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Consolidating Post-conflict Development:

Unexploded Ordnance and the Legacy of Conflict in Laos



Kearrin Sims

A thesis submitted in partial or fulfilment of the requirements for the degree

of

Bachelor of Arts with Honours

Department of Sociology and Social Policy

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Abstract

Over thirty-four years since the 1960-1975 Second Indochina War, Unexploded Ordnance (UXO) continues to inhibit a multitude of development priorities in Laos. One of only three remaining Least Developed Countries in Southeast Asia, greater understanding of the socio-economic effects of UXO is crucial to the development of Laos. Drawing on three weeks of field work in June 2009, primarily composed of semi-structured interviews, non-participant observation and literature analysis, this thesis examines the effects of UXO alongside an analysis of how existing responses to UXO contamination in Laos may be improved. Furthermore, it is argued in this thesis that discrepancies over the perceived seriousness of UXO contamination exist between humanitarian operators and those who live in contaminated districts. In examining the effects of UXO contamination on the consolidation of post-conflict development, the analysis offered highlights the need for greater understanding of this legacy of war within post-conflict and human development theories.

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Abbreviations

AAR – Association for Aid and Relief Japan

APM – Anti-Personnel Mine

COPE – Cooperative Orthotic Prosthetic Enterprise

FSD – Swiss Foundation for Mine Action

GICHD – Geneva International Centre for Humanitarian Demining

GoL – Government of Laos

HIB – Handicap International Belgium

HDR – Human Development Report

IMAS – International Mine Action Standards

LDC – Least Developed Country

MAG – Mines Advisory Group

MOU – Memorandum of Understanding

NGO – Non Governmental Organisation

NRA – National Regulatory Authority for UXO/Mine Action Sector in Lao PDR

NRC – National Rehabilitation Centre

NSEDP – National Socio-Economic Development Plan

PCL – Phoenix Clearance Limited

RE – Risk Education

UNDP – United Nations Development Program

UNESCO – United Nations Educational, Scientific and Cultural
Organisation

UNICEF – United Nations Children’s Fund

UNIDIR – United Nations Institute for Disarmament Research

UXO - Unexploded Ordnance

WEC – World Education/Consortium

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Chapter One

- The Land of a Thousand Irrelevances¹ -

When the buffalo fight the grass is flattened

– Lao Proverb (Murphy 1999: 209)

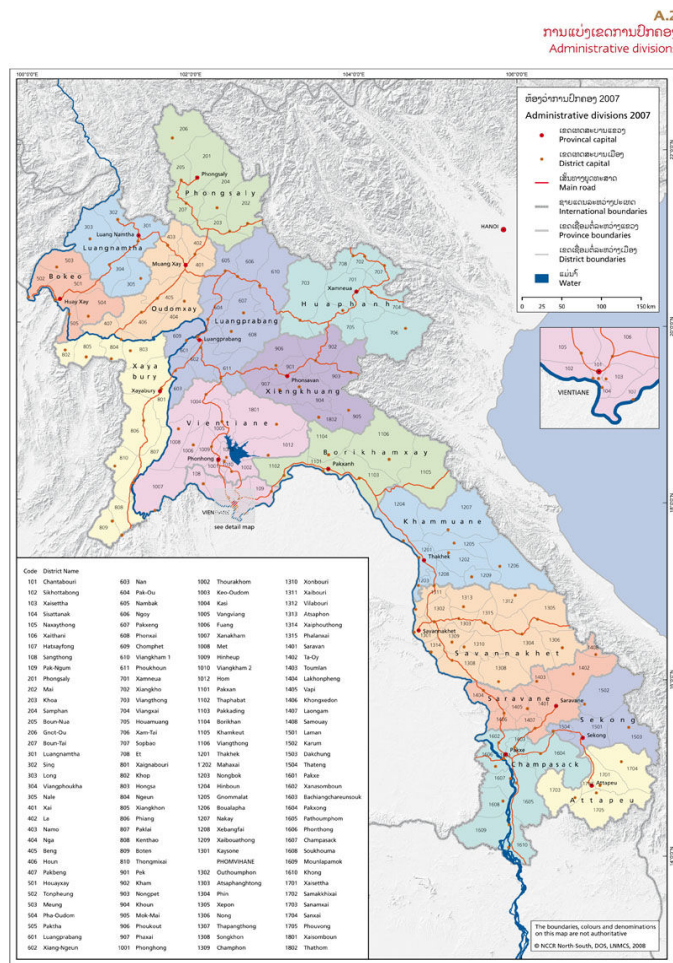


Figure 1.1: Map of Laos' Administrative Divisions

(Swiss National Centre of Competence in Research ((NCCR)) 2008)

¹ Laos has historically been known in colloquial terms as *the land of a thousand elephants*. The title given is a variation on this name to indicate the isolation that Laos has experienced in the past century of expanding global trade and industrialisation.

1.1 Introduction

For the past decade development in Southeast Asia has predominantly been a story of economic growth and accompanying social progress. In a region of highly disproportionate development, however, the development of Laos² has shown little improvement. Life expectancy remains low at just 56.29 years³ (CIA 2008) and in 2009 the country continues to be listed by the United Nations as one of only three⁴ Least Developed Countries⁵ (LDC's) within Southeast Asia. A small, mountainous, landlocked country, the total land area of Laos is just 236,800 square kilometres (CIA 2008), or approximately one third of the size of New South Wales. A common characteristic of many LDC's (Collier 2007), Laos' landlocked surroundings and its mountainous landscape have restricted access to trade and inhibited the countries

² The conventional short forms for the Lao Peoples Democratic Republic are either 'Lao PDR' or simply 'Laos'. Although either term is accepted, in accordance with the majority of academic publications on the country this thesis will only use the term Laos.

³ As Laos has no life registry all population and mortality data are only estimates based on surveys and census (UNDP 2006).

⁴ The other two states are Cambodia and Myanmar.

⁵ The term Least Developed Country, or LDC, refers to a collection of developing countries that are characterised by their exceptionally low levels of economic and social development. Generally speaking, LDC's have low per capita incomes, poor physical infrastructure, high vulnerability to natural disasters, low life expectancy, and low levels of school enrolment (Ghai 2006).

socio-economic development since the sixteenth century⁶ (Pholsena 2006). Sharing borders with Cambodia, China, Myanmar, Thailand, and Vietnam and with an estimated total population of just 6,677,534 (CIA 2008), Laos has the lowest population density in Southeast Asia (Pholsena 2006). Topographically, Laos contains sixteen provinces and one municipality and has been further demarcated into one hundred and thirty-nine districts (NCCR 2008). Of these districts, twenty-five have been identified as ‘poor’ and twenty-two as ‘very poor’⁷ (See Figure 1.2). In total, these forty-seven poorest districts account for approximately 1.2 million people, or over one sixth of the Lao population (NSED 2006).

1.2 Laos Development Constraints

As an LDC Laos’ government and the international community is faced with numerous development concerns. The majority of rural households in Laos lack access to short-term credit facilities and according to Pholsena (2006) as many as eighty percent of public banks are non-performing. Exports are concentrated on few products and domestic resources are insufficient for implementing the governments National

⁶ In the sixteenth century Laos did not exist in its current form but the Kingdom of Lang Xang, which may be considered as the Laos of the time, was weakened by its inability to engage with expanding maritime trade (Pholsena 2006b).

⁷ Very poor villages are those with an incidence of poverty exceeding seventy percent while the total average incidence of poverty in the seventy-two poor and very poor districts is fifty-five percent (NCCR 2008).

Socio-Economic Development Plan (UNDP 2008). As is common to both post-conflict countries and LDC's the modern Lao government has always been economically weak and dependent on outsider support (Del Castillo 2008; Collier 2007). In fact according to Pholsena (2006b: 65), Laos is the highest recipient country of development or 'aid' funding in all of Southeast Asia and since 1990 financial aid from bilateral donors and multilateral funding organisations has amounted to more than two hundred and fifty million USD per year. Such international aid, although necessary, limits the state's autonomy and control over its own future (Thomas-Slayter 2003).

