about itself –indexed, categorized, and richly tagged upon collection so that it can be easily analyzed later. Bots will have programs that run automated tasks in the Internet connected world, and could become as prevalent as robotics in the industrial world. Although bots are best known for their use in hacking and disruptive activities, they can be used for any purpose. When combined with massive data, bots could manage complex and persistent tasks on behalf of individuals and networked groups.⁶⁰⁶

China may also play an important role here. China wants land in Laos used to produce crops to feed its burgeoning population. The menace of UXO may be cleared eventually when China, translating its economic influence in to political influence, supplies every farmer with reliable, cheap metal detectors. And China could invest in more advanced technology. This is likely to include robotics – especially those produced in South Korea. Such robotics are becoming more affordable. Ground Penetrating Radar (GPR), which has better penetration in dry soil than wet, will assist this process.⁶⁰⁷ Ultra-sound radar or sonar should pick up anomalies in the ground, perhaps, deployed on small Unmanned Autonomous Vehicles (UAVs). If China can effectively make money from the land, the land cleared of UXO obviously has an economic value to it. China can train teams of Laotians to clear the land and then employ the local agrarian population to grow rice and other crops for Chinese consumption. The Laotians have lacked investment in education, and are significantly cheaper to employ than Chinese. Therefore, China will ‘win’ in the end, and without western aid. The prospect of Chinese aid does not unduly alarm the Laotians. The somewhat artificial distinction - or alliance – between democracy and capitalism is a western philosophy. Socialism is more akin to Buddhist philosophy, in that it emphasizes the good of all over the good of the individual.

Mine sweeping is a highly dangerous task, and safety is sought by automatic rigs, with remote steering and control.⁶⁰⁸ The robotic solutions are split into two kinds of ‘mobility

⁶⁰⁶ *Global Trends 2030: Alternative Worlds* (United States: National Intelligence Council, December 2012), 50–52, www.dni.gov/nic/globaltrends.

⁶⁰⁷ Mohamed Metwaly, Ahmed Ismail, and Jun Matsushima, ‘Evaluating Some Factors That Affect Feasibility of using Ground Penetrating Radar for Landmine Detection’, *Applied Geophysics* 4, no. 3 (August 2007): 221, doi:10.1007/s11770-007-0026-7; Richard Haddlesey, ‘How Ground Penetrating Radar (GPR) Works’, *English Medieval Carpentry & Digital Archaeology*, 13 September 2009, online, [http://www.medievalarchitecture.net/blog/index.php/2009/09/how-ground-penetrating-radar-works/\(08/05/2011\)](http://www.medievalarchitecture.net/blog/index.php/2009/09/how-ground-penetrating-radar-works/(08/05/2011)).

⁶⁰⁸ K.T. Manjula Udayanga Hemapala, ‘Effects of Landmines on Sri Lanka’, accessed 5 August 2013, <http://www.maic.jmu.edu/journal/10.2/notes/hemapala/hemapala.htm>.

enablers' – automotive vehicles and towed platforms. The latter may include modified standard agricultural machinery that can then be adapted to use demining tools, with replaceable parts, when chains, flails and blades have been destroyed. But, at the time of writing, unmanned⁶⁰⁹ mine-clearing remains largely the preserve of industrialised countries' armies, for use where those forces are deployed. Further research is necessary to ensure that such devices are practicable for use in third-world countries,⁶¹⁰ including work on irregular terrain where vegetation may need to be cleared, and to ensure that the area to be cleared is free from obstacles.⁶¹¹ A promising option is the dual-arm mobile manipulator that can autonomously scan natural terrain using a typical handheld landmine detector in a manner similar to a human operator. This is a terrain-scanning robot that consists of two articulated arms mounted on an off-road remotely operated vehicle. One arm carries a laser and four ultrasonic rangefinders to build a terrain map. The map is used in real time to generate an obstacle-free path for the second arm that manipulates the landmine detector autonomously. The arms are mounted on the vehicle that is controlled by an operator from a safe distance. Motion planning and control of the robot is carried out using an embedded computer that is linked to a host computer to transmit the detector data and operator commands. The terrain-scanning robot can effectively manipulate a relatively large landmine detector on rugged terrain with undulations and obstacles. Technology, together with state-of-the-art landmine sensors, will offer a safe solution for detecting hidden landmines and clearing them from the post-war countries. The concept is of a dual-arm for use in off-road missions and civilian areas where truck-mounted detectors are inefficient.⁶¹²

Humanitarian de-mining tasks require the use of specific detecting sets to detect landmines.⁶¹³ These sets are normally based on a one-point sensor, which must be moved over the infested terrain by a combination of a scanning manipulator and a mobile platform.

⁶⁰⁹ C.P. Gooneratne, S.C. Mukhopahyay, and G. Sen Gupta, 'A Review of Sensing Technologies for Landmine Detection: Unmanned Vehicle Based Approach', in *2nd International Conference on Autonomous Robots and Agents* (Palmerston North, New Zealand, 2004), http://www-ist.massey.ac.nz/conferences/ICARA2004/files/Papers/Paper70_ICARA2004_401_407.pdf.

⁶¹⁰ Manjula Hemapala et al., 'Humanitarian Demining: Path Planning and Remote Robotic Sweeping', *Industrial Robot: An International Journal* 36, no. 2 (6 March 2009): 146–56, doi:10.1108/01439910910932603.

⁶¹¹ J. A. Cobano, R. Ponticelli, and P. Gonzalez de Santos, 'Mobile Robotic System for Detection and Location of Antipersonnel Land Mines: Field Tests', *Industrial Robot: An International Journal* 35, no. 6 (17 October 2008): 520–27, doi:10.1108/01439910810909510.

⁶¹² Homayoun Najjaran and Andrew A. Goldenberg, 'Landmine Detection Using an Autonomous Terrain-Scanning Robot', *Industrial Robot: An International Journal* 32, no. 3 (1 June 2005): 240–47, doi:10.1108/01439910510593938.

⁶¹³ Joonki Paik, Cheolha P. Lee, and Mongi A. Abidi, 'Image Processing-Based Mine Detection Techniques: A Review', *Subsurface Sensing Technologies and Applications* 3, no. 3 (1 July 2002): 153–202, doi:10.1023/A:1020399314530.

The machine must negotiate ground irregularities and detect obstacles in the path of the mine-detecting set. All of the sensors must be integrated into a sensor head that is in charge of both detecting land mines and providing overall sensor functions for the mobile platform's steering controller. The sensor head is based on a commercial mine-detecting set and a ground-tracking set based on a network of range sensors tailor-made for this purpose.⁶¹⁴ Another issue of great importance in field applications is reducing energy consumption in walking robots for humanitarian demining so as to increase mission time for a given power supply.⁶¹⁵ Some of the requirements of the robotic systems for humanitarian demining purposes are being developed at the Royal Military Academy of Brussels in collaboration with the Free University of Brussels, Belgium, in the framework of the Humanitarian Demining Project. A successful walking robot design for demining purposes must consider functional requirements relevant to this difficult application.⁶¹⁶

The deminers operating these machines remotely will need to be well-trained.⁶¹⁷ Detection of landmines using electromagnetic induction (EMI) techniques is well established and a range of metal detectors is commercially available. Recent developments using dual sensor technology combining EMI and ground penetrating radar (GPR) have enabled improved discrimination against small metal fragments to be demonstrated in live minefields. Compared with the standard metal detectors, the dual sensor technology has achieved seven times better discrimination between live, whole UXO and inert remnants of ordnance which has exploded. These systems, which are hand-held, include the UK-German MINEHOUND/VMR2 and, now, the VMR3 system and the U.S. AN/PSS-14 (formerly HSTAMIDS: Handheld Standoff Mine Detection System). Airborne systems have also been trialled, but as yet have some way to go to deliver useful performance. End user expectations in terms of performance are challenging and at present only the hand held detectors are approaching these needs. A key issue in comparing the published results of controlled trials relates to statistics of the depth of cover, the soil propagation characteristics, and the type of landmine, the sample size, the physical placement of the landmine as well as the

⁶¹⁴ R. Ponticelli et al., 'A Scanning Robotic System for Humanitarian De-Mining Activities', *Industrial Robot: An International Journal* 35, no. 2 (7 March 2008): 133–42, doi:10.1108/01439910810854629.

⁶¹⁵ D. Sanz-Merodio, E. Garcia, and P. Gonzalez-de-Santos, 'Analyzing Energy-Efficient Configurations in Hexapod Robots for Demining Applications', *Industrial Robot: An International Journal* 39, no. 4 (15 June 2012): 357–64, doi:10.1108/01439911211227926.

⁶¹⁶ Ioan Doroftei and Yvan Baudoin, 'A Concept of Walking Robot for Humanitarian Demining', *Industrial Robot: An International Journal* 39, no. 5 (17 August 2012): 441–49, doi:10.1108/01439911211249733.

⁶¹⁷ Roemi Fernández et al., 'Design of a Training Tool for Improving the Use of Hand-Held Detectors in Humanitarian Demining', *Industrial Robot: An International Journal* 39, no. 5 (17 August 2012): 450–63, doi:10.1108/01439911211249742.

characteristics of the clutter. Daniels highlights the future engineering challenges to achieve not only detection but recognition and identification using GPR.⁶¹⁸ Despite the ongoing research the main detection methods used⁶¹⁹ are frequently a combination of three techniques; mechanical means for exploding mines without actually locating them, by activating their own triggering mechanisms – that is mechanical flails and ploughs; physical detection of mines based on metal detectors or on actual contact by hand prodding and methods based on the detection of vapours leaking from mines.⁶²⁰

A British military robot the ‘Dragon Runner’ helps to keep experts safe, as the robot sends video footage back to the operator’s handheld device. When configured with a manipulator arm and a robot hand, Dragon Runner can dig around the UXO, pick them up and move them.⁶²¹

⁶¹⁸ David J. Daniels, ‘Ground Penetrating Radar for Buried Landmine and IED Detection’, in *Unexploded Ordnance Detection and Mitigation*, ed. Jim Byrnes, NATO Science for Peace and Security Series B: Physics and Biophysics (Springer Netherlands, 2009), 89–111, http://link.springer.com/chapter/10.1007/978-1-4020-9253-4_4.

⁶¹⁹ Riccardo Cassinis Landmine Detection Methods using Swarms of Simple Robots. In Enrico Pagello, ed., *Intelligent Autonomous Systems 6* (The Netherlands: IOS Press, 2000), 213.

⁶²⁰ F. Moukalled et al., ‘Numerical and Experimental Investigation of Thermal Signatures of Buried Landmines in Dry Soil’, *Journal of Heat Transfer* 128, no. 5 (25 October 2005): 484–94, doi:10.1115/1.2176681; F. Moukalled et al., ‘Heat and Mass Transfer in Moist Soil, Part II. Application to Predicting Thermal Signatures of Buried Landmines’, *Numerical Heat Transfer, Part B: Fundamentals* 49, no. 5 (2006): 487–512, doi:10.1080/10407790500510965; J. Stepanić Jr. et al., ‘Contribution to Classification of Buried Objects Based on Acoustic Impedance Matching’, *Ultrasonics* 41, no. 2 (March 2003): 115–23, doi:10.1016/S0041-624X(02)00431-6; K.M. Smits et al., ‘Soil Moisture and Thermal Behavior in the Vicinity of Buried Objects Affecting Remote Sensing Detection: Experimental and Modeling Investigation’, *IEEE Transactions on Geoscience and Remote Sensing* 51, no. 5 (May 2013): 2675–88, doi:10.1109/TGRS.2012.2214485; Maik Irrazábal, Samuel P. Hernández-Rivera, and Julio G. Briano, ‘Modeling of TNT Transport from Landmines: Numerical Approach’, *Chemosphere* 77, no. 4 (October 2009): 546–51, doi:10.1016/j.chemosphere.2009.07.008; Charles Beumier et al., ‘Motion Estimation of a Hand-Held Mine Detector’ (presented at the IEEE Benelux Signal Processing Symposium, Hilvarenbeek, the Netherlands, 2000), 1–4; O. Manolov et al., ‘GARD - An Intelligent System for Distributed Exploration of Landmine Fields Simulated by a Team of Khepera Robots’, vol. 1 (presented at the Automatics and Informatics ’03, Sofia, Bulgaria, 2003), 199–202; Rayn Terin Tatsuma Sakaguchi, ‘Image Processing Methods Applied to Landmine Detection in Ground Penetrating Radar’, (Thesis, 2013), <http://dukespace.lib.duke.edu/dspace/handle/10161/7318>; B. Nath and A. Bhuiyan, ‘A Geometrical Feature Based Sensor Fusion Model of GPR and IR for the Detection and Classification of Anti-Personnel Mines’, in *Seventh International Conference on Intelligent Systems Design and Applications, 2007. ISDA 2007*, 2007, 849–56, doi:10.1109/ISDA.2007.21; Baikunth Nath and Alauddin Bhuiyan, ‘A Sensor Fusion Model for the Detection and Classification of Anti-Personnel Mines’, *International Journal of Innovative Computing and Applications* 2, no. 1 (1 January 2009): 45–59, doi:10.1504/IJICA.2009.027996; Lahiru G. Jayatilaka, ‘Visualizing Patterns: Decision Support for Human-Based Demining’ (Harvard College, 2010); Vyacheslav Aranchuk, James Sabatier, and W. C. Kirkpatrick Alberts, ‘Acoustic Detection of Buried Landmines Using Pulsed ESPI’, *Noise & Vibration Worldwide* 37, no. 9 (1 October 2006): 10–17, doi:10.1260/095745606779319741.

⁶²¹ Crispin Andrews, ‘How To... Defuse a Bomb’, *Engineering and Technology Magazine*, 21 January 2013, <http://eandt.theiet.org/magazine/2013/01/how-to-defuse-bomb.cfm>.

Whilst there is clearly great potential for robots to help clear UXO, they are still too expensive to deal comprehensively with a problem on the vast scale of that in Laos with its estimated 80 million unexploded devices. At the time of writing, in 2014, robots have not been used effectively. Unless there is vast investment in technology and the associated training, relatively conventional means, operated and targeted by local people, will have to be used to do the brunt of the work.

Chapter 6. Prospects for Development

In 2014 the Lao President, Choummali Saignason, retained widespread support. In a May 2012 Gallup poll he had achieved a 97 percent public approval rating for his job performance and was re-elected by the country's National Assembly.⁶²² That response may possibly be derived from the seven percent target or better growth rate since 2008 and providing economic stability. The communist government that came to power in 1975 had designed an economic framework that mirrored the planned economy of the Soviet Union which included an emphasis on state-owned enterprises and barriers to trade. These fiscal policies damaged the economy and by 1986 the Lao government introduced reforms that included market-based pricing of goods, encouraged growth of the private sector and private ownership of farmland, even though only five percent of the land is capable of cultivation, approximately 80 percent of the workforce relies on subsistence farming.⁶²³

The reliance on subsistence farming is one reason why dealing with the EOD problem is so vital. The Lao government, with international support, is creating a comprehensive national database to consolidate different data sets and accurate up-to-date information on the scope of the contamination, this has continued to reveal the extent of the problem. The UNDP considers EOD action is the absolute precondition for the socioeconomic development of Laos, and that the main engines of growth; economic opportunities in tourism, hydro-electric power,⁶²⁴ mining, forestry and other areas of activity⁶²⁵ are restricted, complicated and made more expensive because of the UXO problem. The U.S. goal is to help Laos become as impact-free of its explosive contamination as possible. The international support has vastly reduced casualty levels.

⁶²² Melanie Standish, 'Southeast Asian Leaders Earn Highest Job Approval in Asia', *Gallup World*, 11 May 2012, <http://www.gallup.com/poll/154625/Southeast-Asian-Leaders-Earn-Highest-Job-Approval-Asia.aspx>.

⁶²³ Naurath, 'Despite Struggling Economy, Extreme Optimism in Laos'.

⁶²⁴ Sari Jusi, 'Challenges in Developing Sustainable Hydropower in Lao PDR', *International Journal of Development Issues* 10, no. 3 (20 September 2011): 251–67, doi:10.1108/14468951111165377; Sari Jusi and Maarit Virtanen, 'Irrigation Management Transfer in Lao PDR: Issues and Prospects', *International Journal of Development Issues* 4, no. 2 (31 December 2005): 21–38, doi:10.1108/eb045852; Sarinda Singh, 'World Bank-Directed Development? Negotiating Participation in the Nam Theun 2 Hydropower Project in Laos', *Development and Change* 40, no. 3 (2009): 487, doi:10.1111/j.1467-7660.2009.01562.x.

⁶²⁵ Sengaloun Inmyxai and Yoshi Takahashi, 'Firm Resources and Business Performance in the Lao PDR: Implications for SMEs in the LDC Context', *Journal of Indian Business Research* 1, no. 2/3 (5 June 2009): 163–87, doi:10.1108/17554190911005345.

With regard to relations between Thailand and Laos⁶²⁶, the first bridge across the Mekong River in Northeast Thailand was built in 1994 to connect the Thai province of Nong Khai to Vientiane, the capital of Laos. This first bridge has become the most significant source of visitors to Laos. The second bridge across the Mekong was completed in 2006 to link the north-eastern Thai province (Mukdaharn) and the western Laotian province of Suvannakhet. The bridge is part of the East-West economic corridor that connects Myanmar, Thailand, Laos and Vietnam to promote tourism, trade and investment. A map of the corridor is shown in Figure 7. Greater Mekong Subregion Economic Corridors.⁶²⁷ These infrastructure improvements will strengthen the transportation links among the countries in the Greater Mekong Subregion; Cambodia, the People's Republic of China, Lao PDR, Myanmar, Thailand and Vietnam.⁶²⁸ This will form one of the Greater Mekong Subregions, which together with deepening integration and trade, will help reduce poverty in the region.⁶²⁹ This economic corridor could potentially greatly improve and expedite response to any disaster, on either coast or in-between. However, the current existence of massive cross-border migration⁶³⁰ is likely to facilitate both the transmission and geographical spread of HIV/AIDS throughout the Mekong Basin and beyond⁶³¹ and trafficking in persons.⁶³² The Greater Mekong Subregion East-West Economic corridor is shown in red and the other principal corridors in purple.

Oxfam says in its report *21st Century Aid: Recognizing Success and Tackling Failure*,⁶³³ that although billions of U.S. dollars have been wasted on corrupt and ineffective foreign-aid

⁶²⁶ MacAlister Brown, 'Anatomy of a Border Dispute: Laos and Thailand', *Pacific Focus* 2, no. 2 (1987): 5.

⁶²⁷ ADB, 'Greater Mekong Subregion Economic Corridors', Economic Map (Southeast Asia: ADB, 2008), online, GMS, <http://www.adb.org/GMS/Economic-Corridors/map-ewec.pdf>.

⁶²⁸ Siriporn McDowall and Youcheng Wang, 'An Analysis of International Tourism Development in Thailand: 1994–2007', *Asia Pacific Journal of Tourism Research* 14, no. 4 (2009): 361, doi:10.1080/10941660903023952.