Public infrastructure, food security, communicable diseases, the assistance of remote rural communities, and sustainable use of the environment are all ongoing development concerns (Evans 1998). A large percentage of Laos' landmass is not easily accessible and according to Evans (1998) estimated arable land covers just four to five percent of the country. Road networks are limited and poorly constructed (Warr 2008) and in the capital city of Vientiane there is no sewerage system (Askew, Logan, & Long 2008). Food security remains a serious concern and according to the World Food Programme in 2007 as many as fifty percent of children under the age of five suffered chronic malnutrition. Malaria and other communicable diseases such as tuberculosis and cholera continue to afflict the Lao population and its development and in

2008 forty-eight of every one thousand people were recorded as having malaria (Serdan 2008). Due to Laos' problematic geography one of the biggest challenges to development is accessing remote communities. Approximately eighty percent of the Lao population live in rural areas and malnourishment of children is often higher among remote ethnic groups (WFP 2007). Many people in rural areas still lack access to safe drinking water and because of Laos' tropical monsoonal climate natural disasters such as flooding remain as a persistent livelihood threat (World Bank 2008; UNDP 2009). While rich in natural resources, care must be taken to ensure that this economic opportunity does not become a poverty 'trap' due to poor management resulting in the 'Dutch disease'⁸ (Collier 2007). Finally, as will be discussed extensively throughout this thesis, unexploded ordnance⁹ (or UXO as it is commonly known), from the Second Indochina War remains as a powerful inhibitor to Laos' development.

⁸ 'Dutch disease' is a generally used term to describe the process in which resource exports cause a country's currency value to rise against the currencies of other countries, making the resource exporting countries other exporting activities uncompetitive. This can be problematic for development if the export activities that become uncompetitive are in fact the better vehicles for technological progress (Collier 2007: 39).

⁹ Although there is no universally agreed upon definition for unexploded ordnance, (or UXO), it is generally considered as explosive weapons that did not detonate when they were fired, dropped, launched or projected, that still pose the risk of exploding. UXO contamination in the Lao PDR consists primarily of large bombs, rockets, grenades, artillery munitions, mortars, landmines, and cluster munitions as well as cluster sub-munitions (UNDP 2008).

A.8
ເມືອງທີ່ຈັດຢູ່ໃນລະດັບຄວາມຫຼາກ
Districts identified as poor

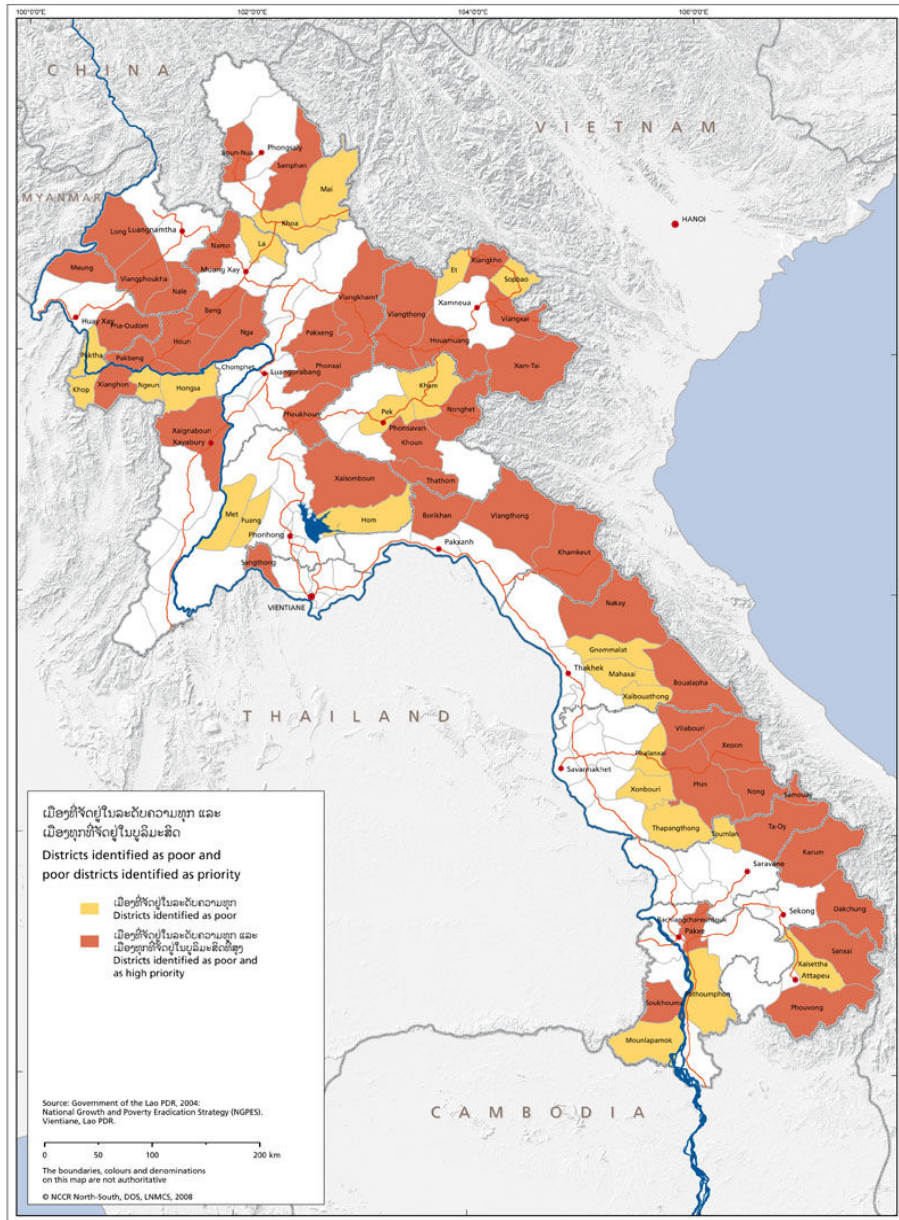


Figure 1.2: Map of Laos’ forty-seven poorest districts
 (Swiss National Centre of Competence in Research ((NCCR)) 2008)

1.3 The Second Indochina War

Our lives became like those of animals desperately trying to escape their hunters... human beings, whose parents brought them into the world and carefully raised them with overflowing love despite so many difficulties, these human beings would die from a single blast...

-Recollection of the War by a Lao Refugee (Branfman 1972: 35).

As with all post-conflict countries, for contemporary development practice to be successful in Laos an understanding of its history of conflict is essential. Although it may be impossible to pinpoint an exact starting date, according to Warner (1996) the Second Indochina war began in Laos sometime in the year 1960. From this year until the *Restoration of Peace and Reconciliation* agreement of February 1973, ground battles were fought between, on the one side, the Lao People's Revolutionary Party and the North Vietnamese, and on the other, The Royal Lao Army, General Vang Pao's resistance forces¹⁰, and CIA supported Thai PARU¹¹ units (Warner 1996). These battles tended to

¹⁰Vang Pao was a Hmong General who led a resistance army against Pathet Lao forces. His forces consisted primarily of Hmong soldiers but also included other Lao ethnicities. General Vang Pao's forces were supported financially and militarily by the U.S. (Warner 1996).

¹¹ The Thai Police Aerial Resupply Unit (PARU) were a CIA trained elite police unit. Originally trained to fight the opium trade in Northern Thailand they were used in Laos during the war not

follow a pattern of communist advances in the dry season and royalist retaliations in the wet season. The majority of ground battles fought in Laos were at the strategically important Plain of Jars in the Northeast and along the Ho Chi Minh Trail¹² in the South (Warner 1996). Essentially, the war was between the existing Royal Lao government and the Lao People's Revolutionary Party, or the 'Pathet Lao'¹³. However, the war in Laos was also a satellite war of the larger Cold War and American and Soviet involvement were substantial. In 1971, for example, annual U.S. spending reached an estimated one and a half billion USD (Warner 1996: 321). Indeed, as with South Vietnam, the eventual departure of the U.S. from Indochina would be too much for the Royal Lao Government and in 1975, at the same time that Pol Pot's brutal regime was just beginning in Cambodia (Winter 2007), Laos became the Pathet Lao controlled Lao Peoples Democratic Republic (Warner 1996).

only because they were familiar with the climate, culture, and guerrilla warfare, but also because they were difficult to tell apart from Laotian soldiers. For a detailed description of the war in Laos and the parties involved see Warner, R 1996, *Shooting at the Moon; The story of America's clandestine war in Laos*, Steerforth Press, USA.