⁶²⁹ Vaudine England, 'Asia Takes First Step on Modern "Silk Route"', *BBC*, 22 June 2009, sec. Asia-Pacific, <http://news.bbc.co.uk/1/hi/world/asia-pacific/8102422.stm>; ACC, 'Asia Takes First Step on Modern "Silk Road" - East-West Corridor and Greater Mekong Subregion', Government, *American Chamber of Commerce in Vietnam*, (22 January 2009), online, <http://www.amchamvietnam.com/?id=2954>.

⁶³⁰ Jonathan Rigg, 'Moving Lives: Migration and Livelihoods in the Lao PDR', *Population, Space and Place* 13, no. 3 (2007): 163; Jeremy Hein, 'Indochina, Migration Mid-20th Century to Present', in *The Encyclopedia of Global Human Migration* (Blackwell Publishing Ltd, 2013), <http://onlinelibrary.wiley.com/doi/10.1002/9781444351071.wbeghm298/abstract>.

⁶³¹ Grundy-Warr, King, and Risser, 'Cross-Border Migration, Trafficking and the Sex Industry: Thailand and Its Neighbours', 93.

⁶³² Sverre Molland, "'The Perfect Business": Human Trafficking and Lao-Thai Cross-Border Migration.', *Development and Change* 41, no. 5 (2010): 831.

⁶³³ Jasmine Burnley, *21st Century Aid: Recognising Success and Tackling Failure* (Oxfam International, May 2010).

programmes, rich countries must fix such flaws and increase their spending on development aid. ‘Aid is touched by corruption’ the report admits, ‘... aid dependency is an issue that needs attention’ Dambisa Moyo, the influential Zambian aid critic, has argued that foreign aid leads to economic dependency and laziness in recipient countries. Oxfam’s report is in part agreement. It admits

It is true that not all aid works, and that a lot of it could work better...[but] pulling the plug on aid now, or even in five or 10 years time, would almost certainly result in vast increases in poverty, the collapse of burgeoning health and education systems, and major reverses in the progress that has been made.⁶³⁴

Governments and donor agencies such as the United Nations aim to make aid funding more predictable, so recipient countries can plan better. Aid should be given directly to governments in developing countries, with strict transparency and accountability conditions requiring the money to be used to pay for public services such as health, education and agriculture. Oxfam stresses that good quality 21st century aid not only saves lives, but is indispensable in unlocking poor countries’ and people’s ability to work their own way out of poverty.⁶³⁵ In 1970, governments committed to the United Nations target of 0.7 percent target of gross national income for aid. The shortfall of aid has not been provided and now amount to over U.S. \$3 trillion. By 2009, the only countries to reach or exceed the UN target were Denmark, Luxembourg, the Netherlands, Norway, and Sweden. If governments had provided what they committed to in 1970, extreme poverty (at 2005 levels) could now have been ended 22 times over. On current trends, donors will not hit the 0.7 percent target until 2050.⁶³⁶

The UN millennium project says that Thailand is on track to meet the Goals for income poverty, hunger, child mortality, and gender equality but Lao PDR is struggling to advance. In Laos school enrolment rates have stagnated and need to increase more quickly to achieve the universal primary education target. Other obstacles to achieving the Goals include rising numbers of people infected with HIV and TB, high maternal mortality, rapid deforestation and destruction of coastal and marine environments, and low rural access to water supply and sanitation. The UN millennium development goals (MDG) aid strategy is for self-sustaining growth. To be adequate for a country in a poverty trap development, assistance needs to support proper investments at a level sufficient to get capital accumulation ahead of

⁶³⁴ Ibid.

⁶³⁵ Ibid., 1–58.

⁶³⁶ Ibid., 5.

population growth and depreciation. A big push of aid-supported investment that puts the country on a path of increased savings and self-propelling growth is far more efficient than low quantities of aid that do not change the fundamental growth potential of the economy. The key insight is that it will be much cheaper for the donors to frontload their aid over 2005-15 to raise each low-income country to the point of self-sustaining growth as rapidly as possible – rather than to continue to dribble out aid in small measures for several decades. If aid – even well targeted aid – is so small that the country’s infrastructure and human capital are persistently insufficient, growth will never take off in a self-sustaining manner, and aid will remain a handout rather than a solution to the poverty trap.⁶³⁷

There is an ongoing discussion among critics of aid about alternative approaches that developing countries could or should adopt, instead of accepting aid. These include encouraging foreign direct investment in the country, and a more effective collection of taxes. Both alternatives have their merits, especially in theory, but putting them into practice is difficult on a number of levels, and the degree of effectiveness of each is limited. Foreign direct investment does indeed help a developing economy expand, but only when it is on such a scale that it permits a transformation of the country’s finances. In other words it does not generate enough funds within the country to make it self-sufficient in providing necessary infrastructure and services to its people. And the issue of tax collection is a complicated one, depending as it does on the government having the political will to collect taxes from the elite. There is often a substantial overlap between the government and the elite and the business community, so that often in developing countries, taxes are not imposed, or at least not effectively collected. In addition, as is pointed out in Oxfam’s *21st Century Aid* report:

But even with good tax collection, few if any developing countries can currently finance essential services without additional support from outside....And making the most of mobilising domestic sources of revenue to finance development also means helping developing countries tackle the unfair or illegal corporate practices of tax evasion and avoidance that drain them of resources, and which so many rich countries are complicit in upholding.⁶³⁸

It seems more fruitful, rather than abandoning the idea of aid as some critics have proposed, to instead ensure that aid is given in the most useful form. That means that it should assist in building infrastructure, both physical and human (education for example, and health care networks), and in encouraging progressive taxation and other institutional reforms that would

⁶³⁷ ‘United Nations Millennium Development Goals’, 2010, <http://www.un.org/millenniumgoals/>.

⁶³⁸ Burnley, *21st Century Aid: Recognising Success and Tackling Failure*, 4–5.

be able to strengthen the economic and political structures and so help to draw the country into modernity and self-sufficiency.

Joseph Nye developed the concept of ‘soft power’ – that the United States was the strongest nation not only in military and economic power, but also in a third dimension he called soft power, although the nature of power has changed and that the real – and unprecedented – challenge was managing the transition to growing global independence.⁶³⁹

It is the ability to get what you want through attraction rather than coercion or payments. It arises from the attractiveness of a country’s culture, political ideals, and policies...When you can get others to admire your ideals and to want what you want, you do not have to spend as much on sticks and carrots to move them in your direction. Seduction is always more effective than coercion, and many values like democracy, human rights, and individual opportunities are deeply seductive.⁶⁴⁰

The Lao regime has no partnering with civil society and has a completely inadequate civil service and judiciary, and on the whole has a less literate society than Thailand. There is little private economic growth to support the development of democratic political institutions as in Thailand, which has a public administration, a functioning civil service and judiciary, and a relatively free media. But Thailand, too, lacks proper information technology for registration of property or transparency in procurement.

China, an upstream state and a regional hegemonic in the Mekong River Basin,⁶⁴¹ is commonly viewed as unilaterally exploiting water resources, irrespective of downstream states (Myanmar, Thailand, Laos, Vietnam, and Cambodia). This view is derived mainly from China's unilateral exploitation of the upper watershed for hydroelectricity and navigation, raising concerns about negative socio-ecological impacts on the downstream states.⁶⁴² China is gradually getting involved in negotiations and processes with the downstream states, compromising with them little by little. Indications of this policy shift include signing agreements for hydrological data exchange, confidence-building with co-riparians⁶⁴³ in the Dialogue Meeting of the Mekong River Commission, and multinational negotiation with co-riparians in frame working of regional institutions, but it would appear

⁶³⁹ Nye, *Bound to Lead*, X.

⁶⁴⁰ Joseph S. Nye, *Soft Power: The Means to Success in World Politics*, New edition (PublicAffairs,U.S., 2005), X.

⁶⁴¹ G. Lacombe et al., ‘Conflict, Migration and Land-Cover Changes in Indochina: A Hydrological Assessment’, *Ecohydrology* 3, no. 4 (2010): 382, doi:10.1002/eco.166.

⁶⁴² Jean-Pierre A. Verbiest, ‘Regional Cooperation and Integration in the Mekong Region’, *Asian Economic Policy Review* 8, no. 1 (2013): 148.

⁶⁴³ Scott W.D. Pearse-Smith, “‘Water War’ in the Mekong Basin?” *Asia Pacific Viewpoint* 53, no. 2 (2012): 147.

that China is not fully enjoying its superior resources or its superior riparian position, contrary to the common view.⁶⁴⁴

In post-conflict countries, reliable information is poor, in part because governments face unusual incentives to misrepresent information. In these conditions, firms look to signals. One of which is development aid, because donors tend to give more to countries they trust to properly handle the funds. Aid seems to draw foreign direct investment, but this is conditional on whether the aid can be considered geostrategically motivated and this effect decreases as time elapses after the conflict. This suggests that aid's signalling effect is specific to low-information environments.⁶⁴⁵

As Hutton points out:

...industrialization also represents a goal (or ideal) of lagging states within the region, such as Laos, Burma and North Korea, although the realization of these industrial aspirations has been seriously impeded by a prejudicial *melange* of factors including war, flawed development models, government corruption and administrative incompetence, lack of capital and other resources, and isolation.⁶⁴⁶

Alan Collins focuses on ethnic tensions, intra-ASEAN rivalries and the emergence of Chinese hegemony and a state-induced security dilemma,⁶⁴⁷ and the competing political ideologies.

The Disaster Risk Index (DRI)⁶⁴⁸ was developed in order to improve understanding of the relationship between development and disaster risk. Mark Malloch Brown, who was the Administrator of the United Nations Development Programme, stated in the foreword to the report *Reducing Disaster Risk: A challenge For Development*

While humanitarian action to mitigate the impact of disasters will always be vitally important, the global community is facing a critical challenge: How to better

⁶⁴⁴ Kayo Onishi, 'Interstate Negotiation Mechanisms for Cooperation in the Mekong River Basin', *Water International* 32, no. 4 (December 2007): 524–37; Lishan Ran and X. X. Lu, 'Cooperation Is Key to Asian Hydropower', *Nature* 473, no. 7348 (26 May 2011): 452–452.

⁶⁴⁵ Ana Carolina Garriga and Brian J. Phillips, 'Foreign Aid as a Signal to Investors Predicting FDI in Post-Conflict Countries', *Journal of Conflict Resolution*, 10 January 2013, doi:10.1177/0022002712467937.

⁶⁴⁶ Thomas A Hutton, 'Service Industries, Globalization, and Urban Restructuring within the Asia-Pacific: New Development Trajectories and Planning Responses', *Progress in Planning* 61, no. 1 (January 2003): 1–74, doi:10.1016/S0305-9006(03)00013-8.

⁶⁴⁷ Alan Collins, *The Security Dilemmas of Southeast Asia* (Palgrave MacMillan, 2000).

⁶⁴⁸ P. Peduzzi et al., 'Assessing Global Exposure and Vulnerability Towards Natural Hazards: The Disaster Risk Index', *Nat. Hazards Earth Syst. Sci.* 9, no. 4 (17 July 2009): online.

anticipate – and then manage and reduce – disaster risk by integrating the potential threat into its planning and policies.⁶⁴⁹

Disasters of the magnitude of the long-lived Lao UXO situation are a challenge to any government and, as this thesis has shown, the international community is inactive. The prospects for an improvement in disaster-response in the region are mixed. Laos, despite several attempts at clearing UXO, has failed to make much of a dent in the problem.

The UN initiatives can be cemented by global security. All developed countries are being urged never to lose sight of the pressure of the so-called silent tsunamis – poverty, hunger, inadequate access to clean water, elementary sanitation and health care. Disaster diplomacy might realize its genuine potential in the future only if it is founded on universal values, including, first of all, solidarity. The truth of this value was cogently summarised in various UN documents stating that solidarity and a strong sense of moral responsibility must be the guiding light of national and international policy. These are not only ethical imperatives, but also prerequisites for a prosperous, peaceful and secure world based on true partnership...that global solidarity is possible at every level, people can work together and work together to find solutions. Diplomacy alone cannot make the world a safer place tomorrow or next week, yet with genuine political will diplomacy can contribute in the long run to translating the ideal of achieving human security into reality.⁶⁵⁰

It is significant that EOD is absent from the issues addressed in this quotation. For all the discussion of reducing or mitigating ‘disaster risk’, Laos is a glaring example of a long-standing disaster which has happened, is known about, but about which relatively little is being done.

6.1. Towards tourism in Laos

As noted, UXO have been major obstacles to land cultivation and also to tourism. If Laos is opened up to foreign visitors, understanding the story of the UXO problem, it is necessary to educate the public, and museums will play a key part in this, together with interactive displays.⁶⁵¹ However, in the long term, the Remnants of War can actually be a tourist attraction.⁶⁵²As

Figure 62 and Figure 63 show, Museums displaying the remnants of war already exist and

⁶⁴⁹ United Nations Development Programme, *Reducing Disaster Risk: A Challenge For Development* (New York, NY: UNDP Bureau for Crisis Prevention and Recovery, 2004), online, www.undp.org/bcpr.

⁶⁵⁰ Ioan Voicu, ‘Global Solidarity Is Possible: The Lesson to Be Learned from the December 26 Tsunami Disaster Is That Diplomacy Can Play a Vital Role in Healing Human Suffering’, *Bangkok Post*, 6 February 2005, sec. Perspectives, P6.

⁶⁵¹ S. Steve Arounsack, ‘Constructing an Interactive Lao Village Set during the Secret Bombings (1965–1973)’, *American Anthropologist* 115, no. 3 (2013): 502.

⁶⁵² Vern Harnapp and Lavada Harnapp, ‘Laos: Now Open for Tourist Business’, *Focus on Geography* 45, no. 2 (1998): 6.

may provide a valuable educational resource. The remnants of recent wars can be tourist attractions: witness the numerous displays which surround the Normandy beaches and The Military Museum in Belgrade which proudly displays the remains of the shot-down ‘invisible’ U.S. F-117a Stealth Fighter downed in 1999.⁶⁵³



Figure 62. An Exhibition Display of Cluster Munitions, Vientiane⁶⁵⁴

The Cooperative Orthotic and Prosthetic Enterprise (COPE) is a Lao not-for-profit organisation that works with the government-run National Rehabilitation Centre (NRC) in an innovative partnership developing rehabilitation services across the country. This includes the production and provision of artificial limbs (prostheses), supportive devices (orthoses), as well as physiotherapy and occupational therapy. The centre also provides vital services for those suffering from the effects of polio, and loss of limbs due to leprosy and injuries from work-related or traffic accidents. Injury from UXO and cluster munitions is the most

⁶⁵³ Conversation with Professor Chris Bellamy who visited the Belgrade Military Museum in 2009.

⁶⁵⁴ Author’s visit to the COPE Visitor Centre, Vientiane

common reason people require a prosthetic in Laos. Thirty-five percent of the centre's patients are injured from UXO. Unfortunately, there is limited knowledge throughout the country about the services available for patients. It is, as the author experienced, an arduous twenty-four hour bus journey to Vientiane from the southern provinces.

In Ban Pa-am village in Attapeu province, about 35km east of Attapeu town, lies on a road that was formerly a branch of the Ho Chi Minh Trail. The government decided to turn the remnant of war shown in Figure 63, into a 'tourist attraction'.⁶⁵⁵ Now disarmed, it is an S-75 Dvina Surface-to-Air Missile (SAM), NATO designation SA-2 Guideline. It is a heavy long-range missile which was used against B-52s. The enclosure is fenced with old bomb casings.

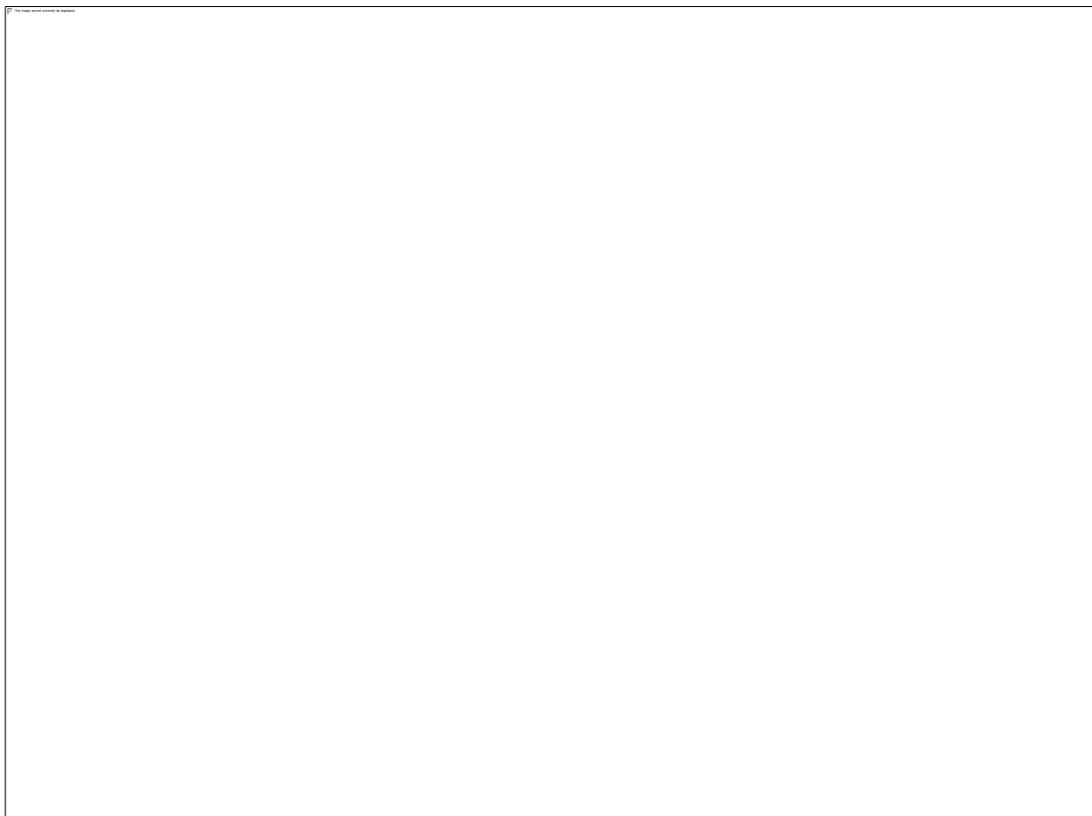


Figure 63. Tourist attraction

With globalization and the introduction of a market economy, profound changes are taking place in Lao society. The transformation is not confined to quantitative economic data, which have hitherto been the prime object of research on the Lao economy but also affects on social

⁶⁵⁵ Joan C. Henderson, 'War as a Tourist Attraction: The Case of Vietnam', *International Journal of Tourism Research* 2, no. 4 (2000): 269.

structure and cultures.⁶⁵⁶ Even though formally a market economy, the economic field is dominated neither by capitalist culture nor by entrepreneurs.⁶⁵⁷

The turnaround since 1975 of the Lao PDR's changing fortunes and the country's poor performance during the first decade and a half of communist rule reflected, on the one hand, poor economic management on the part of the political leadership and, on the other, various factors related to the country's location in the global political economy. While the decisive victory of the communists in 1975 facilitated the achievement of political stability, these various factors worked against strong economic performance. The country's progress *vis-à-vis* turnaround between the mid-1980s and 2004 reflected changes both in the leadership's approach to economic policy making and in the global political economy as well as the government's continued ability to maintain political control.⁶⁵⁸

The relationship of Laos with its neighbours and their interaction through ASEAN will, it is hoped, bring more understanding and cohesion to the area, in handling insurgency, refugees⁶⁵⁹ and the politics of ethnicity. Such a comprehensive approach reflects thinking about aid in international relations at the time of writing. As one 2004 analysis explained,

Aid practice now requires a shift from linear planning for predetermined outcomes to supporting strategic change that recognises development as a complex system. Only in this way can the well-being of poor people be truly improved and can there be any chance of successfully attaining the Millennium Development Goals, halving world poverty by 2015.⁶⁶⁰

Furthermore, the politics of aid cannot be divorced from the wider politics of the region. This thesis has noted the increased role of China in that region. As Robert Kaplan observed, again 'Thailand may once have been the regional anchor, but has an electorate increasingly polarised between the upwardly mobile and the rural. Southeast Asia, meanwhile as a whole, as its various political systems show signs of strain, seems to be falling further under the sway of Chinese economic domination.'⁶⁶¹

⁶⁵⁶ Wantanee Sunkul, Thomas Bauer, and Haiyan Song, 'Towards Tourism: A Laotian Perspective', *International Journal of Tourism Research* 12, no. 5 (2010): 449.

⁶⁵⁷ Boike Rehbein, 'The Lao Economic Field', *SOJOURN: Journal of Social Issues in Southeast Asia* 20, no. 1 (April 2005): 23–38.

⁶⁵⁸ Andrew Rosser, 'Lao People's Democratic Republic', *IDS Bulletin* 37, no. 2 (March 2006): 27–39.

⁶⁵⁹ Tony Waters, 'The Parameters of Refugeeism and Flight: The Case of Laos', *Disasters* 14, no. 3 (1990): 250.

⁶⁶⁰ Leslie Groves and Rachel Hinton, *Inclusive Aid: Changing Power and Relationships in International Development* (Earthscan Ltd, 2004), xiv.

⁶⁶¹ Kaplan, *Monsoon*, 272.

Bateson, writing in the 1970s, diagnosed the wider processes of Western social and environmental degradation in the world. He believed that

'all of the many current threats to man's survival are traceable to three root causes:

- (a) Technological progress
- (b) Population increase
- (c) Certain errors in the thinking and attitudes of Occidental Culture. Our "values" are wrong.

We believe that all three of these fundamental factors are necessary conditions for the destruction of our world... we *optimistically* believe that the correction of any *one* of them would save U.S.⁶⁶²

As Bateson suggests above, it is technology that will save lives in Laos. The scale and widespread nature of the problem have been demonstrated in Chapters 3 and 4. UXO clearance in Laos will therefore need to be undertaken, in the main, with inexpensive metal detectors which are more efficient and easier to operate. These could be widely distributed to Laotians who will have the onerous task of clearing their land, but also the motivation. And the change in political ideology may result in comprehensive funding from the United States which, as the recent developments analysed have shown, is increasingly inclined to accept moral responsibility for the UXO. Chinese interest and influence may also contribute to a solution. Changes in both countries' political and economic stance may facilitate provision of more sophisticated means, including robotics, to help clear UXO, as discussed in Chapter 5.

In 2009 U.S. President Barack Obama issued his Determination that Laos was no longer a Marxist-Leninist State. The way to repairing the damage, was at last open, but it took another two years and six former U.S. Ambassadors to Laos to remind the Secretary of State of the problem, and a further year for Secretary of State Hillary Clinton to finally visit Laos in July 2012.

⁶⁶² Gregory Bateson, *Steps to an Ecology of Mind: Collected Essays in Anthropology, Psychiatry, Evolution and Epistemology*, New edition (Chicago University Press, 2000), 498.



Figure 64. The hammer and sickle flag

However, the legacy of communism, the poor standard of education and Lao rural culture are all obstacles to development and to de-mining. The hammer-and-sickle flags still decorate and flutter throughout even the country-side and on all public buildings. But at the same time, Vientiane and the other major cities are filled with the hallmarks of conspicuous consumption, and Capitalism's ideology is making inroads. For the majority of the poverty-stricken rural population, however, any ideology seems irrelevant, other than the Animist or Buddhist one, into which they were born. From the viewpoint of a western culture and education, we expect to question, until we have adequate responses. Particularly the rural Lao have no such expectations as they have not received an education, let alone an education in the ways of information gathering. Nor are they taught to give thoughtful answers about anything – as far as the author knows. Animism and Buddhism does not encourage questioning or being curious. Acceptance of one's lot is what the people believe they deserve. That may appear simplistic, but life *is* simple in rural areas, and will remain so until education helps the new Lao generations to question and understand their own history, and what happened to them. The woman in Figure 65 below gave birth to her first son, whilst living in an underground tunnel, sheltering from U.S. bombing in the 1970s. Her story has yet to be written-up.



Figure 65. Lao woman in Attapeu, February 2013

Chapter 7. Conclusion and Recommendations

The thesis has explored the legacy of Explosive Remnants of War (ERW) from the secret ‘war’ in Laos, which took place between 1964 and 1973. It has analysed the reasons why this legacy exists, identified the nature and form of those remnants of war. It has also analysed how victims are currently affected, the performance of NGOs and other aid agencies guided by the UN framework for humanitarian aid and the prospects for finally solving the problem. Of necessity, the thesis has explored the events that led to such a long war and its even more protracted aftermath. This was an unknown war and has been very little studied, but has important lessons for the conduct of war and peace-building after the ‘conflict’ ends. It is therefore an original contribution to post-conflict studies. Because the U.S. lost the ‘war’, the possibility of clearance was precluded and it remained a largely unknown and untold story. The general theoretical and secondary-source literature on this subject and, specifically in the context of Laos, is inconclusive on several vital points within the legacy discourse which the thesis examines. A key factor, as Ambassador Hartwick told the author (see 5.3), was that the Americans did not control the territory affected, the American public wanted to forget an unpopular and painful war, and that the Lao Government was not interested in the issue or in getting help either.

In pursuing its aims, the study sought to answer a number of research questions. The questions and answers found are summarised as follows.

7.1. Answers to the Research Questions posed

The first question was why the U.S. used Cluster Munitions (CM) in such numbers and why they were so unreliable. New sources became available during the author’s research. In 2010 a great deal of new material became available in the form of the 1972 Senate Hearings on *War-related Civilian Problems in Indochina*, and these are explored in 3.4. A searchable database covering U.S. air strikes between 1965 and 1975, CACTA and SEADAB was also placed on line in 2009 (4.1). Cluster Munitions were used because they were then a new type of ‘Improved Conventional Weapon’, suitable for massive area denial without the stigma attached to chemical and nuclear weapons and to avoid the need to put ‘boots on the ground’. They failed to perform as advertised – with up to 30 percent failing to explode as they were supposed to because of massively increased production, poor quality control, transport issues, poor handling, storage and tropical weather conditions and, in some cases, the soft terrain on which they were dropped (see 4.2). The presence of dense forest cover which softened the munitions’ landing was also a key factor. The cluster munitions

Convention of 2008 imposed controls on the manufacture, distribution and use of these weapons and great efforts have been made to improve their reliability, but that all came too late for the people of Laos.

The second question sought explanation of the United States' conduct and its tactics of withdrawal. The United States wanted to prevent the Vietcong supplying their forces along the Ho Chi Minh Trail through Laos. This was an area occupied by the Pathet Lao rebels. The U.S. could not put large numbers of troops on the ground for fear of involving China and also, for most of the war, wanted to avoid alienating the Lao Government. However, as shown 4.1 (p. 124-25), the Lao Prime Minister approved U.S. bombing, believing that infiltration of men and supplies through Laos could be prevented by neutralising mountainous terrain where few people lived and that 'no Lao citizen would suffer from these bombings'. Therefore area bombing of areas about which the Lao Government cared little was seen as an acceptable strategy. The U.S. conduct of the war is explained in detail in 3.4. Among the key new findings are that the bombing was under the direction and control of the State Department, not the U.S. Airforce (p.103) and that kinetic (high explosive) attack and defoliant missions were conducted in a complementary fashion. The research also revealed that there were Laotian observers in the back seats of the U.S. aircraft, further underlining the Lao Government's involvement (p.110), and that Thailand was used as a base for this bombing. A U.S. plan for military intervention in Laos was formulated in 1959, two years earlier than commentators had previously thought (p.94). The bombing started with fighter-bomber attacks in 1964 and B-52 attacks began at the end of that year – four years earlier than widely believed. However, the U.S. did not anticipate that it would lose the war, and in 1975 found itself expelled from south-east Asia, thus precluding any chance of dealing with the legacy, even if it had been inclined to do so (see 3.3).

Question three asked to what extent Laos's status as a Marxist-Leninist country from 1975 until 2009 inhibited U.S. and other international help in dealing with the Unexploded Ordnance (UXO) problem. The answer is - a great deal. Laos was subject to enforced isolation from many of the Western Industrialised countries by the United States' laws on trade or contact with enemies, a restriction which it encouraged its allies and trading partners to observe until 2009 (See 1.1). McGrath suggested it should have been Vietnam, Cambodia and Laos which first alerted the world to the extent of landmine use and the presence of other

UXO.⁶⁶³ However, the same constraints that applied to Laos also applied to Vietnam, because it was also Marxist-Leninist, and Cambodia because of the Khmer Rouge revolution. By the 1990s, however, the U.S. attitude began to change and the U.S. Government began putting modest resources into the task (p.184).

Question four, ‘what is the scale of the disaster?’, was relatively straightforward to answer. The disaster occurred, causing significant damage and loss of life, and there is overwhelming proof to support that, through news reports and academic disciplines that study international relations and disaster management, and the author’s own field work in the country. On recognising the scale of the problem of UXO, McGrath underlined the scale of landmine use by the military which, in the case of Laos also mirrors the UXO problem, and the peripheral impact on non-combatants. The geographical extent of UXO has been shown in 3.4.2. with the concentration of the bombing in Xieng Khouang, a Northern Province, and east of the country along the Ho Chi Minh Trails. During the nine-year period the U.S. carried out more than 580,000 sorties, dropping two million short tons of bombs over 33,000 square miles (87,000 square kilometres), amounting to 37 percent of the country (p.120). That two million tons was more than the total dropped on Japan and Germany during World War Two, and included at least 260 million cluster sub-munitions (p.125). Of these, 78 million – 30 percent – are estimated not to have exploded (p.123). It is recognised that even with modern computing power, establishing the precise tonnage of bombing is far from accurate, and the task of establishing the number of UXOs and their distribution is still formidable. However, it is estimated that a million UXO have been destroyed but that there are still 80 million UXO of various types scattered across Laos (p.182).

Although only five percent of the land is, at the time of writing, capable of cultivation (3.1), the land is vital as it remains the most fundamental input into the food system. Land is vital to achieving food security, and is – or should be, in turn, a dependable source of income for people living in rural areas. This income, for the very poor, is more closely linked to growth in the agricultural sector than to growth in any other sector. With cleared land, and hence security, the smallholder farmers will have better land-use choices. It becomes feasible to conserve water and soil nutrients, invest in fertilizers, seed varieties and farming implements that will lead to more marketable crops, and higher yield. This in turn will lead to better nutrition and earnings to spend on household food needs. The number of people potentially

⁶⁶³ McGrath, *Landmines and Unexploded Ordnance*, 2000, 14.

affected and the number of victims to date has been addressed through the CCM and the National Survey of UXO Victims and Accidents (see 5.1.2, p.117). In two districts particularly affected, surveyed in 1995, there were 1,153 UXO-related accidents reported for a population of 97,562, or *one person out of 84*. In the period 1964-2009 the unexploded submunitions have killed an estimated 3,170, with 4,368 maimed and injured.⁶⁶⁴The statistics from a group of subsistence farming villages showed that at least 65 percent of these incidents occur when the victims are engaged in essential daily tasks such as working in fields. And, critically, these were not communities that had alternative lifestyles available to them. The legacy of UXO had been apparent during the war, as bomb casings and their explosive content were recycled and then re-used, as also happened in Libya after World War Two. But that process did not just stop at the end of the war. The resourceful people of Laos continued to recycle UXO where they could. But farmers are not deminers, and two thirds of the land had been bombed, with an estimated 30 percent of cluster bombs or their submunitions unexploded. Larger bombs which *had* exploded had also cratered the land, producing breeding grounds for mosquitoes. The countryside was, and in 2014 still is, a dangerous place, this has resulted in a migration of those who are able to, but predominately the youth, who are drawn to the cities and the boom in construction.

As the research in Chapter 3 Section 3.4 and Chapter 4 Section 4.2.1 shows, the ongoing danger of UXO in the ten most affected provinces has rendered swathes of land unsuitable for expansion in tourism and agriculture for perhaps a generation to come. In addition, for the people of Laos, the metal casings of the UXO represent a resource. Lao people are still looking for scrap metal (4.2.2), despite all the mine-awareness education, because this is the only resource they have available to them. Prices in the scrap metal business have fallen dramatically in recent years, as world prices for metal have dropped. The result in Laos is even more risk from UXO, as collectors are endangering themselves for even less money. They are trying to redouble their efforts to collect more bomb casings, in order to sustain themselves. And as the construction of the east-west highway continues, linking Bangkok with Da Nang across central Laos (see Figure 7), a lot more UXO is being uncovered.

The fifth question asked how are the Lao government and the diplomatic community, and other organisations responding to remnants of war. Specifically this was answered in 2.8. In global terms, the path to prohibition and a ban on cluster munitions sprang from the conflicts

⁶⁶⁴ Mines Action Canada, *Cluster Munition Monitor 2011* (Canada: Cluster Munition Coalition, April 2011), http://www.the-monitor.org/cmm/2011/pdf/Cluster_Munition_Monitor_2011.pdf.

in South-East Asia of the 1960s and 1970s. It was not until the late 1990s, however, that civil society and faith-based groups started to get the question effectively aired in international fora. This culminated in the Cluster Munitions Convention, with the ground breaking obligations of the CCM for detailed surveying, recording and marking of contaminated areas, and also help for victims. In terms of future UXO problems, some international progress is being made in prevention (see 5.1). The Cluster Munition Treaty and International Campaign to Ban Landmines (ICBL) is a global network in over 90 countries that works for a world free of antipersonnel landmines and cluster munitions, where landmine and cluster munition survivors can lead fulfilling lives. The Campaign was awarded the Nobel Peace Prize in recognition of its efforts to bring about the 1997 Mine Ban Treaty and since then, has advocated that the words of the Treaty should become a reality.⁶⁶⁵

In Laos specifically the Government took a major step forward in 1996 when UXO Lao was set up. This was followed by the creating of the National Regulatory Authority (NRA) in 2002, which became fully active in 2004 (p.144).

Question six sought to answer how has Laos accessed and used external resources (financial, technical and human) to deal with UXO. By providing training, they are also providing employment, and therefore a monthly salary, and by learning one skill this leads to other skills. UXO Lao is funded primarily through cost-sharing with UNDP. This mechanism has replaced the UXO Trust Fund agreements established in 1996. Funds channelled through UNDP are charged a seven per cent management fee as agreed upon by the Lao Government and UNDP. The current donor countries (still relevant at the time of writing), include: Australia; Germany; Japan; Ireland; Luxembourg; Switzerland; United Kingdom; United States of America. There is also the NGO World Without Mines. Funds are usually earmarked to support operations in specific provinces or for specific projects. Un-earmarked funds, on the other hand, allow UXO Lao the flexibility to utilise funds as needed such as acquisition of new equipment or to cover shortfalls in funding in provinces.

The United Nations Development Programme (UNDP) provides programme oversight and programme assurance, both substantive and financial, through its own UXO Unit as well as through the provision of the Senior Technical Advisor, the Programme Technical Advisor, and a field based EOD Technical Advisor. It raises funds for UXO Lao and manages such

⁶⁶⁵ 'International Campaign to Ban Landmines', 20 May 2008, <http://www.icbl.org/intro.php>.

funds through cost-sharing agreements. Funds channelled through UNDP follow UNDP's rules and regulations.

Question seven covered how the management of UXO and EOD in Laos has changed, and what have been the drivers of these changes. The first steps were very basic. The Mennonite Central Committee and the American Friends Service Committee, supplied between 1977 and 1991 a total of 30,000 shovels as a safer alternative to the traditional Lao hoe, which is swung over the head when hand tilling the soil, and which strikes the ground with a heavy impact. They also worked with the Mines Advisory Group (MAG) and the Lao government to set up the Bomb Clearance Project. In 1994 MAG had trained the first 20 Lao Bomb Removal Technicians (deminers) (see 4.3). A breakthrough came in February 1994 with the formation of UXO Lao, the National Unexploded Ordnance Programme with the support of UNDP, UNICEF and other stakeholders (p.143). This arrangement was replaced by the UXO Trust Fund established in 1996. Between 2006 and 2010 UXO Lao were clearing an average of 31,253 items of UXO per year, whether big unitary bombs or cluster munitions. In 2011 this jumped to more than 136,000, while the cost decreased dramatically. This was due to improved Area Clearance Techniques and surveillance (p.145). Although there have been some changes, therefore, they have, so far, been incremental rather than revolutionary.

Question eight asked why has technology been inadequate or not been used to its full potential in the past. For the first twenty post-war years, from 1973 metal detectors came under the sanctions imposed from the U.S. and were therefore unavailable. Furthermore, no testing could be carried out (p.137). After the formation of UXO Lao, metal detectors were brought in by the MAG. However, the ferrous nature of the soil and the varying depths at which UXO now lay because they had settled over two decades meant that detectors were of limited effectiveness. Training for operators was also inadequate, although MAG had trained the first twenty in 1994. The rugged and steep terrain is also unsuitable for wheeled and tracked vehicles.

Question nine follows on the previous one, asking what types of technology are just becoming available, and are likely to become available in the imminent future. The Lao People's Democratic Republic has, according to the U.S., 'ceased to be a Marxist-Leninist country', and the 2009 Presidential determination (see 1.1) lifted a ban on Laotian companies attaining financing from the U.S. Export-Import Bank. This opens the door for funding UXO clearance work. UXO Lao utilises a wide range of equipment, including different types of

metal detectors, each with different abilities (see 4.3.2). New robotic technology may facilitate faster clearance but has so far proved too expensive. Current developments elsewhere in the world focus on IED work and mines rather than cluster munitions. At the time of writing the author is unaware of any robotic devices having been successfully deployed in Laos.

Question ten asked what such devices could potentially achieve. Ground Penetrating Radar (GPR), which has better penetration in dry soil than wet, could be of great assistance. Ultra-sound radar or sonar should pick up anomalies in the ground, perhaps, deployed on small Unmanned Autonomous Vehicles (UAVs). Walking robots currently being developed could overcome the problems caused by difficult terrain unsuitable for wheeled or tracked vehicles (p.187, Appendix E). Robots could not only find UXO but actually excavate the vicinity and remove them, the most dangerous part of EOD. However, as noted above, current developments still focus on IEDs and mines.