¹²A system of roads and footpaths, the Ho Chi Minh Trail was a major artery over which the North Vietnamese transported troops and supplies to South Vietnam (Kingshill 1991: 140).

¹³ The Pathet Lao is the commonly used term for the Lao People's Revolutionary Party and is the terminology used in most written work on the Laos.

1.4 The United States Bombing Campaign

As part of their support to the Royal Lao government and to serve their own interests fighting against the North Vietnamese and the spread of communism, the United States conducted an extensive bombing campaign over Laos during the Second Indochina War (Warner 1996). Under the guise of ‘armed reconnaissance missions’ the US flew 580,944 bombing missions over Laos and dropped over 2,000,000 tonnes of munitions. Equivalent to one planeload of bombs every eight minutes for nine years and at a cost of 2,190,000 USD per day (HDR 2001), this statistic makes Laos the most heavily bombed country in history (Kingshill 1991; Cave, Lawson & Sherriff 2006). According to a 2008 report by Landmine Monitor, four million large bombs, defoliants, herbicides and more than two hundred and seventy million sub-munitions¹⁴ were all dropped over Laos. The most prolific form of UXO remaining in Laos today, air delivered sub-munitions dropped on Laos include BLU-3, 7, 18, 24/66, 26/36/59, 42/54, 43, 44, 45, 61, 63, 66, 73, and Mk 118 (HIB 2006).

Not all bombing in Laos was directed at military targets and according to Warner, to erode moral support and remove potential recruits for the Pathet Lao, civilian villages were also often targeted. Furthermore,

¹⁴ The UXO Trust Fund and the Lao National Unexploded Ordnance Program’s latest study of the bombing data estimates the number of cluster sub-munitions dropped was 288,485,886 (Shane 2006).

according to Kingshill (1991) planes returning to Thailand from terminated missions in Vietnam would also use Laos as a ‘free drop’ zone to discard unused munitions. While there is no accepted figure for the direct casualties of US bombing the intensity of the attacks coupled with eyewitness accounts suggest civilian casualty levels were appallingly high (Cave et al. 2006). Of the civilians that were not killed by the bombings many became refugees and from 1962 to 1971 there were more than six hundred thousand Laotian refugees from a population that, at the time, was just three million (Paul 1971; Warner 1996). Conditions suffered by these relocated people were often atrocious and reports detailing their suffering are numerous¹⁵ (Branfman 1972; Murphy 1999; Warner, 1996). Likewise, the living conditions of those who remained in their home villages were often deplorable as frequent bombardments forced many residents to move into makeshift underground shelters or to flee into the jungle to live as “almost hunter-gatherers” (Zasloff 1969: 69; Evans 2002: 149).

¹⁵ For the most comprehensive account of the living conditions of internally displaced people during the war see Branfman, F. 1972, *Voices from the Plain of Jars; Life under an Air War*, Harper & Row, New York.

1.5 Post-Conflict Laos

When the Pathet Lao obtained control of Laos in 1975 they inherited a state that was ravaged by the effects of warfare. No longer sustained by the millions of dollars of U.S. economic assistance that was given to the Royal Lao Government during the war, in 1975 Laos was one of the ten poorest countries in the world (Warner 1996). Adding to the poor socio-economic status of the country at the time, when the Pathet Lao took control of Laos they began to send many of the country's former elite to re-education camps and as a result the majority of the educated migrated elsewhere. Although exact figures are unknown, according to Evans (2002: 180) between 10,000 to 40,000 inmates were held prisoner in these camps. Now over thirty years later, although the state is politically stable and unlikely to return to conflict, through the widespread proliferation of UXO contamination Laos' development continues to be inhibited by the legacy of this war.

With an estimated failure rate for munitions of between ten and thirty percent¹⁶ (Cave et al. 2006) the United States bombing of Laos makes the country both the most bombed and the most UXO contaminated country in history (Sisawath, Clarke, & Fenech, 2008). Fifteen of Laos'

¹⁶ Estimates vary between authors, however, the more commonly accepted figure for Laos is thirty percent.

seventeen provinces¹⁷ are contaminated by UXO and one quarter of all villages are severely contaminated (see figure 1.3) (UNDP 2008: 9; NSEDP 2006). UXO can be found everywhere in Laos, from hillsides to rice fields, school yards, in rivers, along roads and footpaths and even in the centre of provincial towns (UNDP 2008). One of the most widespread, multitudinous, and long-term development problems to affect Laos, since regulated clearance of UXO began in 1996 over one hundred and eighty-six different types of UXO have been found (Landmine Monitor 2008). UXO restricts access to useable land, increases the cost and time frame of development initiatives, inhibits access to shops, schools, medical facilities, disrupts potential earnings from tourism, mining, and hydroelectric projects, and causes significant human casualties.

While UXO is one of the most significant restraints to human development in Laos, through a well established scrap metal trade it has also become an economic resource that local people have transformed into part of their everyday economies (Moyes 2005). A topical issue within the UXO sector, the scrap metal trade is responsible for both increasing casualty rates across Laos and for providing the impoverished with a valuable cash income. Essentially, through the scrap metal trade UXO has become both an inhibitor to development and an economic and

¹⁷ In fact, Laos comprises sixteen provinces and one municipality.

a cultural asset of the Laotian population. People use war scrap and UXO to create everyday items such as pots, buckets, belt-buckles, boats, and even prostheses, recycling not only war materials but also the socio-cultural memory of the war (Winter 2007). As the midway point of the government of Laos' (GoL) goal to overcome LDC status by 2020 fast approaches, more research into the effects of UXO contamination on development is crucial.

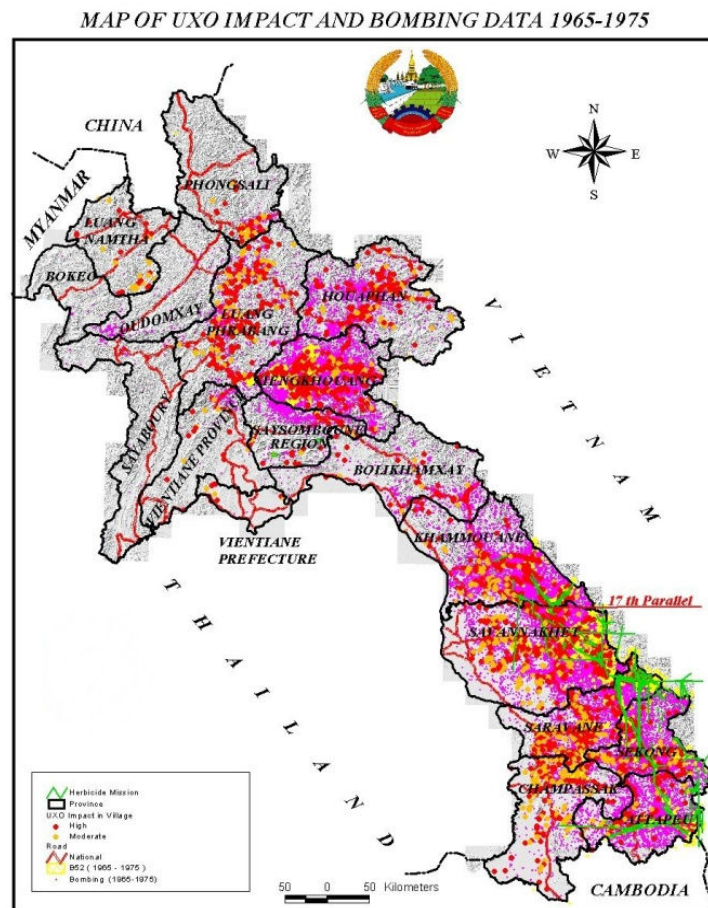


Figure 1.3 Map of UXO Contaminated Areas in Laos

(Courtesy of Pheonix Clearance Limited)