Question eleven addressed what are metal detectors are unable to achieve and what planning will be necessary to 'target' the use of the new technology. Training requires that procedures are followed correctly and safely, but in many provinces the teams have only received a very limited formal education and had barely used a ruler or tape-measure to do measurements. Education is being tailored to the survey teams. RoW is not a precise science and it is vital to receive information through surveys and to feed this back up the chain in order to concentrate efforts in EOD clearance, so that money is not wasted on land where there is no threat.

Question twelve refers to the problems of supplying metal detectors to local people, and to training and managing the operation so that metal detectors are used in the optimum places. In 2011, 125 UXO field staff left because the Head of UXO Lao could not increase their salaries. Most of them, having been trained by UXO Lao, join with other demining organisations, including NGOs who pay more than UXO Lao. However, this means that ground mining companies, rather than local people, are benefiting from this resource. As the photographs (Figure 21 and Figure 22) show, metal detectors are now widely available, but they are of inferior quality. Furthermore, they are used to search for scrap which may be fatal (p.135).

Question thirteen asked what more sophisticated metal detectors will cost. UXO Lao needs to replace its existing detector inventory but at more than, as of 2004, U.S. \$3,800 per unit, UXO Lao was limited by available funding. In 2013 it was estimated that U.S. \$8.2 million

would be needed to replace metal detectors. However, even with UNDP funding, UXO Lao have a shortfall of about U.S. \$1.8 million. UXO Lao will have to work harder with UNDP to mobilise more funds to meet the requirements, they hope to get more funding from donors (see 4.3.2).

Finally question fourteen asked what does this study add to the existing literature in the disciplines of War, Conflict and Security Studies, on the one hand, and Disaster Management of the other. The thesis has shown clearly that the U.S. Generals and politicians believed they were fighting a just war to contain communism. This led to the bombing of an adjacent country to which they were not at war (see 2.2), not just by the U.S. Airforce and Navy but also by the C.I.A. Laos has hitherto been relegated to a footnote in history, to books on the Vietnam War, and to related political and military events. There was therefore a compelling case to rectify this.

As this has shown, Laos is a unique case study within the field of post-conflict literature and differs substantially from all the more recent cases which have been subject to greater scrutiny by scholars including the Peace Studies centre at Bradford. The aerial bombing of Laos was a ‘secret war’, and has therefore been more difficult to study, but has profound lessons for the conduct of war and peace building after the conflict ends. The study has also highlighted the limitations of international treaties and agreements – Protocol V on Explosive remnants of War to the 1980 convention on Certain Conventional Weapons and the 2008 Cluster Munitions Convention – in dealing with the very issues they aim to address. As noted there was no overriding legal obligation on the U.S. to clear up the detritus of its ‘secret war’, merely to do what was ‘feasible’ (see 51, 5.2. and Appendix B).

In terms of the contribution to knowledge, new military-political information, such as the fact that the Laotian Prime Minister specifically requested the U.S. to bomb parts of his country (3.3), have been revealed. The thesis has illuminated a unique and very different case study in the conduct of war and post-conflict dilemmas, and has also highlighted the paradox that whereas warfare is very much a realist activity, clearing up afterwards requires a constructivist approach (see 2.3). finally, the thesis recognises that since 1945 there has been a general acceptance that it is not necessary to make a formal declaration of war for ‘armed conflict’ to exist, and that is why the term ‘armed conflict’ is so widely used in the security studies literature. ‘Armed conflict’ is a statement of fact, and does not carry the legal

implications of 'war'. So the U.S. was involved in an armed conflict in Vietnam and in neighbouring Laos and Cambodia.

In terms of Disaster Management, the 'Pyramid of Principles' model (Figures 4 and 5, pp. 45-47) proved very useful. The research fully supports the belief that disaster recovery means rebuilding cultural society as well as economic society. To aid this process the model sets out a series of basic recovery principles: ethical, strategic, and tactical. The sub-headings have all been addressed in sections 2.2, 2.4, 5.5 and 6.2, respectively. The author has, however, adapted the original 'Pyramid of Principles' to shift the emphasis from principles – and therefore planning – to the actual response. The table on p. 47 breaks the pyramid down further to better illustrate how it is applied. In assessing the 'underlying principles' level, we may refer to Kant's '*sensus communis*' (seep.12), and a government's 'duty of care' to its people, both of which are also critical to Disaster Management. So - and what could be clearer from the words themselves – is the Universal Declaration of Human Rights.⁶⁶⁶The technological tools now at our disposal to deal with natural and man-made disasters offer the opportunity to rapidly ascend the Pyramid and to turn these 'underlying principles', into concrete actions at the mitigation and implementation level. When the author began her research it was not her intention develop a new, model for Disaster Management. However, the case study clearly supports the general pyramidal structure. Finally, as shown above, the analysis of the six Ambassadors' letter to the U.S. Secretary of State of 8 July 2011 replicates every level of the Pyramid model, except possibly the tactical.

The research revealed that the man-made disaster in Laos has provoked a very different response at the international and diplomatic levels of the Pyramid. Over the past 40 years since the bombing finished in 1973, in Laos very few deaths, if any, have been westerners, whether aid workers or tourists. It is possible to speculate that had a substantial number of victims been westerners, the international and diplomatic response levels of the Pyramid (see 2.8) would have been invoked.

7.2. General Conclusions

In section 2.3 the author drew attention to Thucydides' *Peloponnesian War* as an example of realist thinking and the parallels between the ancient Mediterranean island of Milos and Laos

⁶⁶⁶ 'The Universal Declaration of Human Rights', accessed 11 August 2013, <http://www.un.org/en/documents/udhr/> see for Articles 1-30.

in the period under review. The small land-locked country of Laos was not only surrounded by larger neighbours but provided a 'neutral buffer' to Thailand as the west was fearing the march of Communism. It was 'strategically occupied' by the U.S. C.I.A. to counter this Communist threat and advance, with the assistance of the Royal Lao military and by recruiting of the Hmong ethnic group. But the country was politically divided at the top, between the two Royal brothers. In effect there was a shift from the Monarchists to the Leftists. The Lao people had little debate in the matter. Western history emphasizes that the country was not being invaded by the U.S. but 'infiltrated' by Communist V.C insurgents. Richard Shapcott points out 'a realist like Henry Kissinger might advise bombing a neutral state such as Laos if it will serve the military goals of defeating the enemy of North Vietnam...in order to secure an advantage against a military foe, such as the U.S.S.R.' As the Senate foreign Affairs Committee heard in 2010 'we did exactly what we felt like doing, and we did.'(p.107). A further concern of the realists during the Cold War was countering and containing Soviet influence, not so ideological but geopolitical. For example, Shapcott observed, 'Kissinger's policy of détente with China and the Soviet Union was premised on an understanding that China could be used to counter the U.S.S.R. ('my enemy's enemy is my friend') and the recognition that the U.S.S.R. could be viewed as a state with its own security interests, rather than an ideological foe bent on the destruction of the U.S.'⁶⁶⁷ But , for all its efforts, the U.S. government had not factored in the end result. A humiliating defeat and withdrawal.

This was an especially ironic fate for Laos, with whom the U.S. had never formally been at war and, indeed, whose national integrity President Kennedy had committed his country to protect (see 3.3). The U.S., had however, effectively destroyed the greater part of its infrastructure. In the immediate aftermath there was no clear up as in Europe or Japan after the Second World War, Laos did not have the population left to do that, but they had to concentrate on the planting of the main staple crop – rice, to feed those who had survived. The historical perspective and hearings evidence cited in Chapter 3 are important because they reveal that the country was not considered to be at war, awareness of the creation of 'refugees' (in fact, mostly Internally Displaced Persons (IDPs)), and evidence of the payment of albeit derisory compensation. Chalmers Johnson served as a consultant from 1967 to 1973,

⁶⁶⁷ Shapcott, *International Ethics*, 63–4.

to the Office of National Estimates of the Central Intelligence Agency (CIA). He thought that the best reason to keep the national intelligence estimates secret was their utter banality.⁶⁶⁸

Because the ‘war’ was conducted secretly, the scale of the UXO problem has unfolded slowly over time. Unlike natural disasters – the 2004 Indian Ocean Tsunami and the 2008 Cyclone Nargis in Myanmar, for example - there has been no sudden disaster to push governments or international agencies to join together to help solve the problem.

McGrath, as early as 2000, suggested that moral justice would demand that the United States pays compensation equivalent to the cost of clearing all U.S.-sourced UXO from Lao soil. The U.S. has now embarked on a still relatively low, level of involvement and financial commitment.⁶⁶⁹ Now that diplomatic relations between the U.S. and Laos have been normalised, the U.S. may feel a moral case to do more, and the Ambassadors’ letter is evidence that some senior Americans already do. The letter from six U.S. ambassadors to the U.S. Secretary of State does finally show signs of recognition of the extent of the problem, and attempts to redress the lack of previous attention. Now that the six ambassadors have identified and highlighted the Laos problem (p.181) it *should* be relatively easy to try to ensure that Protocol V, which encourages those formerly involved in armed conflict to do what is ‘feasible’, is invoked.

The ongoing post-conflict impacts of UXO in 2013-14 continue to present a major humanitarian and socio-economic challenge to the country. There are fewer deaths and injuries, due to Community Awareness training, but UXO contribute to food insecurity by limiting safe access to agricultural land, and add to the cost of development projects where land needs to be cleared – for schools, playgrounds, hospitals, industry and access roads, and also to major trans-national projects such as the development of arteries across the south-east Asian peninsula (see Figure 7). UXO is internationally recognised as an obstacle to lifting Laos out of the list of LDCs by 2015 and achieving the Millennium Development Goals of eradicating poverty and reducing hunger.

⁶⁶⁸ Johnson, *The Sorrows of Empire*, 9–10.

⁶⁶⁹ McGrath, *Landmines and Unexploded Ordnance*, 2000, 77–78.

7.3. Recommendations

There is no definitive conclusion to the problem of Explosive Remnants of War, in Laos or anywhere else. However, from the research, the following recommendations for action by the international community, the Lao Government and NGOs have emerged.

From all the sources identified and fieldwork done, it is still unknown how much UXO is on the ground in Laos, and this makes accurate financial planning difficult. During her research the author learned that most clearance projects and organisations responsible were underfunded and had a shortfall. The first recommendation is therefore simple –more money needs to be devoted to the task! But it must be properly targeted.

One very helpful suggestion by the Norwegian People’s Aid is that the UXO problem should be clearly divided into a cluster munition problem and a UXO problem, the threats can be more appropriately identified, which may help to speed clearance.⁶⁷⁰As noted, there is often confusion about what is needed to clear mines, IEDs and cluster munitions, with their different characteristics.

This leads to the next recommendation. Such a simple re-categorisation will enable the contributions which can reliably be expected from improving robotics and sensing technology to be used more efficiently.

However, technology alone cannot solve a problem on this scale. Because the UXO are so widespread, more man-power needs to be brought to bear, and, again, be better targeted. This leads to this thesis’s key practical recommendation. It is time for a radical approach that facilitates the eradication of these remnants of war. The first part of the approach comprises helicopters, as in any other disaster emergency. A helicopter rapid response unit, spread nationally throughout each province could speed the deployment of the UXO Lao team, whenever and to wherever a UXO is found. That suggests perhaps ten helicopters with flying and maintenance crews, one per province. Helicopters, having been employed so prolifically during the adjacent Vietnam War, could once again be used. But this time they would be used in a moral, humanitarian and interactive manner, to deliver *jus post bellum*. Thus the donors who would provide this innovative practical assistance, would provide and employ competent technicians, and experts who would not only provide aid transparency, but also flight crews

⁶⁷⁰ Mine Action Department, *The NPA Perspective: Fulfilling the Clearance Obligations of the Convention on Cluster Munitions in Lao PDR* (Oslo, Norway: Norwegian People’s Aid), 7, accessed 23 November 2011, <http://www.folkehjelp.no/filestore/300TheNPAPerspectiveLaos1MSP2010.pdf>.

(that is, pilots, navigators and maintenance ground crew) and, therefore, employment for the donors' own nationals, not simply aid finance.

The second component of the solution involves the people on the ground in Laos. A highly practical direction for future work might be the distribution of hand held Global Positioning System (GPS) tools (in any of their many guises) to *all* provincial and district villages. All farmers in a particular district could have, on loan and at their disposal a so simple-to-use modern tool to, which they could easily be trained to operate. When UXO is discovered, for instance when ploughing or hoeing, its exact location can be recorded and reported. This is cardinal because, as described in Chapter 5, the UXO move around after every monsoon and redistribute from the tops of mountains and the sides of hills, by gravity, to valleys and roads. UXO Lao currently uses 40 Vallon VMXC1 Detectors, and other expensive devices. The author is not thinking about such units, but more the 'man in the street' type. Various types of metal detectors imported from Vietnam and a variety of others from abroad are in use but they are crude. UXO Lao could commence an assembly line, to manufacture or, at any rate, assemble, the most cost-effective metal detectors. This would also provide work for and with UXO victims. These detectors, and GPS, would then be supplied to all provinces, for free loan (after tuition) and for however long as is necessary. This approach – tackling the problem *en masse*, would be a far more effective way of solving it, and quickly. The people, who need the land most, do the work themselves. Laos is a more energetic and engaged place than it was, as the author has observed, but such a project would be a real boost to help it 'self motivate'. It should be ensured that no territory or ethnic group would enjoy any advantage over another, although the main areas affected are clearly shown in Figures 10 and 11.

The authors' recommendation is therefore as follows. Provide this to the most affected provinces and test what happens. Sekong is probably the best place for a preliminary trial. Benefits might also be found in the fact that there will be such a large market for these metal detectors and GPS units that technological advances would quickly occur. For example, smaller batteries might be adopted, leading to lighter weight. The batteries might be made longer-lasting, and the units could be charged using solar power. This would be another contribution to Lao development. Parts of individual units should be interchangeable. It might be possible to achieve shorter electrical charging times, and water proofing, very important in the wet and humid climate of Laos, should be improved. The plastic parts (the handle) could

be made in Laos by an extrusion process. An extrusion company operating in Laos could initiate a hands-on development that will interlink the UXO problem with economic and social development.

This is a possible solution to part of the problem, but with UN backing it also motivates people to help themselves and gives them a sense of power over their own future, and they may make some money and find self employment. People are still getting killed and hurt, but, it should be reiterated, the main damage being done now is to the economy and the prospects for development.

The supply of all village elders with GPS and metal detectors is the most obvious approach, because it is the farmers who know where UXO is after monsoon rains. As noted, the UXO change locations every single year so this innovation could mark them in real time for the EOD teams. As the author's filed research has shown, they spend time on trying to 'map' every year, but, as noted in Chapter 5, everything moves and shifts, rolls, resurfaces annually, as a result of which more UXO show up! No-one knows about this problem better than the farm and land owners, who know how flooding directly affects their land. Unfortunately, people have not been completely prevented from being injured. However, in future, training and education, together with community awareness go hand in hand with the assembly line and humanitarian development.

This simple plan would be both fascinating and rewarding for the UN and UNDP, and would in turn alleviate the combination of poverty and lack of human or other development. This would not only be an investment in the post-conflict development but also in the political development of the country, as identified in the opening paragraphs of this thesis. This would not only solve the UXO problem but also potentially contribute to greater openness in Lao society and, as described above develop the local economy.

As the author observed, if necessary, villages are quickly evacuated in order for UXO to be detonated. However, fields of cluster munitions still require deminers, training and better equipment. The results of improvements in these areas will help improve the in-country response capacity and the training of disaster specialists, help with their improvements in emergency preparedness and assist NGOs with their local response capacity. This can only be done with people on the ground.

Moving more widely, new arteries across the great peninsula at the heart of south-east Asia should offer opportunities to improve the collaboration between neighbouring riparian countries abutting on the Mekong River – Laos, Thailand, Cambodia and Vietnam. The development of these arteries, depicted in Figure 7, may also help open up the countries studied here to further international interest and scrutiny.

There should be more openness and recording of accidents in the industry, in order to analyse and incorporate the risks in future EOD, as nearly all monitoring of deminer accident reports is covetously guarded.

Finally, although it will help Laos, for the benefit of future generations, it is important that the states presently not party to the cluster munition ban be urged to rectify that dereliction, and adhere to Article 21 of the Cluster Munition Convention.

Third, in any emergency, public health interventions aim to mitigate the adverse health effects of natural and man-made disasters, by providing the basic minimum requirements: those of food, shelter, water, a sanitary environment, and access to health care. Laos has an on-going problem, but,

7.4. Recommendations for future research

The thesis highlighted a number of areas where further research is needed.

Following on from the recommendations above, further research on in-country response to cluster munitions is clearly very important.

A limitation of this thesis related to official CIA material on the Laos bombing released under the U.S. Freedom of Information Act that has been, in part, ‘redacted’ (edited). This material is analysed in Chapter 3. Although the author was able to glean some important information from these primary sources, much has been blacked out.⁶⁷¹ However, future historians may be able to re-visit these archives and gain a more complete picture.

The former Ambassadors’ initiative in July 2012 occurred during the research and the author was able to determine what the State Department and other U.S. Government Departments’

⁶⁷¹ For example in the UK a secret archive of colonial papers are held at Hanslope Park, Bucks, home of Her Majesty’s Government Communications Centre. Even under the obligations of the Public Records Act 1958, the Foreign Office should have assessed documents and passed any of historical interest to the National Archives at Kew in Surrey, but many remain concealed. (In this case murder and systemic abuse in Kenya). Ian Cobain and Richard Norton-Taylor, ‘Sins of Colonialists Lay Concealed for Decades in Secret Archive’, *The Guardian*, 18 April 2012, sec. UK news, <http://www.guardian.co.uk/uk/2012/apr/18/sins-colonialists-concealed-secret-archive?intcmp=239>.

response has been. This is an important area for further research. Also the Freedom of Information Act in the U.S. to investigate for any official further commentary, reports and concern about the failure rate of ordnance and sub-munitions in the later Vietnam War period (say 1967 – (1971) – 1973). These Ambassadors clearly care a lot about the issue, and the fact that their involvement resulted in Hillary Clinton’s visit to Laos, which spotlighted the problem being addressed in this thesis (5.3). This may incline the other correspondents to respond further and maintain this new momentum.

The author was able to follow up on the correspondence of one of the Ambassadors who signed the 2011 letter to Hillary Clinton. The other Ambassadors’ experience and views also need to be sought and acted upon.

Further research, related to UXO, as the, missions were complementary, is recommended on the effects of the devastating impact of the drenching of south-east Asia in chemicals (see pp. 94-95). Whilst Laos is trying to clear cluster munitions, it should be noted that in 2011 clashes occurred on the Thailand and Cambodia border,⁶⁷²and areas were heavily contaminated by unexploded submunitions fired from Thailand.⁶⁷³In 2011 Myanmar was also producing and laying antipersonnel mines.⁶⁷⁴So further research is needed to keep abreast of ERW of more recent origin.

The story told in this thesis needs to be told to people in Laos and neighbouring countries. Therefore, research is also needed on how the post-conflict history should be taught?⁶⁷⁵ This is also of value to post-conflict studies as a discipline. It needs to cover the aspects of the past that need to be dealt with. Laos currently lacks a policy of a multi-narrative approach for texts for teaching teachers a multiple perspective model,⁶⁷⁶with a neutral objectivity? This research might also cover Thai history and Thai involvement in the bombing of Laos because, as the research revealed, U.S. aircraft flew from Thailand.

⁶⁷² See Duncan McCargo for earlier clashes. Duncan McCargo, ‘Mapping National Anxieties: Thailand’s Southern Conflict’, *The RUSI - Journal* 154, no. 3 (2009): 54–60, doi:10.1080/03071840903097654.

⁶⁷³ Aina Ostreng, ‘Norwegian People’s Aid Clears Cluster Bombs after Clash in Cambodia’, 19 May 2011, http://www.folkehjelp.no/en/News_Archive/?module=Articles&action=Article.publicShow&ID=17521.

⁶⁷⁴ This had already been highlighted to the author in meetings with the former U.K. Ambassador Mark Canning and the current Ambassador Andrew Heyn, in Rangoon, in 2010. ‘Landmine and Cluster Munition Monitor’, 23 November 2011, <http://www.the-monitor.org/index.php/LM/Press-Room/Press-Releases/Press-Release-Landmine-Monitor-2011>; H P Hougen et al., ‘Death and Injury Caused by Land Mines in Burma’, *Science & Justice: Journal Of The Forensic Science Society* 40, no. 1 (1 March 2000): 22.

⁶⁷⁵ Alan McCully, ‘History Teaching, Conflict and the Legacy of the Past’, *Education, Citizenship and Social Justice* 7, no. 2 (1 July 2012): 145–59, doi:10.1177/1746197912440854.

⁶⁷⁶ R Stradling, *Multi-Perspectivity in History Teaching: A Guide for Teachers* (Strasbourg: Council of Europe, 2003).

Turning to scientific and engineering research, as noted, robots optimised to deal with small UXO such as cluster submunitions should be designed and developed, rather than those optimised to deal with IEDs, to which most attention is, understandably, being directed at the time of writing. Further research is necessary to ensure that such devices are practicable for use in third-world countries, including work on irregular, steep and soft terrain where vegetation may need to be cleared, and to ensure that the area to be cleared is free from obstacles (see section 5.5).

Further research is needed on other areas of post-conflict work needs to be carried out as mentioned in section 2.7. The International Center for Transitional Justice (ICTJ) assists countries pursuing accountability where historical injustices remain unresolved.⁶⁷⁷ This Center has not addressed Laos, but could help in the complex issues confronting policy makers on the question of ‘restitution’, raised in Protocol V to the 1980 Convention on Certain Conventional Weapons.

More study of the air war is required, to ‘fill in the blanks’. This is no place to speculate but, at the politico-strategic level, there are interesting deletions from the ‘redacted’ documents. The ‘gaps’, apart from the CIA and a few names of people still living, appear to suggest a greater role for Thailand in the ‘secret war’ than has so far been acknowledged. It is possible that Thailand was not just being a base for American sorties. In time, it may be possible to access the originals of those documents, rather than the versions which have been ‘redacted’.

Cross-referencing of these defoliant missions’ operational folders, with their accompanying aircraft records could also shed further light on mission coordinates, over Laos. It is possible that the pre-strike aircraft (four to twelve in number) on the HERBS missions (see 3.4.1) are missing from the ‘bombing missions’ data. Greater knowledge of this area would cast further light on the UXO problem, since, as this thesis has demonstrated, defoliant and kinetic attack missions were conducted on a mutually supporting basis.

The reasons why the other Ambassadors who signed the letter to Secretary Clinton did so should be researched to shed further light on how and why the United States’ attitude changed.

Further research may be required on the issue of *Jus post bellum*. As discussed, many experts do not believe a new component of the Laws of War is necessary. Up to the time of writing

⁶⁷⁷ Greiff, *The Handbook of Reparations*.

jus post bellum has focussed on war crimes trials and the creation of new, more democratic governments. However, the issue of compensation for collateral and environmental damage, as inflicted on Laos, needs to be addressed. As it is quite possible that a similar situation could arise again, where developed countries deliver munitions against a territory which they do not end up controlling.

* * *

The story of the U.S. bombing of Laos and the effect on the country over the ensuing 50 years is little-known and less understood. It now needs to be told and explained to the Lao people, to Laos's neighbours, and in the West. This Thesis has made a contribution to knowledge of what happened to Laos, and why, and of its long-term effects, which are still hindering development fifty years later. As a detailed case study of a little-known conflict, which, for reasons explained, has been concealed to some extent, it has also contributed to the disciplines of defence, security and post-conflict studies. What happened, and why, needs to be understood, particularly in the region. The publication of the research in this thesis in English, Laotian and other Southeast Asian languages might be a positive step in this direction.

Therefore, in the words of Grotius,

‘Here seems to be a proper place to bring this work to a conclusion, without in the least presuming that everything has been said, which might be said on the subject: but sufficient has been produced to lay a foundation, on which another, if he pleases, may raise a more noble and extensive edifice, an addition and improvements that will provoke no jealousy, but rather be entitled to thanks.’⁶⁷⁸

⁶⁷⁸ Grotius, *On the Law of War and Peace*, 342.

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2. Printed Sources.

1. Key Participant Interviews.

Below is a list of liaisons with the most relevant key informants to this thesis. They include government, UXO Lao, together with the diplomatic and donor community. The author conducted semi-structured interviews to inform the course of this research.

Boddington (MBE), Mike – COPE and Chairman of Power International, various conversations on his experiences of heading up the Victim Assistance Unit at the National Regulatory Authority, Vientiane, initially met in Vientiane, 10 January 2010.

Bosengkham, Vongdara - Lao Minister of Culture. Met in Vientiane initially in 2007. Subsequently the Minister supplied his secretary Mr. Sam Lan, to accompany and translate for the author in Louang Prabang and Plain of Jars.

Bounyavong, Khammane – Technician of Programme and Public Information, UXO Lao. Initially met in 2007, various conversations at the UXO Lao central office in Vientiane.

Chanhasombone, Phoukhieo - Director General, National Regulatory Authority, September 2012.

Chanthavong, Houmphanh – Provincial Coordinator, UXO Lao Louang Prabang, various conversations from February 2007, whilst working in Louang Prabang.

Cooper, Robert - formerly Head of the British Trade Office in Vientiane, where he is also resident and author. Met initially in September 2002.

Creighton, Graeme -Senior Technical Officer of Ammunition Systems and Explosives Technology Group, Defence Management and Technology at Cranfield. Met in January 2008.

Dingley, John - Senior Explosive Ordnance Disposal Advisor, UNDP, 2007.

Evans, Grant – author. Met in Vientiane, September 2002.

Fourile, Violaine - Head of Mission, Handicap International, Vientiane. Various conversations, September 2012-January 2013.

Griffiths, Hugh - former Principal Cranfield University, various conversations in February 2008.

Guerin, Caroline - Rights and Inclusion Advisor, Handicap International, Vientiane. September 2012.

Hague, William – U.K. Foreign Secretary, met in Vientiane, 5th November 2012.

Hartwick, Douglas A, - Ambassador to Laos (2001-2004). Initial contact was 12 November 2012 and subsequent email 27 November 2012.

Horrocks, David - Country Director, MAG, various meetings January – February 2013.

Huxtable, Benjamin - Minerals and Metals Group Sekong. Email January 2012

Hyatt, Tom - Director of Global Projects Valmont Irrigation International. Met in Vientiane October 2012.

Khammanichanh, Phommachanh - former Chief of Operations UXO Lao, now at the NRA. Initially meeting was in the U.K, July 2005, at the International School for Security and Explosives Education, at Tidworth and Chilmark in Wiltshire. From 2005, meetings on all the author's subsequent visits to Laos.

Kustel, Matthew H. – U.S. Political Economic Officer, Vientiane Embassy, January 2013.

Lan, Sam - Ministerial Secretary to the Minister of Culture, Vientiane, 2007.

Lardner, Tim - Chief Technical Advisor of UXO Lao, UNDP, various conversations September 2012.

Laufeld, Sven - Sweden's Natural Hazards, various conversations on his experiences on geology and mining, Vientiane September 2012 – February 2013.

Malone, Philip – U.K. Ambassador, Vientiane - November 2012 and January 2013

McAslan, Alistair - formerly Cranfield University and GICHD, various conversations from the time the author was at Cranfield University, January 2008.

O'Brien, Richard - International Disability Consultant. Met in Vientiane, 9 January 2010.

Phomkhe, Vilayvanh - Minister of Agriculture, Laos. November 2012.

Poschung, Christian - TB project Attapeu and Sekong. November 2012

Raffaello, D'Andrea - Quadcopters

Sahu, Siddhartha - Operations Leader Savannakhet Province, World Vision

Sayasenh, Bounpone – National Programme Director, UXO Lao, various conversations on his experience with EOD, from 2008-February 2013.

Somvichith, Bounphamith - Deputy Director, NRA. Vientiane September 2012

Songvilay, Vatchana - Chief of Operation, UXO Lao, various conversations on operational work in EOD, September 2012-February 2013

Stewart, Karen B. – U.S. Ambassador, Vientiane Embassy. Initial contact in September 2012

Suzanne, Frederic - Finance Director, Care International, Vientiane, January 2013.

Taylor, Tracy, L. - U.S. First Secretary and Chief Political and Economic Section, Vientiane, November 2012-February 2013.

Xayabouth, Khamsay – UXO Lao, Assistant to Chief of Operation, Vientiane, September 2012-February 2013.

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Appendices

Appendix A. Itinerary Laos

27 August 2002 to 2 September 2002

12 January 2006 to 19 January 2006

28 January 2007 to 14 February 2007

06 January 2010 to 15 January 2010

August 2012 to February 2013 this required monthly exits.

Appendix B. Protocol on Explosive Remnants of War (Protocol V to the 1980 Convention), 28 November 2003

During the 1990s the international community became aware of the humanitarian consequences caused by anti-personnel (AP) mines. Yet the problems produced by other forms of UXO had not been widely examined. Consequently, there were very few rules of international humanitarian law to minimize the civilian casualties caused by weapons other than AP mines following the end of an armed conflict. The ICRC called upon States to strengthen the law in this area. It proposed that States Parties to the Convention on Certain Conventional Weapons (CCW) negotiate a new protocol on “explosive remnants of war”(ERW). The purpose was to reduce the threat posed by unexploded artillery shells, mortar shells, hand grenades, cluster munitions, bombs and similar weapons often found after the end of active hostilities.¹

Recognising the serious post-conflict humanitarian problems caused by explosive remnants of war,

Conscious of the need to conclude a Protocol on post-conflict remedial measures of a generic nature in order to minimise the risks and effects of explosive remnants of war,

And willing to address generic preventive measures, through voluntary best practices specified in a Technical Annex for improving the reliability of munitions, and therefore minimising the occurrence of explosive remnants of war,

Have agreed as follows:

Article 1 General provision and scope of application

1. In conformity with the Charter of the United Nations and of the rules of the international law of armed conflict applicable to them, High Contracting Parties agree to comply with the obligations specified in this Protocol, both individually and in cooperation with other High Contracting Parties, to minimize the risks and effects of explosive remnants of war in post-conflict situations.
2. This Protocol shall apply to explosive remnants of war on the land territory including internal waters of the High Contracting Parties.
3. This Protocol shall apply to situations resulting from conflicts referred to in Article 1, paragraphs 1-6, of the Convention, as amended on 21 December 2001.
4. Articles 3, 4, 5 and 8 of this Protocol apply to explosive remnants of war other than existing explosive remnants of war as defined in Article 2, paragraph 5 of this Protocol.

Article 2 Definitions

For the purpose of this Protocol,

¹ ICRC, ‘International Humanitarian Law - Prot V CCW’, 12 November 2006.

2. *Explosive ordnance* means conventional munitions containing explosives, with the exception of mines, booby traps and other devices as defined in Protocol II of this Convention as amended on 3 May 1996.
3. *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.
4. *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.
5. *Explosive remnants of war* means unexploded ordnance and abandoned explosive ordnance that existed prior to the entry into force of this Protocol for the High Contracting Party on whose territory it exists.

Article 3 Clearance, removal or destruction of explosive remnants of war

- (1) Each High Contracting Party and party to an armed conflict shall bear the responsibilities set out in this Article with respect to all explosive remnants of war in territory under its control. In cases where a user of explosive ordnance which has become explosive remnants of war, does not exercise control of the territory, the user shall, after the cessation of active hostilities, provide where feasible, *inter alia*, technical, financial, material or human resources assistance, bilaterally or through a mutually agreed third party, including *inter alia* through the United Nations system or other relevant organizations, to facilitate the marking and clearance, removal or destruction of such explosive remnants of war.
- (2) After the cessation of active hostilities and as soon as feasible, each High Contracting Party and party to an armed conflict shall mark and clear, remove or destroy explosive remnants of war in affected territories under its control. Areas affected by explosive remnants of war which are assumed pursuant to paragraph 3 of this Article as posing a serious humanitarian risk shall be accorded priority status for clearance, removal or destruction.
- (3) After the cessation of active hostilities and as soon as feasible, each High Contracting Party and party to an armed conflict shall take the following measures in affected territories under its control, to reduce the risks posed by explosive remnants of war:
 - (e) survey and assess the threat posed by explosive remnants of war;
 - (f) assess and prioritize needs and practicability in terms of marking and clearance, removal or destruction;
 - (g) mark and clear, remove or destroy explosive remnants of war;
 - (h) Take steps to mobilize resources to carry out these activities.
- (4) In conducting the above activities High Contracting Parties and parties to an armed conflict shall take into account international standards, including the International Mine Action Standards.
- (5) High Contracting Parties shall co-operate, where appropriate, both among themselves and with other states, relevant regional and international organizations and non-governmental organizations on the provision of *inter alia* technical, financial, material and human resources assistance including, in appropriate circumstances, the undertaking of joint operations necessary to fulfil provisions of this Article.

Article 4 Recording, retaining and transmission of information

1. High Contracting Parties and parties to an armed conflict shall to the maximum extent possible and as far as practicable record and retain information on the use of explosive ordnance or abandonment of explosive ordnance, to facilitate the rapid marking and clearance, removal or destruction of explosive remnants of war, risk education and the provision of relevant information to the party in control of the territory and to civilian populations in that territory.
2. High Contracting Parties and parties to an armed conflict which have used or abandoned explosive ordnance which may have become explosive remnants of war shall, without delay after the cessation of active hostilities and as far as practicable, subject to these parties' legitimate security interests, make available such information to the third party including *inter alia* the United Nations or, upon request, to other relevant organizations which the party providing the information is satisfied are or will be undertaking risk education and the marking and clearance, removal or destruction of explosive remnants of war in the affected area.

In recording, retaining and transmitting such information, the High Contracting Parties shall have regard to Part I of the Technical Annex.²

² ICRC, 'International Humanitarian Law - Prot V CCW', 28 November 2003, online.

Appendix C. Senate Hearings³

‘...a State Department-controlled aerial bombardment of villages in Northern Laos has been compelling reason for the 100,000-plus refugees generated during 1968 and 1969... it appears probable that the State Department has pursued a deliberate policy of concealing this fact, as well as the facts of the bombing, from the Congress and people of the United States.’⁴

It continues:

1. Laos is a nation estimated to have some 9,400 small villages, approximately 3,500 of which, according to former Ambassador Sullivan, have been located in Pathet Lao or contested territory since the Geneva agreements of 1962.
2. An estimated 1 million people may once have lived in these villages; in the last 10 years perhaps, 700,000 of these people have become refugees moving into the Western portions of Laos, controlled by the Royal Lao Government.
3. Under the U.S.AID programs for refugee relief, refugees are no longer considered refugees when they have raised two rice crops in their new location; thus, there are only somewhat over 250,000 “refugees” on U.S.AID rolls today, living in refugee camps scattered through Western Laos.
4. At the Udorn Air Force Base in Thailand, headquarters of the 13th Air force, we were told by an aerial reconnaissance pilot on April 13: “I have flown over a lot of river valleys in Northern Laos these past 4 months, Mr. Congressman, and I haven’t seen any villages along lines of communication.” An Air Force lieutenant colonel present stated: “There just aren’t any villages in Northern Laos anymore or in Southern Vietnam either, for that matter.”
5. Major General Andy Evans, commander of the 13th Air Force, told us that his pilots had not bombed any villages to his knowledge in the 7 months that he had been in command. General Evans further told U.S. that all targets in Northern Laos had to be approved by the Ambassador in Vientiane, or by forward air controllers stationed in Vientiane and flying with a Laotian observer. Ambassador Godley later confirmed to U.S. that no villages had been bombed without his consent, save in occasional circumstances of pilot error. Ambassador Sullivan stated to U.S. that perhaps eight such errors had been reported to him during the four and half years he served as Ambassador to Laos prior to his departure shortly after President Nixon took office.
6. While at Udorn, I circled eight villages on the map of North Central Laos, and asked to see aerial photographs of the villages. Two days later, General Evans showed me photographs of two of the areas involved, and conceded that the villages no longer existed. He stated he was unable to find photographs of the other six villages...

Point 8, summarises some of the responses of over 200 refugees from 96 separate villages in the Plain of Jars area, with respect to the bombing of their homes... 75 per cent of 190 respondents said their homes had been damaged by the bombing, 76 per cent said the attacks took place in 1969. The bombing is clearly the most compelling reason for moving. Comments 9 and 10 are indicative of the problems that Senator Kennedy encountered throughout the hearings:

³ Eastland, *War-Related Civilian Problems in Indochina, Part II: Laos and Cambodia*.

⁴ Various, ‘The Vietnam Center and Archive: Virtual Vietnam Archive’, online., 1-101.

9. ... this is in square contradiction... it is difficult for U.S. to understand why the State Department, knowing of the Senate's interest, would not have voluntarily corrected the record by forwarding the report to the subcommittee long ago.

10. It is likewise clear that Mr. Stearns deliberately intended to give Congressman Waldie and me a less than complete picture of refugee attitudes and bombing while we were in Laos... it is hard to escape the conclusion that the Embassy did not want inquiring Congressmen to learn anything about widespread bombing in 1969, directed and controlled by the U.S. Ambassador.

11.... The refugees were unanimous in describing the destruction of every single home in each of seven villages where they had lived. They described both the T-28 and jet aircraft, as well as the use of CBU cluster bombs and white phosphorous. In all but one of the villages, the refugees had seen people killed by the airstrikes... We personally observed and talked with a number of people bearing scars from CBU pellets of white phosphorous... The refugees commonly described the killing of their water buffalo, and the fact that they had to live in holes or caves, farming only at night when the bombing became so intensive in 1969. In only one of the seven villages had a refugee seen any visiting Pathet Lao soldiers killed by the bombings of his village. The soldiers were described as visiting the villages only occasionally or as passing through on the road.