1.6 Conclusion

While much has been written on the development of Southeast Asia as a region (Savage & Tan-Mullins 2005; King 2008; Dixon & Drakakis-Smith 1997) relatively little attention has been given to Laos. Publications specifically concerning Laos are rare in academic literature and are more often historical accounts than contemporary development analysis (Stuart-fox 1982; Evans 2002). Furthermore, on the few occasions where development has been the focus of publications, little attention has been given to UXO contamination (Pholsena 2006b; Askew et al. 2007; Rigg 1997). By providing an analysis of the present day effects of UXO contamination on human development in Laos this thesis seeks to begin addressing this deficiency within the academic field of development. In the preceding paragraphs this chapter has provided an introductory overview of Laos' contemporary development status and a brief history of the country's involvement in the Second Indochina War. Following this introduction, *Chapter Two* will present a theoretical overview of post-conflict theory and how it has conceptualised the legacy of UXO on post-conflict societies. To facilitate a greater understanding of the effects of UXO on the consolidation of post-conflict recovery, how human development theory has responded to the effects of UXO contamination will also be explored. *Chapter Three* explains the methods and methodology of the research and in *Chapter Four* Laos' UXO aid

sector will be critically examined. Using the International Mine Action Standards (IMAS) as a guiding framework for critical analysis, *Chapter Four* will provide both an overview of the current activities within Laos' UXO sector and an evaluation of the effectiveness of current responses to contamination. With a thirty year history as the world's most heavily UXO contaminated country (Cave et al. 2006) Laos provides the most inferentially transferable case study for examining the multitude of potential consequences that may result from UXO contamination. Examining these consequences, *Chapters Five* and *Six* explore the bodily and socio-economic effects of UXO in Laos. In particular, *Chapter Six* will explore the increasing prevalence of a highly organised scrap metal trade in Laos and the apparent failures of existent UXO risk education strategies in addressing the increase in casualty rates resulting from this informal economy. While this thesis does not attempt to discuss every activity or organisation involved in Laos' response to UXO contamination, in building on the research of others this thesis will provide some brief policy recommendations for the future direction of Laos' UXO sector. Overall, the thesis seeks to provide an assessment of UXO contamination and its impact, together with the key social, economic and political features of Laos, in order to achieve 'an understanding of the problems caused by contamination- and hence the needs of affected populations' (GICHD 2004: 4).

Chapter Two

- Theorising Unexploded Ordnance: Post-conflict and Human Development Understandings -

2.1 Introduction

The engagement of human beings in warfare is an activity as old as civilization itself. War is a destructive force that has always existed in human society and that is likely to continue for as long as mankind possesses a desire for power. While it has always been accepted that conflict is the cause of death and suffering post-conflict theory has revealed that the destructive effects of war often continue long after the cessation of conflict. Of the forty-nine current LDC's twenty-one have experienced grave episodes of violence and instability in the past three decades (Ghai 2006). According to Junne and Verkoren (2005: 318), the prevalence of warfare around the globe has resulted in post-conflict development 'become[ing] the norm rather than the exception'. Legacies of war can have an enormous and enduring impact on society and the reconstruction and development of post-conflict countries can be a highly problematic task (Bocco, Harrisson, & Oesch 2009). Yet while post-conflict theory has been useful in revealing that development in post-conflict societies must differ from normal development strategies in the

reconstruction and peace-building stages of post-conflict recovery (Stoddard & Harmer 2005), the understanding it provides of the effects of war in the consolidation stage of development is insufficient. Post-conflict development is not the same as conflict free development and successful development in post-conflict states requires a unique approach to development practice. To better understand the effects of conflict once peace and security has been consolidated a greater relationship between post-conflict theory and human development is required.

2.2 Unexploded Ordnance: A Global Development Constraint

UXO contamination affects states across every continent. A likely by-product of any modern war, according to Borrie (2003) in 2002 at least eighty-two countries were contaminated by UXO. Of these countries, at least fifty-seven have experienced direct UXO casualties (Borrie 2003). Although the effects of UXO contamination differ between states depending on the quantities and types of ordnance used during the conflict and the level of response to the resultant problems (Moyes, Lloyd, & McGrath, 2002), knowledge of one states contamination is often still beneficial for understanding what problems UXO may cause elsewhere. In Kosovo where approximately 3.32% of landmass was once contaminated (Moyes 2007), studies have shown that UXO restricts land

access and the building of public and private infrastructure. Aside of the socio-economic effects, UXO in Kosovo has also produced numerous casualties and widespread fear amongst the civilian population. In Afghanistan, UXO contamination is the result of over twenty-five years of conflict and creates similar socio-economic problems as it does in Kosovo and, as will later be shown, in Laos. Unlike in Laos, however, UXO contamination in Kosovo has been present for less than a decade and has been mitigated by one of the largest and best resourced UXO response programs in history (Moyes 2007). Similarly, in Afghanistan, there is considerably more information on the problems of UXO contamination than in Laos and responses to the problem are well established and largely nationalised (Borrie 2003). Both Iraq and Kuwait are contaminated by UXO, although unlike Laos Kuwait did not wait twenty years for an international response to the comparatively small 30,000 tonnes of munitions that were dropped on it during the Gulf War (McGrath 2000). More similar perhaps is Lebanon, where an adequate response is still lacking after twenty-five years of ongoing UXO contamination and the resulting civilian casualties (Moyes & Nash 2005). According to Borrie (2003) in the Asia Pacific region UXO contaminated countries can be classified according to three distinctions; those whose contamination is a result of World War II; those whose contamination is a result of the Second Indochina War; and those involved in long-

standing conflicts such as Nepal and Sri Lanka. Of these three groups, the most comprehensive data exists for the Southeast Asian countries of Cambodia, Vietnam, and Laos, for whom the majority of contamination is a result of the Second Indochina War. That said, data on these countries is far from sufficient and adequate data and available resources for the treatment and rehabilitation of UXO casualties are insufficient in all three countries. In Cambodia, all twenty-four of the country's provinces are affected by UXO, while in Vietnam around five percent of the states landmass is contaminated by approximately 300,000 tonnes of UXO (Borrie 2003). With so many countries being affected by UXO ensuring sustainable, local capacities to respond to the ongoing threat of UXO is essential for post-conflict development (Moyes et al. 2002).

2.3 Post-conflict Theory and Unexploded Ordnance

There are few events more socio-economically destructive to a country and its people than a conflict within its borders. From Afghanistan, to Iraq, Lebanon, Pakistan, Cambodia, Somalia and Sudan strong causal and consequential correlations have been shown between poverty and conflict (Borrie 2003). A well recognised relationship within academic research, a body of literature has developed around the legacy of conflict and the restoration of peace, stability, and development in post-conflict societies (Woodhouse 2006; Del Castillo 2008; Chetail 2009). In post-conflict

states a 'different yardstick' (Del Castillo 2008: 43) is required for development practice as common assumptions about appropriate development strategies are often inappropriate. As Del Castillo (2008) explains, in post-conflict countries societies are often too unstable and potentially corrupt for strong neo-liberal policies, and generally accepted principles such as the need for equality in development are often less important than assisting those most seriously affected by the conflict. The restoration of peace is of utmost priority and overcoming aid dependency is an important objective once peace has been consolidated (Rice 2009; Junne & Verkoren 2005) In post-conflict countries it is crucial that development operators understand the history of conflict so they do not mistakenly contribute to instability or corruption and, most pertinent to this research, the removal of UXO contamination is almost always a part of the post-conflict reconstruction process. Yet although the removal of UXO is recognised within post-conflict theory as a pre-requisite to development, throughout the world there is little data regarding the quantity of UXO contamination in post-conflict societies (Del Castillo 2008). Furthermore, even when such data is present it does not adequately reflect the socio-economic impact of this dangerous development inhibitor (Moyes et al. 2002).

As with all forms of post-conflict recovery, responses to UXO contamination always involve various civil society organisations. From

international organisations such as the United Nations, to governmental responses, non-governmental organisations, local organisations and community groups, post-conflict civil society has received much attention within academic literature (Herrero 2005; Chetail 2009; Barsky 2009). One of the key themes within post-conflict theory's analysis of civil society has been the effectiveness of operators in providing post-conflict aid. Analysis on this topic has been progressively expanding and increasing in complexity. Theorists such as Duffield (2007) have argued that post-conflict aid is actually a form of neo-colonialism aimed at transforming whole society's attitudes and beliefs. Similarly, theorists such as Winter (2007) have argued that previous post-conflict analysis of civil society has been largely inconsiderate of the role of culture in post-conflict aid, while Pouligny (2005) asserts that post-conflict peace-building needs to greater acknowledge local civil society organisations before bringing in external support.