12. The Air Force briefings from General Evans and his staff conclusively demonstrated both the immense accuracy of targeting and bombing, and also the voluminous and comprehensive aerial reconnaissance photography which precedes and follows bombing strikes. It is clear that the Air Force is only following orders, and that all targets are cleared and approved by the State Department.

13. The total tonnage of bombs dropped in Laos in 1969 and 1970 is over twice the tonnage dropped in the 2 preceding years, 1967 and 1968, prior to the time President Nixon took office.'

Senator Kennedy continued on the damage to villages:

'How many of the 3,500 villages behind Pathet Lao lines have been destroyed by American bombing after Ambassador Sullivan left in early 1969 is a matter which is still open to question. This question can be determined quite easily, however, by asking the Air Force to produce current photographs of these areas from its comprehensive files. If recent photos of any particular area are lacking, it should be a simple matter to bring the files up to date by reconnaissance missions conducted at an altitude which will not endanger the lives of the American pilots involved. I hope the subcommittee will pursue this issue until the matter is finally resolved as to how many of the 250,000 plus refugees presently receiving U.S.AID assistance were generated by American bombing practices in 1969. A specific list of nearly 200 villages suspected to have been destroyed in a single area of Laos is appended as exhibit.... Whatever may be the answer, I would be hopeful that a fully informed American people will insist on an immediate cessation of further bombing in inhabited areas of Laos, Cambodia, and Vietnam. There would seem to be no U.S. interest in any of these three countries which would justify the continued slaughter of non-combatant villagers by antipersonnel weapons such as the cluster bomb, napalm, and white phosphorous.

Senator Kennedy: Now as I understand, the American bombing in Laos has gone through four different phases. The first phase was between May 1964 and October of 1966; the

second bombing phase was from the fall of 1966 to the early months of 1968; the third bombing phase began in 1968, shortly after the partial bombing halt over North Vietnam in March; and the fourth phase began in the fall of 1969, when the most significant bombing increase occurred.

You have made some comments about the fact that there is twice the quantity of bombs being dropped in this last phase. Is this your general understanding of the phases the bombing has gone through in Laos?

Mr. McCloskey: Yes, sir. There are classified figures that give the precise percentages of bombs; but the general common knowledge discussed with U.S. was that the bombing in 1969 was double that of 1968, and while there was a slight reduction in 1970, the total of the 2 years, 1969 and 1970, is over twice that of the 2 preceding years.

Senator Kennedy: I think it is interesting, in terms of the Laos refugees, that by official statistics the creation of refugees is directly related to the increased bombing activity – directly related. There can't be, I don't think, any question but that the 300,000 refugees in Laos today that their creation relates directly to the use of American air power.

...The various villages which had been accidentally bombed, were "friendly" villages. Ban Long which resulted in 54 persons killed, 32 wounded, compensation of 1,507,000 kip paid and other claims have not been processed by the Laos Ministry. That was in 1968, and still it hasn't been settled, and figuring 500 kip to the dollar, which is the official rate, (in 1971) that means we compensated them \$55 for every person who had been killed. I don't know how they divided that, but if you just divide the amount compensated for that village they would have gotten \$55 for each person killed. Does that distress you, Congressman?

Mr. McCloskey: Well, it seems a rather small value to put on a human life...I think we could possibly determine how many people we have killed by a thorough canvass of all the 700,000 refugees.

Senator Kennedy: These figures which must be, I would think, exceedingly conservative. I just wonder what goes through a refugee's mind when he is down in a refugee camp, which is either under the control or at least under the jurisdiction of the friendly Laotians. When they ask him how he got there he probably doesn't say, "Well, you fellows are the guys who put me here." I would think if he were going to try and ingratiate himself to those who are now providing him with the tin roofing and the wheat or the little compensations that he might get, I would think he would be talking about those terrible Communist Pathet Lao, that drove him here and that they are the bad guys. Instead, when surveyed you get an overwhelming response about bombing – that is the air power that has made them move, I should think that this adds an additional degree of credibility to the observations you have made and were able to detect from your personal conversations with refugees.

The report continues (pages 27 to 101) about the testimony of refugees from the Plain of Jars region, that there were no Pathet Lao in their villages. There was also a survey of the Refugees from the Plain of Jars in twenty settlements in the Vientiane valley, physical obstacles such as bad weather and bad roads limited the scope of the interview's findings.

Mr. McCloskey: ...their entire village as being destroyed by bombing...the cluster bombs which were used and the white phosphorous kind... cluster bombs spread out over an area

of about 25 acres in size, and when we say their homes damaged, the refugees described every house in every village totally destroyed.

McCloskey also mentioned that he was particularly concerned about the deceit and concealment of the report that led to this hearing. He also drew attention to the villager's homes. 'These homes have mud walls with thatched roofs. They are rather flimsy dwellings and certainly a cluster bomb or a 500-pound bomb or WP bomb is going to completely destroy anything it hits.' He said that the U.S. Embassy wanted to take him to their 'show places' that demonstrated and supported their position, and not to places where we could interview refugees about bombing.

Senator Kennedy: ...Since early 1969 Laos has become the principal target of a 'no holds barred' air war over Indochina. And we are now beginning to understand more fully than ever before –from Government sources – the devastating impact this air war is having on the civilian population. Official refugee numbers have doubled – to over 300,000. Untold numbers of civilian casualties have occurred.

Mr. Fred Branfman, journalist and author, who was Director of Project Air War and interviewed several thousand refugees from March 1967 until February 1971, he was two years with the International Voluntary Services Inc., a private voluntary agency supported by the U.S. Agency for International Development in Laos. He was interviewed by Kennedy. He also supplied Appendix II – Documentation of American Bombing of Civilian Targets in Laos.

Mr. Branfman: Sir, each of these several thousand refugees that I have interviewed and several hundred Pathet Lao defectors have said that his village was either partially or totally destroyed by American bombing while he was still inhabiting his village... In addition to the Plain of Jars refugees, people from Southern Laos, from Muong Phine, which is located west of the Ho Chi Minh Trail, and Pakse all describe the same experience... an estimate from a political officer in the Embassy in March 1970, said there were 250,000 people at that point living in the four provinces of Southern Laos through which the Trail runs. I interviewed pilots from DaNang Air Force Base, who were bombing the Ho Chi Minh Trail, who told me they did not simply bomb Routes 92 and 23 but bombed far west of it. In fact, one of them said the Ho Chi Minh Trail went as far west as Thailand. What I am saying, there is good evidence the United States has been carrying out the most protracted bombings in history in Laos, bombings that have violated our own rules of engagement.

Kennedy then questioned Ambassador Sullivan who responded with rebuttals. The trail area, the hearing heard, was only an area of about 40 to 60 miles deep in Laos. But the rest of Laos –

Senator Kennedy: How wide is Laos?

Mr. Sullivan: At that point about 150 to 180 miles. But the point is as they go west they get out of the tree cover and out of the hills and out into the open plains, and that is where inhabited areas are. They don't use that because their trucks would be subjected to attack, so there is no habitation in the area of the Ho Chi Minh Trail which is bombed by the U.S. forces....Some of the 300,000, for example, that are currently refugees in Laos have been moved as many as three and four times because the war has moved inexorably from the east to the west.

Senator Kennedy: Mr. Ambassador, in reviewing your comments, you have said..."the refugees in Laos are those whose lives have been disrupted by the other war in Laos, which has nothing to do with military operations in South Vietnam or Cambodia." What then is the President's authority for waging such a war if it has nothing to do with the war in South Vietnam?

Mr. Sullivan: I think this matter has been examined in other committees.

Senator Kennedy: Sorry?

Mr. Sullivan: This question has been examined in other committees. I don't feel myself a competent witness to discuss the judicial powers, the powers of the President. We could, if you wish, provide a statement for the record of what the President's authority is in this matter-

Senator Kennedy: It couldn't be the Gulf of Tonkin Resolution?

Mr. Sullivan: No.

Senator Kennedy: It wouldn't appear that would apply, and as you point out, it couldn't be for the protection of U.S. troops. Because, as you say in your statement, the bombing of Northern Laos has nothing to do with military operations in South Vietnam and Cambodia. So it is a legitimate question, I think, to ask the authority for it, if it hasn't anything to do with protecting American servicemen, their lives or well being, or if, as you say, it has nothing to do with military operations in South Vietnam and Cambodia.

Mr. Sullivan: The attacks in northern Laos we do not consider to have to do with the operations in South Vietnam or Cambodia.

Senator Kennedy: I don't see why – they certainly aren't attacking American troops there?

Mr. Sullivan: No there are no American troops there.

Senator Kennedy: American advisers?

Mr. Sullivan: There are American advisers in Laos, but they are not being attacked.

Senator Kennedy: Well, you can understand the question then – I mean, it was triggered by your own comment on this, and I can imagine it raises a question in your mind as well as in ours. If you could give U.S. a more extensive comment on that, if you want to submit it later that will be all right. I don't know whether any of the other gentlemen here would like to make comments on that.

Mr. Sullivan: We can submit it for the record, Senator.

Senator Kennedy: All right. Just in terms of the bombing, when did the United States acknowledge that the bombing actually existed in Laos?

Mr. Sullivan: The first public statement to this effect?

Senator Kennedy: Yes; do you know?

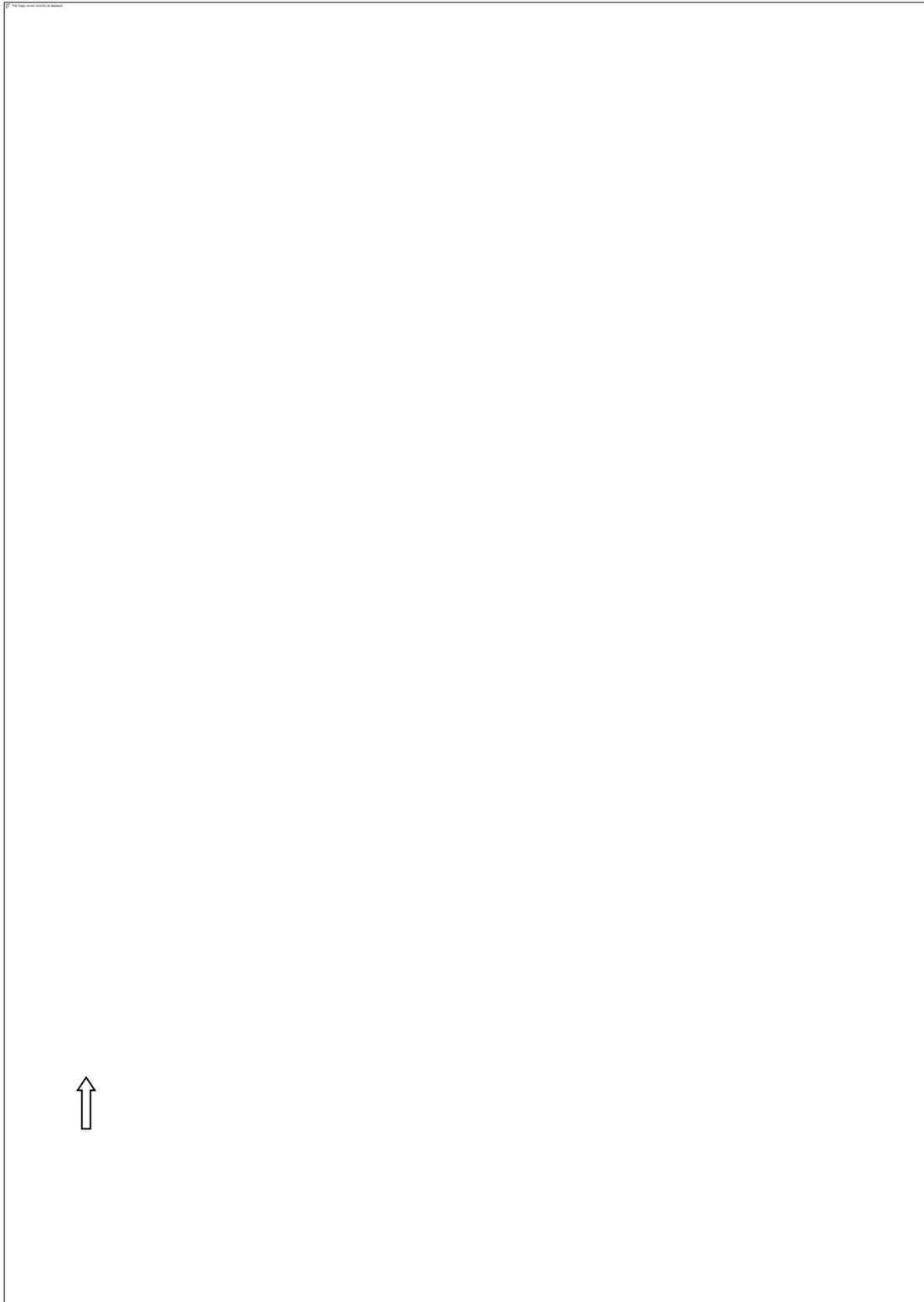
Mr. Sullivan: I think the first public statement – and I would be willing to be corrected on this – was the statement that the President made in March of 1970.... I don't believe there was an official public statement to that effect.

Senator Kennedy: Even though it had been going on since, as I understand, the early 1960s?

Kennedy was exasperated by Sullivan's responses and concluded 'It is a secret war and people don't know what's going on over there.' The transcripts continue like this into the mortality rates, inadequate and overcrowded conditions in the refugee camps. One statement raises a key point about disaster management 'It is, of course, humanly impossible to have good and healthful living conditions immediately in an area to which large numbers of refugees have to be moved suddenly or to avoid inadequate medical facilities in the face of a sudden influx of people needing emergency health care.' And a comment by one of the Doctors highlights the capriciousness of human survival in these conditions 'I will be darned if I know why these people died.' Kennedy also commented on 'the AID budget for future relief in 1970, despite a very significant increase in total number of refugees, we see a rather dramatic reduction in terms of the refugee relief budget and a reduction...'⁵

⁵ Eastland, *War-Related Civilian Problems in Indochina, Part II: Laos and Cambodia*.

Appendix D. Mineral Resources



Appendix D. Proposed Mineral concession in Southern Laos⁶

The current state of environmental management is as follows:

⁶ *Atlas of Mineral Resources of the ESCAP Region - Lao PDR*, Environment and Development (ESCAP, 1990).

The relevant laws for the mining industry related on the environment are the Constitutional Law, Environment Protection Regulations Environmental Assessment Regulation, and Mining Sector, Law on Water and Water Resource, Land Law, Forest Law. These laws and regulations must be reviewed systematically from the viewpoint of the mining industry. However, legally regulations have not been implemented due to the lack of capacity, knowledge and technology in the organisation.

Companies included in South Laos mineral concessions:

Lao-China Oriental Minerals Development Co Ltd, Lane Xang Development, Chaleunxokxay Construction, South Asia Economic & Technical, Lao Service Incorporation, CEIEC & CEIECSC, Lao Aluminium Industry, Viet Phuong, XJ International, Quanbinh Industrial Trading SR, Chongya Exi, Santi Trading Ltd., Phonepaseuth, Sinlong Ltd., Savane Gypsum, Aries Mining Ltd., Lane Xang Mineral, Sengchan Mining, Enterprise Gypsum, VINA Chem, Viet-Lao Corporation, Xaylatana Kosag, Yunnan Machinery Import & Export Co. Ltd., Tienchingchongchi Ltd., Mining Development Company Ltd., Lanxang Development Corporation, Magnum Fertilizers Company, Lao-China Gold Mining Industry, Khamkeut Mining.

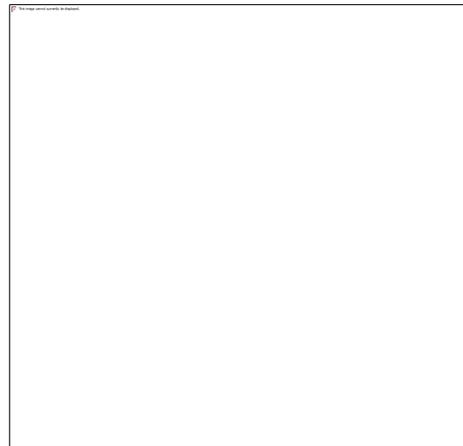
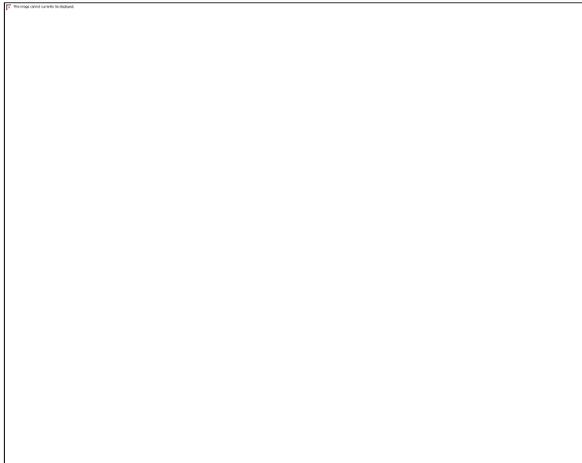
For petroleum prospects see Smith and Stokes.⁷

⁷ P. F. Lovatt Smith and R.B. Stokes, 'Geology and Petroleum Potential of the Khorat Plateau Basin in the Vientiane Area of Lao P.D.R.', *Journal of Petroleum Geology* 20, no. 1 (1 January 1997): 27–49, doi:10.1111/j.1747-5457.1997.tb00754.x.

Appendix E. Accident Report

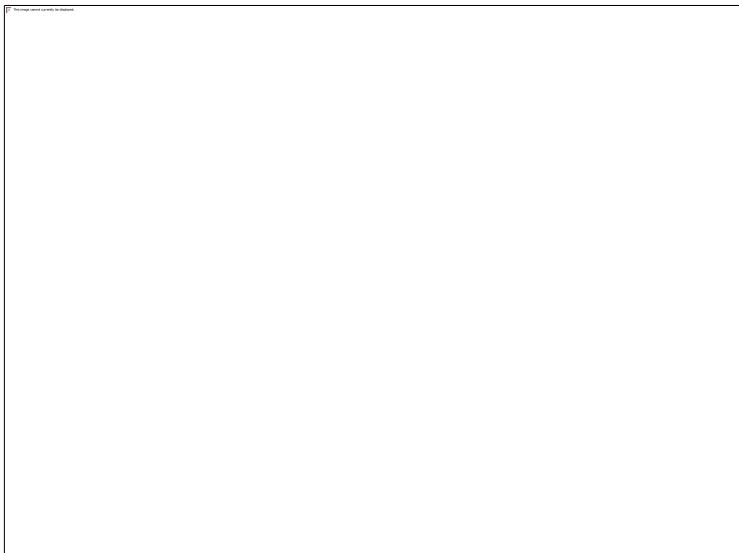
Placeholder for the Accident Report content.

Comparing a mine found in Xieng Khouang and M19 ATM



Mine found in Xieng Khouang

UXO Lao SEOD and JMAS investigated the Mine crater on 24th Oct 2007, with metal detectors and also found plastic fragments; they then compared the fragmentation with a suspected Mine.