Yet while the analysis of post-conflict aid and the role of civil society is indeed expanding within academic literature, insufficient attention has been given to the role of UXO organisations in post-conflict recovery. In 2001 the International Mine Action Standards (IMAS) were completed and endorsed by the United Nations as a best practice model for the implementation of Mine/UXO action programs, and likewise now provide a framework for academic analysis of the success and failures of

Mine/UXO programs (IMAS 2009). However, although there are organisations and private companies with a dedicated focus on responding to UXO contamination and an international framework for assessing the achievements and failures of these organisations, little academic evaluation has been conducted on either UXO civil societies or the appropriateness of the IMAS. Furthermore, responses to UXO often also necessitate involvement from organisations that are largely unfamiliar with the effects that UXO has on development and how they have responded to UXO contamination also require more research. For the relationship between UXO contamination, development and development organisations to be better understood guidance can be sought within the field of human development theory.

2.4 Human Development Theory and Unexploded Ordnance

Beginning with the rather simplistic theoretical understanding of development as a progression through universal stages of growth (Parsons 1964) the field of development theory has evolved and expanded in recent decades to include a multitude of theoretical perspectives. Perhaps the most comprehensive and widely accepted of these various development paradigms is human development theory. Human development theory has gained traction within both academic and

policy environments and is the principle framework used by the United Nations Development Program (UNDP) to measure development. Each year the UNDP publishes numerous international, regional, and national Human Development Reports (HDR's) and since 1990, over six hundred HDR's on more than one hundred and forty countries have been published.

Emerging as a response to the failings of the neo-liberal development ideology of the 1980's, human development theory perceives economic growth as only one part of the development process (Fukuda-Parr 2009). A theory that examines a multitude of development priorities, human development theory includes analysis on economic growth, social investment, empowerment of individuals, the provision of basic needs, and political and cultural freedoms (UNDP 1998). Human development involves access to education, food security, support for disabilities and other illnesses, economic equality, and gender. Put simply, human development is about facilitating and expanding people's opportunities to develop their potential and to live in accordance with their interests and needs (Haq 1995). According to one of the key early exponents of human development theory Mahbub Ul Haq (1995: 23), human development theory is the 'most holistic development model that exists today'. Yet even the most holistic development model in existence has given little

attention to the widespread effects of UXO contamination in many developing countries.

The first HDR to be published on Laos was in 1998 and aimed to measure standards of living conditions using the three elementary requirements of life expectancy, education, and sufficient command over resources for a decent life¹⁸ (UNDP 1998). However, despite UXO contamination having a significantly negative affect on all three of these measures it is given no consideration in this initial report. Since 1998, two more HDR's have been published on Laos, however, like the majority of human development literature, both are insufficient in their understanding and analysis of the effects of UXO contamination. Of the three human development reports to have been published on Laos the effects of UXO are discussed on less than five of the four hundred and ninety-four pages that make up the three reports (UNDP 1998; UNDP 2001; UNDP 2006). Likewise, in the two HDR's published on Vietnam, no mention is given to UXO and its effect on socio-economic development (UNDP 2001; UNDP 1998b). If human development theory is to remain as the most holistic development model around, more

¹⁸ These three basic development requirements are used by the UNDP to create the Human Development Index. Specifically, these variables include life expectancy at birth, a combined measure of literacy and education enrolment, and per-capita income in purchasing power parity (PPP) (UNDP 2006).

research into the bodily and socio-economic effects of UXO in post-conflict states is still required.

2.5 Unexploded Ordnance and the Body

The effects of UXO on the body is the most obvious and well-documented consequence of UXO contamination. International organisations such as Landmine Monitor and the Geneva International Centre for Humanitarian Demining (GICHD) have written numerous publications on UXO casualty rates in contaminated countries. However, while there has been much professional discourse written on UXO casualties more academic attention is required from a sociological perspective. In academic literature understandings on the causes of conflict trauma have previously been restricted to occurrences of violence and horror during the conflict period (Krippner & McIntyre 2003). However, in UXO contaminated countries the cause of trauma remains embedded within the landscapes of people's daily existence.

Every year thousands of civilians around the world are killed or injured by unexploded ordnance. UXO accidents are often more fatal than accidents with anti-personnel mines (APM) and according to Moyes et al. (2002) in Eritrea seventy-two percent of deaths resulting from explosive remnants of war were from UXO. Likewise in Afghanistan, Kosovo, Vietnam and Cambodia UXO has caused equal or more deaths than

APM's. For those that do survive UXO accidents, injuries are often severe and include multiple amputations, burns, puncture wounds, deafness, and blindness (Moyes, et al. 2002). While treatment of these injuries has featured heavily within medical research (Bendinelli 2009; Kett & Mannion 2004; Young 2008), a review of this medical research is beyond the scope of this thesis.

Although UXO casualties affect all demographics, similar high risk groups have been identified between contaminated states. According to Borrie (2003), males aged between eighteen and forty are generally the most at risk group for UXO accidents. This is true both for Southeast Asia and for Sub-Saharan Africa, while in Kosovo Moyes and Nash (2005) found that over ninety-four percent of casualties were male. In addition to males, children are often also a high risk demographic and in Kosovo almost two-thirds of casualties were children (Moyes et al. 2002: 7). Children are generally more at risk of UXO than Anti-Personnel Mines (APM's) and in Cambodia casualty rates for UXO were found by to be three times higher than those resulting from APM's (Moyes et al. 2002). Accidents with UXO often involve multiple casualties and in many post-conflict states there is little or no capacity to deal with the rehabilitation of survivors (Borrie 2003).

Although the physical effects of UXO have been well documented by professional operators, even they have insufficiently explored the effects

of fear on UXO affected societies. Fear of UXO presents a serious obstacle to those overcoming the psychological trauma of war. Fear prevents people from using potential agricultural land, and can affect changes in community behaviours that may even lead to community abandonment (Borrie 2003). While fear does have economic consequences, equally important to human development is the effect of fear on people's everyday existence. In UXO contaminated areas people live daily in fear of their surrounding environment and this fear has a significant impact on the productiveness and happiness of communities. Although often not considered as a priority because of other immediate needs such as food shortages and the physical injuries resulting from UXO accidents, the psychological effects of UXO on effected populations must not be overlooked. As Moyes et al. (2002:14) insightfully explain, 'although UXO may not always be an outright barrier to land use it is always a source of persistent fear'.

2.6 Socio-economic Effects of Unexploded Ordnance

One of the primary reasons that UXO is both a post-conflict issue and a human development issue is because of the substantial socio-economic effects that it creates. Similar socio-economic effects of UXO to those caused by UXO in Laos can be seen in Kosovo, Lebanon, Sudan, Pakistan, Eritrea, Afghanistan, Cambodia, Chad, and various other

countries in the Middle-East, Africa, Asia and the Pacific (Moyes 2007; Moyes & Nash 2005). According to Borrie (2003), in Africa alone at least twenty-four countries are socio-economically disadvantaged because of UXO contamination. In UXO affected communities, contamination prevents the use or rehabilitation of infrastructure and community resources including housing irrigation systems, schools, roads, clinics and markets, and destroys human capital by creating fear and casualties amongst affected populations (Moyes et al. 2002). UXO contamination places a burden on scarce medical resources and diverts international assistance from other development needs sometimes for many decades (Moyes et al. 2002). Yet despite these numerous and widespread socio-economic effects there remains little consideration of UXO contamination within human development theory. Understandings of the effects of UXO both on the body and socio-economically remain within the literature of professional UXO response organisations, although even amongst these publications greater consideration of the potential economic value of UXO contamination is required.