National Regulatory Authority for UXO/Mine Action Sector in Lao PDR ACCIDENT – XIENG KHOUNG 22 OCTOBER 2007

Introduction

A fatal accident occurred in Xieng Khouang on 22 October 2007 in an area that had been cleared by UXO LAO. This report describes the sequence of events leading to the accident, the causes of the accident and makes recommendations for the future.

Background

UXO LAO in Xieng Khouang are in the process of establishing a new permanent demolition ground. They have a growing stockpile of UXO which urgently needs to be destroyed. UXO LAO have been provided with an area and have been preparing and improving access roads to make it more useable. The accident happened as part of the UXO LAO route preparation work, some of the access route was uneven and they had contracted a local tractor owner to plough and then level parts of the track. Whilst carrying this activity the tractor was blown up and the driver, Mr. Ly, killed.

Chronology

13 September, the demolition area was tested and approved by local authorities and UXO LAO map attached. An assessment of the access routes was made resulting in a decision to improve the access track.

17 – 21st September, combined technical survey and UXO clearance of the access route. This activity is described in detail in the body of this report, in summary a 2,013m x 6m track was searched and the centre line marked; 2 x BLU 24, 1 x BLU 26, 3 x 40mm and 16 x 20mm items were found. The track was declared clear for access, map attached.

22 October, 0800 hrs tractor commences work to plough and level areas of the track under supervision of SEOD and 4 person survey/ clearance team (a multi functional team charged with preparing the demolition area). Two areas of track were ploughed, and the tractor had moved on to a third area of the track where it had commenced work and completed one plough run along the southern side of the track.

22 October, 1045 hrs, as the tractor moves back down the track after completing the first plough run an explosion occurs under the rear left wheel, this splits the tractor in two and kills the driver. Map and photographs attached. Immediate action drills were carried out by the SEOD officer *Mr Touivilay*, (who was at one end of the plough run and 58m from the blast and the tech survey team who were at the other end of the plough run and 176m from the blast.

22 October, 1050 hrs, UXO LAO Provincial operations office were informed about the incident and post incident procedures supported. The on site team divided up to recover the body and to secure the area for later investigation.

22 October, The UXO LAO Provincial Coordinator and senior SEOD officer were both attending a meeting in Vientiane and were informed of the incident at around 1200 hrs, (their phones having been switched off during the morning meeting). They instructed that an initial investigation should proceed.

22 October, UXO LAO and Japan Mine Action Service (JMAS) move to the accident site at round 1300 hrs. and commence initial investigation into the cause, further details are provided in the main part of this report. Concurrent activities of informing the family of the deceased, the provincial authorities and assisting with funeral arrangements etc.

23 October, Provincial inquiry and investigation into the incident, involving UXO LAO and local authorities, police and others, report attached.

24 October, informal information reports the incident to NRA STA, early evening.

25 October, NRA request more information from UXO LAO and initiate a Board of Inquiry to examine the incident. Initial analysis report from JMAS TA received concluding that the cause was suspected to be the detonation of a plastic anti tank mine, type unknown.

26 – 28 October, NRA Board of Inquiry team travel to Xieng Khouang (first available flight), and commence follow up inquiry with interviews and examination of the accident site.

Site history and clearance task

Xieng Khouang Province is heavily contaminated by UXO, both air dropped and from land battles. The area of the demolition ground had not been specifically searched in the past, but had been extensively used for grazing and cultivation in recent years. Some of the surrounding area had been ploughed using tractors. The remains of two Pathet Lao tanks,

destroyed during the war, were within 2 km of the accident site, emerging reports after the accident suggest that one of these tanks was thought to have been disabled by a mine, the other by a rocket. Evidence of mines is rare, some known mined areas do exist in Xieng Khouang and TM 57 mines have been recovered in other areas of the Province. No mine information from around the incident area was known to UXO LAO prior to the accident. Local war history is not well documented and during the war local communities generally fled the fighting and were not present at the time of land battles. Mine warfare was engaged in, but in a variety of ways, including the laying of small mine fields and more commonly by the use of individual mines as weapons in areas likely to be transited by enemy forces.

Generally, given the nature of the war, the bombing of targets in Xieng Khouang and the jettisoning of bombs on the Plain of Jars from aircraft returning to their bases, the entire Province is considered as potentially UXO contaminated unless proven otherwise.

Given the history, UXO LAO decided that although the access track had been transited many times by vehicles including Gas trucks, land cruisers and tractors, a sub surface instrument search of the access track should be conducted. A multi functional survey and clearance team under the supervision of a SEOD operator was subsequently tasked to do this work. The route was surveyed, mapped and then checked, in the following sequence. The route was 2,013m long and 6 m wide. Two UXO LAO personnel were deployed as vegetation cutters moving along the route ahead of the clearance team, using mechanical hand held 'trimmers'. The clearance team divided the road into sections, depending on the geography and then they divided the 6m width into 1m wide lanes for clearance. The clearance was then conducted by a three person team, with the lead person using a Mine Lab F1A4 detector with a large search head, he would mark any indications; the second person would pinpoint the signal using an Ebinger 505 detector and mark the spot; the third person would excavate the area for UXO / metal. Following removal or destruction, the Mine Lab would be used to confirm that no other signals were detectable from the area.

At the commencement of the tasks the detectors were checked and detection confirmed as being able to detect a BLU 26 target at 30cms and a 20mm target at 25cms. All detectors were reported to have passed these checks.

The clearance of the track took place between the 17th and 21st September. The following items of UXO were found: 2 X BLU 24, 1 X BLU 26, 3 X 40mm, 16 X 20mm. The clearance was to an UXO free, not metal free, standard, in this case signals indicating small items of metal would have been disregarded or not detected.

An estimate of the clearance rate is as follows:

Area 2,013 m long by 6 m wide, total 12,078 square meters, cleared over five days average rate 2,417 m per day, daily working times, start work on site 0800 hrs until 1200 hrs with 10 minute breaks after 50 minutes work, resulting in up to 3 hours 20 minutes working time, lunch 1200 – 1300, then a work period 1300 to 1530 (or later depending on the length of area being cleared) with two 10 minute breaks, resulting in up to 2 hours 10 minutes clearance time, giving a total clearance time of 5 hours and 30 minutes each day.

-This would average out as a clearance rate of 449 square meters per hour or 7.5 square meters per minute. Some work time would have been taken up with marking, moving lanes and investigation. The results did yield a number of UXO and the clearance team was made up of very experienced UXO technicians.

Following the clearance and survey of the route a period of time elapsed before track reconstruction work commenced. This work was planned to include grading of the track in places and the construction of culverts to aid drainage.

Incident

The tractor was contracted by UXO LAO to help plough and grade the track, and was being supervised by the SEOD officer and the survey team to work within specific areas within the

width of the cleared route. Two other areas along the route had been ploughed and one plough length had been completed along the stretch of land where the incident happened. For the ploughing the tractor, a Russian built Belarus tractor unit, weighing in excess (with a four disc plough attachment) of 3720 kgs, moved along the right side of the track in a westerly direction, (we don't know the ground pressure). At the end of the plough run and under the direction of the SEOD officer the tractor turned around and was proceeding in an easterly direction with the plough unit raised, returning to the start point when it would have turned round under the direction of the survey team.

The UXO LAO team vehicle, a Land Cruiser, had transited the route twice that same morning prior to ploughing. This stretch of track had two distinct wheel tracks that vehicles had been using, but due to the area ploughed, on the return journey the tractor wheels were outside of the two distinct tracks with the rear left wheel in the centre of the track and alongside or within the final plough furrow. The left rear wheel took the force of an explosion which broke the tractor in half with the rear portion and cab thrown some 10m from the crater and the front portion some 5m from the crater. See attached maps and photographs.

The UXO LAO SEOD officer was closest to the blast at 58m in an area hit by dirt and other secondary fragmentation. No UXO LAO staff received physical injuries. The SEOD officer and the survey team personnel moved directly towards the scene of the explosion but were unable to help the tractor driver whose injuries proved fatal.

During the afternoon of the 22nd October the scene of the incident was investigated by UXO LAO with assistance from JMAS Technical Advisors, resulting in the following information: that the crater was some 90cms deep by 2.7m across. That the crater had carbon deposits throughout and no specific carbon ring could be identified. That no metal fragmentation was found other than just some fragments from the tractor. That many pieces of burnt plastic were found embedded in the crater sides and base, (samples retained).

In the process of investigation the crater was excavated and enlarged.

In conclusion it was assessed that the blast and evidence of plastic fragmentation was commensurate with the results of a large plastic anti tank mine blast, exact type unknown at that time, the damage was considered as being possible from an anti tank mine.

Subsequent investigation by the NRA Board of Inquiry team found no contrary evidence or information and the Board agreed with the initial conclusion, which is that the explosion was caused by the left rear wheel of the tractor activating an anti tank mine, of plastic casing, type unknown. Further research indicated that the mine was an American made plastic anti tank mine an M19, technical details attached.

Discussion

Whilst plastic cased anti tank mine are well known, no history of their use or of previous cases of recovery by UXO teams in Lao PDR is known. TM 57 mines have been recovered along with TM 46 anti tank mines, both of which had metal cases. It is known the TM 62 series of mines were used in Lao PDR and within that series, plastic mines are available, (also metal cases, cardboard and wood), but from research with the MOD no records of plastic TM62 mines are known within Lao PDR.

Given the story of a Pathet Lao tank being destroyed, the use of American made mines was investigated and the technical details of the M19 plastic anti tank mine researched. From the fragments recovered part of the "activator-well plug" was identified, pictures attached.

The existence of such mines, poses a hitherto unrecognized threat and risk. Current UXO detection procedures rely on the identification, through survey, that an area is not mined and then on detection of specific metal targets and the disregard of metal smaller than 'target' size. This doctrine has enabled rapid clearance of land as 'UXO free' compared to previous processes of 'metal free' and has thus far been without reported incident.

Following the accepted procedures and clearance process, the clearance methodology adopted by UXO LAO, in the absence of any known mine threat (at the time), was considered by the Board as reasonable.

The depth of this mine, whilst unknown for certain is thought to have been between 30-40 cms, (possibly shallower due the excavation of a ploughed furrow). The mine is likely to have been in place in excess of 35 years.

The remaining threat: it is unknown if more mines are present in the area, whilst land use in the area, guerrilla tactics of war fighting and lack of previous evidence would make this - unlikely, the fact that this incident happened means the presence of more mines cannot be ruled out.

With immediate effect the route should be closed for access by vehicles whilst consideration is given to subsequent clearance plans. From a tactical view point the presence of other mines further along the route could be considered unlikely however the areas close to the scene of the explosion, between sloping ground to the north and an earth mound feature to the south should for the time being be considered as a 'suspect hazardous area'.

Liability Issues

The issue of liability for compensation of the victims family, a widow and three children, should be discussed within the NRA and the resulting decisions documented.

Conclusions

That the accident was caused by the activation of a plastic cased anti tank mine, an American M19.

That the clearance drills carried out by UXO LAO prior to the accident were reasonable given the known situation at the time of clearance.

That this was an unfortunate accident.

Recommendations

That the area around the incident site is placed out of bounds.

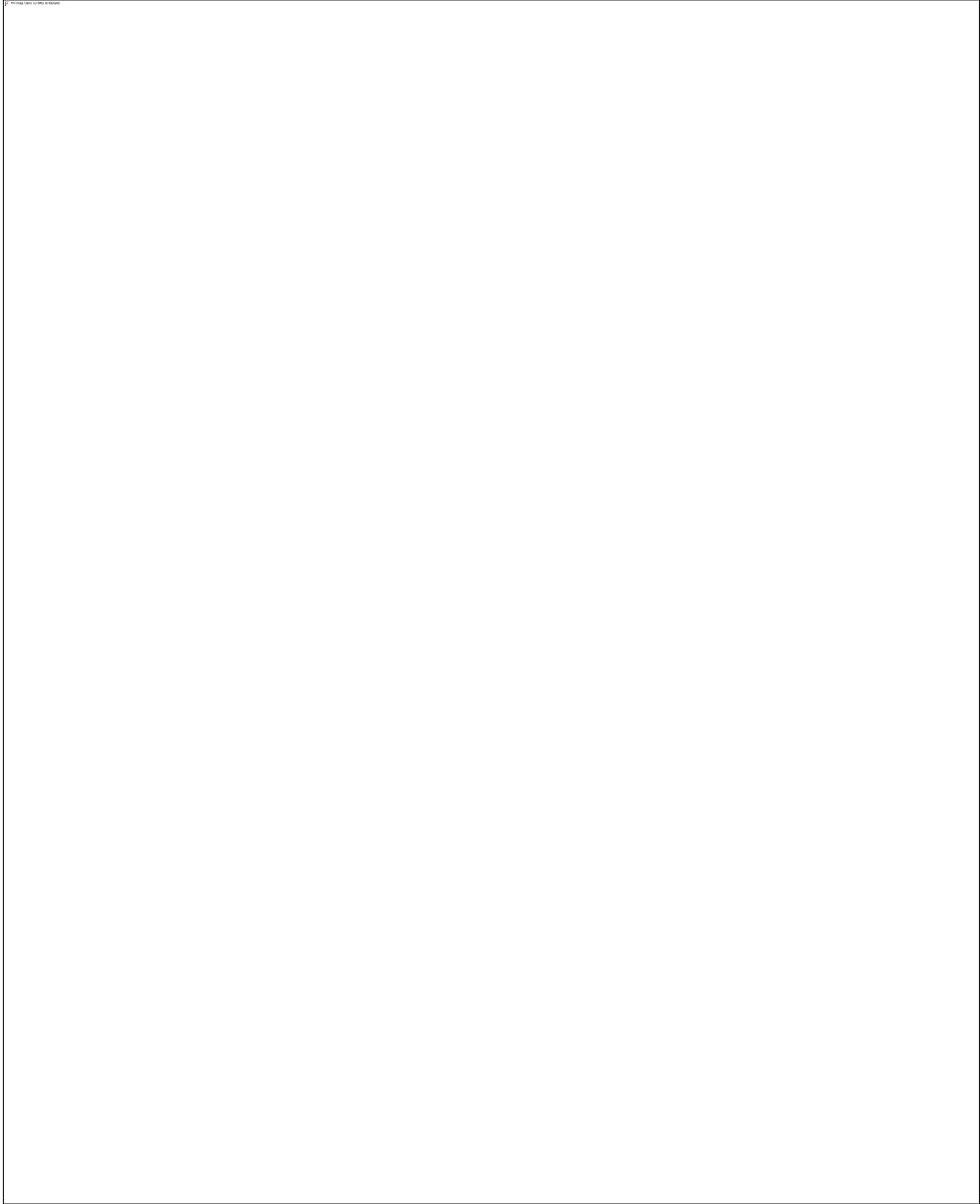
That vehicles are prohibited from transiting the area.

That an access route to the demolition site should be cleared at least to a standard of 'metal free' to increase the likelihood of detecting low metal content plastic cased mines, and that consideration should be given to use of other detection means (MDD, GPR).

That the resulting issue of liability and possible insurance solutions are researched and clear policy guidelines provided by the NRA.

Attachments

1. Board of Inquiry Convening Order
2. List of persons interviewed
3. Provincial Inquiry Report of findings
4. UXO LAO report
5. JMAS report
6. Map of incident
7. Photographs of the scene
8. Technical details of the M19 mine



Transcribed as follows:

8th November 2007

Dear Colleagues and UXO Sector Stakeholders

Board Of Investigation Report

The NRA was alerted, on the 26th October 2007, to an unfortunate and fatal accident on the site of a UXO clearance operation which had taken place two days previously. In line with Lao National Standards on Accident Investigation, I immediately appointed a Board of Inquiry with instructions to travel to the site of the accident and report on the circumstances.

The subsequent report is attached to this letter giving background, context, conclusions and most importantly clear recommendations on actions to prevent a recurrence.

Conclusions:

- *That the accident was caused by the activation of a plastic cased anti tank mine, an American M19.*
- *That the clearance drills carried out by UXO Lao prior to the accident were reasonable given the known situation at the time of clearance.*
- *That this was an unfortunate accident.*

Recommendations:

- *That the area around the accident site is placed out of bounds.*
- *That vehicles are prohibited from transiting the area.*
- *That an access route to the site should be cleared at least to a standard of 'metal free' to decrease the likelihood of detecting low metal content plastic cased mines, and that consideration should be given to use of other detective means (...GPR)*
- *That the resulting issue of liability and possible insurance solutions are researched and clear policy guidelines provided by the NRA.*

I encourage you to carefully read the report and invite your discussion at the next Clearance Technical Working Group which will be held at the NRA as usual on the last Tuesday of the month (29th November),

Yours sincerely,

Dr. Maligna Saignavongs

Director NRA

Appendix F. Lao officials

Lao officials are addressed by the first element in their names. Date of this information 17 October 2012

Pres.	CHOUMMALI Saignason, <i>Lt. Gen.</i>
Vice Pres.	BOUN-GNANG Volachit
Prime Min.	THONGSING Thammavong
First Dep. Prime Min.	ASANG Laoli, <i>Maj. Gen.</i>
Dep. Prime Min.	DOUANGCHAY Phichit, <i>Maj. Gen.</i>
Dep. Prime Min.	SOMSAVAT Lengsavat
Dep. Prime Min.	THONGLOUN Sisoulit
Min. of Agriculture & Forestry	VILAYVANH Phomkhe
Min. of Communications, Transport, Posts, & Construction	SOMMATH Pholsena
Min. of Education & Sports	PHANKHAM Viphavanh
Min. of Energy & Mining	SOULIVONG Daravong
Min. of Finance	PHOUPHET Khamphounvong
Min. of Foreign Affairs	THONGLOUN Sisoulit
Min. of Industry & Commerce	NAM Viyaketh
Min. of Information, Culture, & Tourism	BOSENGKHAM Vongdara
Min. of Interior	KHAMPANE Philavong
Min. of Justice	CHALEUAN Yapaoher
Min. of Labor & Social Welfare	ONECHANH Thammavong
Min. of National Defense	DOUANGCHAY Phichit, <i>Maj. Gen.</i>
Min. of Natural Resources & Environment	NOULIN Sinbandith
Min. of Planning & Investment	SOMDY Douangdy
Min. of Post, Telecommunications, & Communication	HIEM Phommachanh
Min. of Public Health	EKSAVANG Vongvichit, <i>Dr.</i>
Min. of Public Security	THONGBANH Sengaphone
Min. of Public Works & Transportation	SOMMATH Pholsena
Min. of Science & Technology	BOVIENGKHAM Vongdara
Min. to the Prime Min.'s Office & Head of Public Admin. & Civil Authority	BOUNPHENG Mounphosay