The relationship that post-conflict communities have with UXO contamination often changes over time as new perceptions on the dangers of UXO develop and as social and economic requirements change. In many post-conflict societies where impoverished communities are faced with few means of income generation or subsistence, UXO and other

forms of war scrap have become a valuable economic resource. As Moyes et al. (2002) explain, UXO provides an economic resource in two key ways; firstly in salvaging or selling the metal from items of UXO people can gain access to an otherwise unavailable cash income, and secondly, people may also use the explosives from UXO in activities such as fishing. Instead of being stigmatised as dangerous items to be avoided, in many countries people engage daily with UXO and often perceive this activity as no different to the many other risks that exist in their daily lives (Borrie 2003). In Sudan, for example, Borrie (2003) found that scrap metal salvaged from UXO is often used to make traditional jewellery. Yet despite the potential benefits of scrap metal collection, most development organisations have failed to develop adequate responses to these informal economies. Likewise, international guidelines for UXO response programs such as the International Mine Action Standards (IMAS) do not differentiate in the recommendations for risk education programs in UXO contaminated communities where scrap metal collection exists despite the needs of these communities obviously differing from countries where conflict has only recently settled. A topical issue amongst both professional literature and development operators, through the scrap metal trade UXO has become both an inhibitor to development and an economic asset of affected communities.

2.7 Conclusion

Post-conflict development is not the same as conflict free development. In the final stage of post-conflict recovery successful development practice requires a greater understanding of the relationship between post-conflict theory and human development theory. However, while the prevalence of post-conflict countries may have been acknowledged, the specific development needs of post-conflict societies has not yet been adequately explored by post-conflict theory or sufficiently integrated into broader development strategies such as human development theory (Junne & Verkoren 2005). In regards to UXO contamination, due to the widespread and multi-sectorial effects that contamination has in the consolidation phase of development, an understanding of how UXO impedes human development is just as important to post-conflict recovery as post-conflict theory's assertions on the restoration of peace, capacity building, and the rule of law (Chetail 2009). This is particularly so in long-term contaminated countries such as Laos and Vietnam, where others concerns of post-conflict theory regarding security and the restoration of peace (Stoddard & Harmer 2005) have become largely irrelevant. In such instances an understanding of how civil society organisations are responding to the bodily and socio-economic effects of UXO contamination is crucial.

Chapter 3

- Methodology and Methods -

3.1 Introduction: From Theory to Methodological

Directions

The theoretical direction of this thesis has a lot of methodological implications. To explore how civil society organisations are functioning in Laos' unexploded ordnance sector it is imperative that the perspectives of operators within this field be considered. Following an analysis of the literature on this topic, interviews of these individuals were thus conducted. Similarly, interviewing participant's from the UXO civil society sector was necessary to consider how the UXO sector may currently be improved as priority areas of UXO response actions change over time. To examine the effects of UXO on human development and achieve a holistic understanding of the multiple effects of UXO it is essential to compare the similarities and differences in perceptions of the seriousness of UXO contamination between UXO operators and those who live daily with the threat of UXO. Likewise, non-physical aspects of UXO contamination relevant to human development theory and certain effects of UXO on the body, such as fear, could not be explored without adopting a mixed method approach that included interviews and non-

participant observation. Aware that knowledge of the effects of UXO may differ between UXO operators and those who live in contaminated landscapes, a constructivist methodological understanding of knowledge as discursively produced, contingent, and dependent on context forms the basis of this research (Denzin & Lincoln 2000). In adopting this methodological standpoint the natural methods approach is to use mixed methods and grounded theory processes of data collection. It is important to clarify here that grounded theory methods, not methodology, were applied and that as already mentioned, the underlying methodological premises of the research are embedded in constructivism. The fundamental principle of mixed methods research is that methods should be mixed in a way that will provide complementary strengths and non-overlapping weaknesses (Teddlie & Tashakkori 2009), and this was achieved by constant comparison methods commonly used by grounded theorists.

3.2 Sites of Research

3.2.1 Vientiane Municipality

Vientiane municipality is home to the Laotian capital of Vientiane city. All the national offices for the various NGO's, government organisations, and private companies whose employees were interviewed for this research were in Vientiane city. Conducting Interviews in Vientiane city

allowed the researcher access to a wide range of participants and secondary data sources. In providing access to such a wide range of research participants, Vientiane city was the most suitable location for arranging safe and ethical access to participants in one of Laos' UXO contaminated districts and was also the best location to have participant information statements and consent forms professionally translated into Lao script. With the National Rehabilitation Centre also being situated in Vientiane, this research site also provided the opportunity to observe UXO casualties who were receiving treatment and the provision of prosthetic and orthotic devices.

3.2.2 Khammouane Province

Khammouane province is the fourth most contaminated province in Laos. This province was chosen by the researcher for logistical purposes as within the available research time period it was the most easily accessible of the countries five most contaminated provinces. Research was conducted in Eastern Khammouane province's Nakai district where part of the Ho Chi Minh Trail ran during the Second Indochina War. Nakai's landscape is a mixture of mountainous land and flat ground and is also home to the World Bank's Nam Theun II project. Farming, primarily of rice, and fishing are the two main means of subsistence in the area. Hunting, foraging, and the sale of scrap metal are also present. Of the

seven hundred and five villages in Khammouane province surveyed during HIB's 1996 impact survey, nearly all reported UXO contamination within the village territory (UXO Lao 2008). Furthermore an analysis of UXO accidents from Khammouane province between 2003-2005 lists twenty-seven incidents, while a demand for cash in parts of the province in recent years has led to an increase in the scrap metal trade (Moyes 2005).

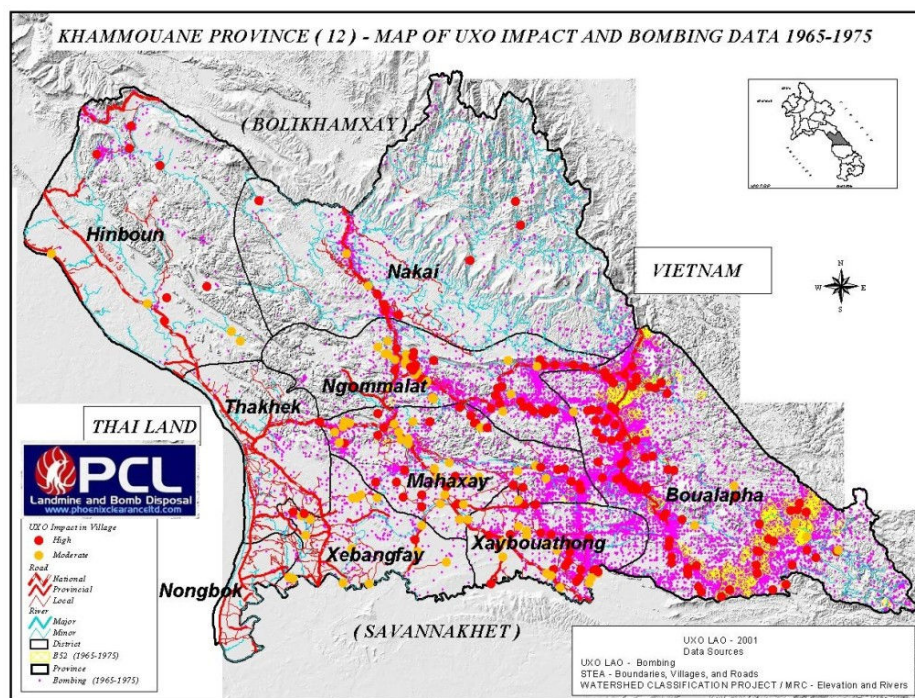


Figure 3.1 Bombing Data for Khammouane Province

(Courtesy PCL Bombing Data)

3.3 Data Collection:

3.3.1 Primary Data

Primary data was collected using semi-structured interviews and non-participant observation during three weeks of field research in Laos from the 31/05/09 to 22/06/09. This time period is at the beginning of Laos' wet season. It was the researchers second time both in Laos, and going into the field with a UXO team in a rural Lao province and this familiarity with local customs and UXO operating procedures facilitated the quality of the research. As the researcher spoke only the most basic Lao a professional translator was used to interview Lao nationals and all consent forms and participant information statements were translated into Lao. Seventeen interviews were conducted in total and research participants were divided by the researcher into two distinct groups. Group one was a purposive sample of key actors currently working in various roles in Laos' UXO sector that were knowledgeable in the effects of UXO. Group two was a purposive random sample of Lao nationals who lived in a heavily UXO contaminated rural district and experienced the effects of UXO as a part of their everyday lived experience. Specifically, participants from group two were from the Nakai district of Khammouane Province. Group one contained ten participants and group two contained seven participants.

To aid the flow of communication, sixteen of the seventeen participant interviews were recorded with an electronic device and transcribed later that day. In addition to recordings observational notes were taken shortly after the completion of interviews. One participant requested that they were not recorded and in this instance notes were taken during the interview. This participant also requested their responses be considered as personal and not as representing the organisation they worked for and this confidentiality request was also maintained. Interview times varied from approximately sixty minutes to just fifteen minutes, and shorter responses were generally received from participants from Nakai. The wide variation in interview times resulted from some participants evaluating further on their answers than others, and the researcher asking for additional information or clarification. Between groups, the shorter answers from Laotians in Nakai was primarily a result of more simplistic/direct questions intended to ease confusion in Language translations and a rural Lao verbal culture that does not encourage drawn out answers. Interview questions varied between groups; however, in general they concerned the effect of UXO on development, work within the UXO sector, risk education procedures, and the scrap metal trade¹⁹. Different respondents were asked for more information depending on their specific knowledge of each of these topic areas. All participants

¹⁹ For a full list of Interview questions see Annex 1.

were informed that they could withdraw from the study at any time and could also have their responses removed from the research at any time before the submission date.

3.3.1.1 Participants:

3.3.1.1.1 Group One

The ten participants from group one were all key actors in the UXO sector in Laos. Participants included six males and four females and varied in age from between twenty-five to eighty. Semi-structured interviews were conducted in cafes or restaurants around Vientiane at times that most suited participants time schedules. Participants were from international organisations, national organisations, Non-Governmental Organisations (NGO's), and a private UXO clearance company. Furthermore, participants were also from organisations involved in the IMAS five pillars of UXO action, namely, clearance, risk education, victim assistance, stockpile destruction and advocacy against the use of cluster munitions. Initial participants from group one were recruited by email and provided with the researchers intentions. A passive snow-balling technique whereby existing participants would recommend others that the researcher should speak with was used to contact the remainder of participants. Using email as a means of contact allowed participants to

feel free from coercion and all participants were voluntarily involved in the research and were not paid.

Participants included;

- The program officer for the Mines Advisory Group (MAG) in Laos.
- The Laos UXO program co-ordinator for Handicap International Belgium (HIB).
- The Co-founder of the Cooperative Orthotic Prosthetic Enterprise (COPE), an occupational therapist for COPE and an Australian volunteer for COPE.
- The United Nations Develop Program (UNDP) Senior Technical Advisor to the NRA²⁰ and the Mine/UXO risk education officer for the NRA.
- The UNDP Senior Technical Advisor to UXO LAO.
- Phoenix Clearance Limited (PCL) operations manager.
- An anonymous employee of an international organisation.

3.3.1.1.2 Group Two

Participants from group two were Laotians from the heavily contaminated Nakai district in Khammouane Province. All were aged between twenty and seventy and only one was female. All spoke very

²⁰ The full name of the NRA is The National Regulatory Authority for the UXO/Mine Action Sector in Lao PDR

little or no English and all responses were translated by the researcher's translator. Four were PCL deminer's who lived in Nakai and three were local villagers who were familiar with members of the UXO sector coming to speak with them. Two were UXO survivors and one had lost five members of their family as a direct result of UXO accidents. As with group one all participation was voluntary and participants were not paid. For all participants of group two UXO contamination was part of their everyday lived experience and in some way or another has an effect on their lives. Participants from group two were contacted through PCL, a private UXO clearance company operating in Nakai district who were familiar with the local people and ensured the safety of the researcher. PCL provided a translator to assist the researcher by translating both the interviewer questions and the participant's answers. The translator, whom was already familiar with the local people chosen to interview, would approach the interviewees firstly by himself and ask if they were happy to be involved in the study. If they agreed, the researcher would then be invited to approach and conduct the interview. In this way feelings of coercion for participants were mediated. Interviews were conducted in various locations of the participant's home villages such as rice fields and outside family homes. Interviewing individuals already familiar with the researcher's translator and with actors from the UXO sector facilitated discussion. To ensure informed consent, participant

information statements and consent forms were translated into Lao by a translator employed by COPE and were also explained by the researcher's translator prior to interviewing. To ensure confidentiality, the names of all participants from group two have been changed.

3.3.2 Secondary Data

Fieldwork in Laos also involved the collection of secondary data and this material was gathered through the analysis of both academic and professional publications. Documents from various UN agencies (UNDP, UNMAS, UNESCAP, UNIDIR), the World Bank, CIA World Fact book and Lao Government organisations (UXO LAO, NRA) were used alongside secondary sources from the Geneva International Centre for Humanitarian Demining (GICHD) and other NGO's (MAG, HIB, COPE). Academic journal articles and books, media documents, and electronic media were used, as were online searches once the researcher had returned to Sydney. Sampling of text included literature on post-conflict theory and human development theory, as well as development in Laos and Southeast Asia. Publications concerning UXO contamination in various post-conflict countries and UXO contamination specifically in Laos were also consulted.

Throughout the analysis of literature research summaries and a paper trail were used to develop themes and concepts. To formulate a thorough

understanding of literary sources, sampling was used for words, themes, writers, ideological stances, and subject topics. Descriptive coding was initially used to gather material and following this topic coding was used to spread material out. Analytical and In Vivo coding were used to discover emergent themes in the literature alongside key word searches for terms such as UXO, unexploded ordnance, ERW, and explosive remnants of war. Once theoretical understandings had been formulated tree catalogues were used to hierarchically categorise data and from these catalogues the scrap metal trade and risk education emerged as priority areas of research. Once these core variables had emerged, theoretical coding was used to develop greater understanding and provide a theoretical model to the data. Finally a literature map of all secondary sources was used to position my research within the broader academic fields of post-conflict theory and human development theory.

3.4 Research Constraints

The most significant constraint to the research was time. Although sufficient data was collected in just three weeks in Laos more time would have been beneficial for the researcher to build stronger relationships with participants from group two. Greater trust and stronger relationships with these participants may have resulted in more in depth responses and a wider range of participants. Expanding the study to more than one

contaminated province may also have been beneficial in providing a more balanced perspective on the effect of UXO contamination for rural Lao. A second restraint was the use of a translator from PCL. While beneficial for participant recruitment, villager's familiarity with this individual may have caused them to skew their responses and exaggerate the effects of UXO in order not to offend the translator or risk jeopardising the clearance of their farmland. Thirdly, research was conducted in the wet season only and as Binns (2006) indicates, may have produced different results to research conducted in the dry season. This is particularly so in regards to the scrap metal trade as it is primarily a dry season activity. Finally, in group two only one female was interviewed and this may have resulted in some gender bias in regards to participants responses about at risk groups for UXO collection, although the answers provided by this participant were in accordance with other participants and professional literature sources.

Chapter 4

- Examining Civil Society: Laos' Unexploded Ordnance

Sector -

They dropped the bombs. They don't belong to us and I want them to take them back.

- Young Boy, (Bomb Harvest 2007)

4.1 Introduction

From international organisations, to local institutions, NGO's and private companies, Laos' UXO sector includes a multiplicity of civil society organisations intent on addressing the International Mine Action Standards 'five pillars'²¹ of UXO/Mine action. As mentioned in *Chapter Two*, the IMAS are the UN approved best practice framework for the creation and implementation of UXO/Mine action programs in all UXO

²¹ According to the International Mine Action Standards the five pillars of mine action are; removing and destroying landmines and explosive remnants of war and the marking or fencing off of areas contaminated with them; mine-risk education to help people understand the risks they face, that they can identify mines and explosive remnants of war and learn how to stay out of harm's way; medical assistance and rehabilitation services to victims including job skills training and employment opportunities; advocating for a world free from the threat of landmines and encouraging countries to participate in international treaties and conventions designed to end the production, trade, shipment or use of mines and to uphold the rights of persons with disabilities; helping countries destroy their stockpiles of mines as required by international agreements, such as the 1999 anti-personnel mine-ban treaty (E-mine 2009).

contaminated countries. Designed through a series of consultative activities that involved a broad spectrum of UXO/Mine action stakeholders, the IMAS outline five key pillars for UXO responses that include; UXO clearance, UXO risk education, victim assistance, stockpile destruction, and advocacy against the use of mines (or in Laos' case, cluster munitions). In Laos, as in most UXO contaminated states, a national program has been created based on the IMAS and various civil society organisations are working to ensure that IMAS' five pillars are implemented.