Min. to the Prime Min.'s Office & Head of Sustainable Development	KHAM-OUANE Bouppha
Min. to the Prime Min.'s Office & Head of Water Resources & Environmental Authority	KHEMPHENG Pholsena
Min. to the Prime Min.'s Office	BOUASY Lovansay
Min. to the Prime Min.'s Office	BOUNHEUANG Duangphachanh
Min. to the Prime Min.'s Office	BOUNTIEM Phitsamay
Min. to the Prime Min.'s Office	DOUANGSAVAD Souphanouvang
Min. to the Prime Min.'s Office	ONNEUA Phommachanh
Min. to the Prime Min.'s Office	SAISENGLI Tengbliachu
Min. & Chmn. of National Mekong Ctte.	KHAMLOUAD Sitlakone
Min. & Chmn. of National Tourism Authority	SOMPONG Mongkhonvilay
Min. & Head of Cabinet, Pres.'s Office	SOUBANH Sritthirath
Min. & Head of Govt. Secretariats	CHEUANG Sombounkhanh
Chmn., National Narcotics Control Board	SOUBANH Sritthirath
Chmn., Planning & Investment Ctte.	SINLAVONG Khoutphaytoun
Chmn., State Control Commission	ASANG Laoli, Maj. Gen.
Chmn., State Inspection Ctte., & Head, Anticorruption Agency	BOUNTHONG Chitmani
Governor, Bank of Laos	SAMPAO Phaysith
Ambassador to the US	SENG Soukhathivong
Permanent Representative to the UN, New York	KANIKA Phommachanh

Appendix G. Individual NGO Projects

Project Title: Implementation of NRA Strategy ‘Safe Path Forward II’

Appealing agency: NRA for UXO/Mine Action Sector in Lao PDR

Project budget: \$2,000,000

Funds committed \$1,000,000 through UNDP Trust Fund

Implementing partners

- 17 members nominated by the Prime Minister, under decree 406/PM
- United Nations Development Programme
- UXO/Mine Risk Education operators
- Survey and Clearance operators (humanitarian, commercial and military)
- Victim Assistance operators

Targeted beneficiaries

- Leading Committee on Rural Development and Poverty Eradication
- NRA staff
- Provincial and District staff
- Lao people who live in UXO affected areas

Project duration: ongoing

Project Objectives

- Continue to reduce the number of casualties;
- Ensure that the needs of UXO survivors are met;
- Release priority land and clear UXO in accordance with National Standards and treaty obligations;
- Ensure effective leadership, coordination and implementation of the National Programme
- Ensure sustainable national capacity fully integrated into the regular architecture of the Government
- Meet international treaty obligations

Project Activities

- Regulate, coordinate, monitor and assure quality and cost-effectiveness of clearance, land release, risk education and victim assistance programs in Lao PDR
- Develop and implement UXO Sector Policy; maintain support for the UXO sector, nationally and internationally
- Expand the UXO tracking system of UXO survivors (phase 2)
- Expand the District Focused Approach (DFA)
- Integrate UXO clearance with national poverty reduction plans to prioritise area for clearance
- Encourage other countries to adopt the CCM
- NRA to coordinate building Lao National Army Capacity and Operations for Humanitarian ERW Clearance

- Conduct a Capacity Needs Assessment of the NRA, with support from UNDP

Expected outcomes

Areas for UXO clearance and development identified and prioritized on basis of degree of UXO contamination, impact and development needs nationally;

Priority areas are included in multi-year work plans

Reduced UXO accidents through behavioral change to ensure the number falls to 75 or fewer

Lao people are more aware of the dangers of UXO

UXO survivors are registered and receive better medical care, rehabilitation and other treatment and support as required

Budget \$1,290,000

Expansion of operational support for Mine Action in nine Provinces

1. Project title. Cluster Munition Remnant Survey in Saravan, Sekong and Attapeu. Implementation of NRA Strategy “Safe Path Forward II’
2. Pillar (e.g. mine clearance. Risk education or victim assistance) multiple
3. Appealing Agency Norwegian People’s Aid (NPA)
4. This is an ongoing project with a budget of \$200,000, for one year. The funds committed and secured U.S. \$1,000,000. But they require this further funding for two teams. The implementing Partners are under the overall coordination of the NRA and with the Provincial Authorities in the three Provinces. The targeted beneficiaries will be approximately 100 villages in Saravan, Sekong and Attapeu living on UXO contaminated land. This project has a duration of one year (2013). The project objectives are the villagers in Saravan, Sekong and Attapeu live and work without accidents and the fear of UXOs. The project activities, two teams (35 local staff) conducting Cluster Munition Remnant Survey and establishing Confirmed Hazardous Areas (CHAs) and conducting roving tasks. The expected outcomes are to: Improve understanding of the real remaining UXO contamination in the provinces of Saravan, Sekong, Attapeu. Approximately 2,000,000m² (2km²) of established Confirmed Hazardous Areas (CHA) of cluster munitions. Approximately 100 completed roving tasks, removing all other UXOs (not cluster munitions).

(2) Project Title: Reducing UXO Risk and Improving Livelihood of Ethnic Communities in Sekong Province. Pillar: Multiple

Appealing Agency: CARE International in Lao PDR – Sekong Office, is an ongoing project/program: implementing Partners; National Regulatory Authority, Sekong Labour and Social Welfare Office, District Offices of Labour and Social Welfare (Lamam and Dak Chueng District)

Target : Beneficiaries are 19 villages in Lamam and Dakchueng Districts with an estimated total population of 7,365 people. The project duration was July 2007 – June 2012 (5 yrs).

The Project objectives: To reduce vulnerability of the poor by integrating poverty reduction and crosscutting issues with disaster management and UXO approaches in Laos.

Project Activities

- Reduce physical risks and livelihood constraints associated with UXO contamination.
- Improve rural based livelihoods amongst ethnic communities with a direct measurable impact on the well being of women and girls
- Build village and district capacities to identify and address livelihood opportunities and risks.
- The Clearance Tasks are expected to be implemented for development priorities including:

Expected Outcomes:

- UXO cleared from lands required for livelihood and market development activities
- Establishment of new UXO clearance agency in Sekong and development of additional local clearance capacity.
- Increase emergency and continuing medical treatment resources available to UXO victims.

(3)Project Title: Integrated Trauma Care and Mine Risk Education in High Risk Communities

Pillar: Victim's Assistance; Mine Risk Education

Appealing Agency: Catholic Relief Services

Project Status: Pending (New)

Budget: \$267,553 (\$136,750 Year One; \$130,803 Year Two)

Funding Required: \$267,553 (Pending Approval by Donor)

Implementing Partners: Ministry of Health, Lao PDR; Trauma Care Foundation

Targeted Beneficiaries: 1,800 participants in Xaibouathong district, Khammouane Province

Project Duration: October 1, 2012 – September 30, 2014 (24 months)

Project Objectives:

- Employing a twin track approach of UXO victim assistance and mine risk education. Additionally, CRRS will communicate its activities with mine clearance operators working in Khammouane province in an effort to identify and establish linkages between relevant stakeholders.

Project Activities

- Train VEDC members and VHVs on how to identify local resources to create community maps and emergency plans

- Provide follow-up support in the community to complete community maps and emergency plans
- Conduct assessment in neighbouring district to identify needs, gaps, and opportunities for expansion
- Train Village Health Volunteers and Village First Responders in basic first aid and CPR Conduct refresher trainings for Xaibouathong UXO medics
- Support UXO medics to facilitate Injury Chart meetings
- Select highly UXO contaminated villages and those demonstrating high risk behaviour for conducting MRE activities
- Support community members through training and follow-up support in the village to hold MRE events
- Facilitate the incorporation of active learning methods into MRE events

Expected Outcomes

- Communities provide trauma victims with immediate, life-saving support:
- Community Members practice safer behaviours in UXO contaminated areas

(4) Project title: UXO and Livelihood project in Mahaxay and Xaybuathong District, Khammouane Province

Pillar: Multiple

Appealing Agency: World Vision Laos, Vientiane Office

- New project – the project is intend to start implementing activities in 2013

Project budget approximately \$868,640 for three years

Funds committed and funds still required (funding gap): Committed already: Approximately \$289,140 Funds still required: Approx. \$579,500

Implementing Partners

- MAG (Mine Advisor Group)
- Ministry of Social welfare (National, province and District level)

Targeted Beneficiaries are approximately 6,200 household within 20 villages over the duration of project.

- Duration of project is 3 years

Primary goal of the project will be to clear UXO contaminated land and undertake development initiative with community on this land.

Project Activities

- UXO clearance
- Livelihood activities

Expected outcomes

- Community members educated about the risk of UXO and how to minimize risk of accident and injury
- Cleared and use the land for additional agriculture production and for the construction of infrastructure and community building such as school, health centres, market and rice paddy expands
- World Vision Laos will be able to implement its planned development activities including education and training initiative
- Community members safer with the knowledge that they can fully utilize land without fear

(5) Project title: The Ban Advocates: Advocacy on the Convention of Cluster Munitions involving a group of survivors

Pillar: Victim Assistance (Advocacy)

Appealing Agency: Handicap International

Indicate whether ongoing project/programme: Ongoing

Project budget: Approximately \$50,000 per year from 2012 till 2016

Funds committed and funds still required (funding gap)

- Funds committed: 20,000 Euros until March 2013 by HI, 30,000 Euros from October 2011 till October 2012 by the Luxembourg government Funds required: 50,000 U.S.D per year in 2014- 2015-2016

Implementing partners: The National Regulatory Authority

Targeted Beneficiaries: Communities and local authorities in targeted districts, national authorities, international community

Project Duration: 6 years (2010 -2016)

Project Objectives:

- To encourage Lao authorities to take initiatives to implement the Convention of Cluster Munitions in Laos through awareness-raising at each level of government
- To encourage neighbouring countries to join the CCM and advocate for Laos to accede to the MBT

Project Activities

- Provide support and capacity building to NCDP focal points at province and district levels
- Information collection and dissemination on key resource stakeholders at province and district levels
- Personalised support to UXO survivors, their families and the families of those killed by UXO and people with disabilities to start to improve livelihood activities

Outcomes

- The National Committee for the Disabled Person and the Lao Disabled People’s Association will have improved coordination capacities on Victim Assistance
- Persons with disabilities, UXO victims, survivors, and their families, living in 2 districts, Savannakhet Province will have improved economic activities
- Improved attitudes of community toward UXO survivors and people with disabilities

(6) Project title: Safe Steps Forward: Integrated UXO Threat Reduction and Impact Mitigation in the Lao PDR

Pillar (e.g. mine clearance, risk reduction or victim assistance) UXO clearance, Roving, Risk Education and Community Liaison, District Focus Survey

Appealing Agency: Handicap International, expansion of an ongoing project

Project budget (total and breakdown by year)

	Year 1	Year 2	Year 3	Year 4	Total
Budget in euro	1,870,000	1,330,000	1,160,000	1,160,000	5,520,000

Funds committed and funds still required (funding gap): Committed: 2,580,000 Euros.

Implementing Partners: NRA, development actors and local authorities.

Targeted Beneficiaries: Population living in Nong, Vilabuly and Sepon in Savannakhet Province, Local authorities of Nong, Sepon and Vilabuly

Project Duration: 4 years

Project Objectives: Improve Security and stability in LPDR through a comprehensive humanitarian UXO program. Improve the quality of Risk Education in Savannakhet Province

Project Activities: General Survey (District Focus Approach), Technical Survey (Cluster Munitions Remnant Survey), Battle Area Clearance, Roving Risk Education and Community Liaison

Expected Outcomes: District Authorities and the National Regulatory Authority for the UXO/Mine Action Sector in the Lao PDR will have had the UXO threat and resulting impact defined and mapped through completion of the District Focus Survey. District Authorities will have had land released through removal of UXO posing immediate problems to the communities (emergency capacity response) and through safe and efficient area clearance based on decontamination and development needs in support of national and local government initiatives to improve living standards. At risk communities will have been empowered to reduce and manage UXO risks through effective Community-Based Risk Education and Community Liaison activities.

Project title: Improving access to livelihood services for 1500 UXO survivors, persons with disabilities and their family and strengthening overall coordination of Victim Assistance in Lao PDR

Pillar: Victim Assistance

Appealing Agency: Handicap International. New project.

Project budget (total and breakdown by year): 900,000 Euros from 2013 until end of 2016

Funds committed and funds still required (funding gap): Funds committed: 520,000 Euros from Dutch Ministry of Foreign Affairs, Funds required 480,000 Euros.

Implementing partners

- The National Regulatory Authority
- The National Committee for Disabled People
- The Lao Disabled People Association

Targeted Beneficiaries

- UXO survivors, families of UXO survivors, families of those who died from UXO, people with disabilities in the districts of Nong and Sepone, Savannakhet Province.

Project duration: 4 years (2013 – 2016)

Project Objectives: The overall objective is to develop overall coordination of Victim Assistance in Lao PDR and to improve access to livelihood services for 310 UXO survivors, their families, the families of those people killed by UXO and other persons with disabilities.

Project Activities

- Capacity building of 8 Ban advocates (training)
- Awareness on CCM at district and Province level targeting local authorities
- Participation to international conferences
- Meetings with Embassies of countries in the region who haven't yet signed the convention

Expected Outcomes

- Improved awareness on CCM among communities and local authorities
- Local authorities initiating actions to support victims
- Improved commitment from international community to support VA in Lao PDS

(7) Project Title: Improve Trauma care for UXO survivors in seven highly affected provinces

Pillar: Victim Assistance

Appealing Agency: World Education Laos, ongoing project.

Project budget \$260,000 over 2 years.

Funds committed and funds still required (funding gap): For Sept 2012 – Aug 2013 - \$73,200

Implementing partners: Ministry of Health, Physical Medicine and Rehabilitation Centre, Departments of Health in seven provinces

Targeted beneficiaries

- The direct beneficiaries of this project include 50-100 UXO accident survivors, approximately 1,000 other trauma patients in the hospitals; 105 doctors and nurses from province and district hospitals; 20 trainers at central level.
- Project Duration: Sept 2012 – Aug 2014 (24 months)

Project objectives

- Improve training, curriculum writing and medical handbook training to trainers at central, province and district levels
- Improve quality of care through continuing professional development training for 15 province and district staff from each of seven UXO-affected provinces
- Provide medical and economic assistance of UXO accident survivors

Project Activities

- Training of trainers training for 15 medical and nursing staff⁸ in each province and 20 central level trainers
- Organisation and updating of the emergency medical, TOT, and VHV curricula
- Organise medical and nursing training activities in Vientiane for 105 staff
- Develop standardize curricula for trauma training

Expected outcomes

- 135 medical trainers able to organize medical and nursing training activities using participatory training methods
- 105 medical and nursing staff will have stronger skills in caring for UXO survivors
- 50-100 UXO accident survivors will receive improved quality of care
- A digital emergency medical training curricula and resources will be produced in Lao.

Name: Mark Gorman, Country Director, World Education, Lao PDR

(8) Project Title: Quality of Life for UXO Survivors

Pillar: Victim Assistance

Appealing Agency: Assistance Association to Improve Quality of Life for People with Disabilities and UXO survivors in Xieng Khouang Province, a non-profit association

Indicate: Ongoing

Project Budget: For Sept 2012 Aug 2013 - \$8,000

Implementing partners: The Quality of Life Association, Department of Health in Xieng Khouang Province, Integrated Vocational Training School in Xieng Khouang Province and World Education Laos.

Targeted beneficiaries: The direct beneficiaries are the approximately 100 UXO survivors who will receive support and follow-up care while in hospital

Project duration: Sept 2012 – Aug 2014 (24 months)

⁸ Pranom Othaganont, 'Evaluation of the Thai–Lao Collaborating Nursing Manpower Development Project Using the Context Input Process Product Model', *Nursing & Health Sciences* 3, no. 2 (2001): 63, doi:10.1046/j.1442-2018.2001.00072.x.

Project objectives

- Improve sustainability of the QLA through training of executive board and membership in project cycle management, financial management, fund-raising
- Improve understanding of psycho-social support through UXO survivor follow-up, analyzing needs and conducting workshops and trainings
- Provide livelihoods development assistance to UXO accident survivors

Project Activities

- Training of trainers training for QLA staff and membership
- Expand membership from 20 -40 members
- Training in psycho-social support for QLA staff and membership
- Provide education support to UXO survivors in primary and secondary schools
- Develop QLA to both fund-raise and demonstrate results of handicrafts trainings

Expected outcomes

- 100 newly injured UXO survivors will receive follow-up and psycho-social support while in hospital and during follow-up activities in their villages
- The QLA membership will increase to 40 and they will receive training required to fulfill their roles
- 200 UXO victims (UXO survivors, communities impacted by UXO contamination) will receive livelihoods development training and support

7,000 estimated visitors to QLA centre year will learn about UXO problem and assistance which benefits UXO survivors.

Appendix H. Interview with: Violaine Fourile, Handicap International January 2013

Interview with: Violaine Fourile, Handicap International.

Q: How long have you been Head of Mission in Laos?

R: Since October 2010, running the UXO Programme Management and developing mine action. We work in accordance with the governments 'Safe Path Forward Phase I and Phase II. We operate in Nong District in Savannakhet

Q: Who funds your work?

R: The European Union. The budget total was U.S. \$20 million plus U.S. \$ 10 million but there is a capacity for U.S. \$ 20 million more. We have also just received four million Euros from the Dutch government, for work till 2016. There are continuous funding problems, the U.S. needs to increase support to the UXO sector, and Congress may approve U.S. \$8 million to the NRA.

The U.S. was providing funding to the Lao army, for training in UXO/EOD.

We currently have 75 national staff in EOD and have increased three clearance sections, we would like to have six plus a Roving team, our objective is to carry out a) Technical survey, b) same methodology as NRA, c) increase surveys.

Development plans are local, but if there is no development then there is no clearance, unless the contamination is so high, and the survey defines the location and size of the contamination, then we prioritise.

The government are dropping the District Focused Approach, to match clearance plans with the National Socio/economic plan at Provincial level. On the socio economic plan – see where it is and conduct technical survey and then task the clearance.

The NRA is changing to come under the control of the Prime Minister's office, and UXO Lao will be managed directly by the NRA and not under the Ministry of Labour and Social Affairs.

Q What are the main problems to locating UXO?

R: We only have the U.S.A. bombing data and the Handicap International survey, and that is very old. So really there is no mapping that is accurate.

Q: What depth are you clearing to?

R: The standard required clearance depth is 25 centimetres, and 75 centimetres, if it is for construction site. We are continuously doing general survey on the surface and Roving. The mapping gives an idea of the strike. If in the development plan from partners, and the technical survey shows a high level of contamination, then we do full clearance. Community leaders are a very important source, and they have community sessions and risk education, and village volunteers who report.

Q: Does the H.I. EOD correspond with the U.S. bombing mapping?

R: It can be 500 metres to 1000 metres out. There is a lack of accurate and complete bombing data on the areas of contamination.

Q: Does anybody in the EOD industry know to what extent the UXO is a contaminant?

R: Nobody has precise figures, and the Handicap International survey is many years old now, therefore, there is no mapping.

Q: Which leads me onto the scrap metal question, the Lao have been collecting scrap since the bombing stopped in 1974, and do you think that this is still a major contribution to household income?

R: When scrap metal prices have been high, people have been actively seeking it out, this activity fluctuates with the prices, and there is less lying on the surface, so they have to dig deeper to locate it. There were some large scrap metal depots in Savannakhet province, but I think some have closed now.