As of 2006 the principal organisational body for UXO/Mine action in Laos has been the National Regulatory Authority (NRA) and according to the NRA in 2008 there were four humanitarian and three private operators working in UXO clearance and a further five operators working in other areas of the sector. Using the IMAS guidelines as a framework for analysis, this chapter will assess the performance of Laos' UXO sector and where the sector may require further support. To achieve this understanding, this chapter will be split into two sections; Section One will provide an overview of the key operators working in Laos UXO sector and the current services provided by these organisations and, following this; Section Two will provide a critique of current practices within the UXO sector alongside some recommendations for future actions. Finally, in the conclusion of this chapter a brief critique of the

IMAS guidelines as a best practice framework will also be provided. As this thesis is concerned with the effects of UXO on development only the first three pillars of clearance, risk education, and victim assistance will be addressed. Although stockpile destruction and advocacy against the use of cluster munitions are indeed an important part of any countries response to UXO contamination it is not within the scope of this thesis to explore Laos' response to these pillars.

4.2 Section One: Operations and Operators

4.2.1 Laos Unexploded Ordnance Sector

In 2008 176,997 items of UXO were cleared in Laos and 373,762 people participated in risk education activities (Sisawath et al. 2008). Clearance of agricultural land remains as the most important priority, although clearance is also conducted for educational facilities, communal and government facilities, public infrastructure, tourism sites, and private business. In addition to official clearance a considerable amount of unregulated clearance continues to be conducted by local people all over Laos, although land cleared by such means lacks guidelines and cannot therefore be considered as safe (GICHHD 2003). Overall, the UXO sector in Laos is functioning well, although victim assistance for UXO survivors is substantially inadequate and new approaches are needed for

risk education programs. This is particularly so in regards to the management of risk reduction within the scrap metal trade.

4.2.2 Bilateral Funding and the United Nations

The UNDP provide staff and funding to both the NRA and UXO Lao. The UNDP has been involved in the UXO sector in Laos for a period of thirteen years and supports UXO activities as one part of four key target areas (UNDP 2009). Essentially, the role of the UNDP in regards to UXO activities is to assist in the mobilisation and coordination of international assistance to Laos' UXO sector, to provide technical advice and support, and to help ensure that donor resources are used efficiently and effectively (UNDP 2008). In addition to the UNDP, the United Nations Children's Fund (UNICEF) is also involved in UXO risk education programs and works in partnership with World Education/Consortium (WEC), Lao Youth Union and the Ministry of Education. Funding of Laos' UXO sector also includes bilateral donors²², and in 2007 Australia donated \$AU5.07 million to UXO activities as part of a larger five year development program (GICHD 2008).

²² Bilateral Donors refers to countries that channel resources directly to aid recipient countries or through the financing of multilateral agencies.

4.2.3 The Government of Laos

Throughout much of the literature on the UXO sector in Laos it is argued that the Government of Laos (GoL) needs to increase its financial commitment to UXO action. However, while this argument is in support of arguments by post-conflict theorists (Del Castillo 2008; Chetail 2009) even thirty-four years after the last major conflict in Laos these claims are injudicious. Laos is an LDC with numerous development issues and demanding increased financial input from the GoL is unrealistic and inconsiderate of other development priorities.

Considering its capabilities, the GoL's commitment to the UXO sector has not been unreasonable, and includes important policy and operational support networks that are absent in many other post-conflict states. UXO Lao and the NRA, for example, are both national programs partially funded by the GoL and run by the Ministry of Social Welfare and the Office of the Prime Minister respectively (Griffin, Keeley & Sayyasouk 2008). All UXO Lao and NRA facilities, electricity and water are provided by the government, as is the Cooperative Orthotic Prosthetic Enterprise's (COPE) facilities. In regards to UXO/Mine risk education, the Ministry of Education is working with WEC to implement risk education programs in national primary schools. Internationally, the government of Laos has been strongly supportive of advocacy against the

use of cluster munitions and on March 18, 2009 Laos was the second state to ratify the international treaty against cluster munitions.

According to several participants of this study one issue that the GoL should immediately improve upon is the Memorandum of Understanding (MOU) process. All NGO's working in Laos must obtain an MOU before they can begin operations and this process can take anywhere between six to eighteen months to be approved. As UNDP Senior Technical Advisor to the NRA, Mr. Tim Horner, states,

Ausaid will allocate a certain amount of money and this will have to be done in a fiscal year. Often the MOU will take longer than this and as a result the money is nominated elsewhere. This means Laos is losing money that is so difficult to get.

(02 June 2009)

Likewise there are some instances where the GoL could also be more supportive of organisations already operating in Laos. In 2009, for example, the GoL destroyed a COPE rehabilitation centre in Luang Prabang to sell the site for private development. Finally, the government response to victim assistance is one UXO action pillar in need of greater commitment. The government does provide the National Rehabilitation Centre (NRC) in Vientiane; however, in most other provinces health care services are under-resourced and understaffed. Instead of greater

financial commitment what may be needed from the GoL (and from the sector in general) is a reconsideration of how existing resources should be allocated.

4.2.4 National Operators:

4.2.4.1 The National Regulatory Authority for the UXO/Mine Action Sector in Lao PDR

The NRA is the national UXO/mine action authority for Laos and is responsible for the coordination of all operators working in the UXO sector. The NRA facilitates international partnerships and Laos' ratification of treaties such as the cluster munitions treaty. The NRA also conducts research on the effects of UXO contamination and although not necessarily in its mandate, if possible NRA Senior Technical Advisor, Mr. Tim Horner, would like to expand research into the effects of herbicides and defoliants that were also used during the Second Indochina War (02 June 2009). Quality assurance and the setting of operational standards for the UXO sector is also a responsibility of the NRA and, although currently unsustainable and funded primarily by the UNDP, the NRA has proven to be a valuable addition to the UXO sector (GICHD 2007). Furthermore, it has been argued by Griffin et al. (2008: 79) that given the time bound nature of UXO contamination the NRA should remain partially supported by the UNDP.

4.2.4.2 UXO Lao

UXO Lao is Laos' national clearance operator and works in the country's nine most UXO contaminated provinces²³. UXO Lao is the largest clearance operator in Laos and since it began operations in 1996 it has cleared more than 800,000 items of UXO. In addition to clearance, UXO Lao has also conducted risk education sessions in at least 6,659 villages (UXO Lao 2009). Despite these achievements UXO Lao is arguably also the UXO organisation in need of the most changes and indeed in many provinces where UXO Lao operate their procedures have remained largely unchanged for over a decade (GICHD 2007). In 2008 UXO Lao roving teams failed to reach their targets and according to Griffin et al. (2008) an increase in roving teams to meet future targets is essential. Furthermore, UXO Lao staff appear to have an aversion towards large bombs and in Saravane province a backlog of one hundred and thirty large aircraft bombs remain to be cleared. Internal quality assurance of all operations needs to be improved by UXO Lao, and in particular the organisation must improve data collection on the implementation of risk education sessions (Griffin et al. 2008). UXO Lao currently has community awareness volunteers for risk education operating in eight provinces; however, Griffin et al. (2008) have shown that the program is

²³ The nine most contaminated provinces are Savannaket, Xiengkhouan, Saravane, Khammouane, Houaphan, Sekong, Champassak, Attapeu, and Luang Prabang (UXO Lao 2009).

reaching diminishing returns. Like the NRA, UXO Lao is funded primarily by the UNDP and its workforce of over one thousand employees includes eight international advisors (UXO Lao 09).

4.2.5 Non-Governmental Organisations:

4.2.5.1 Clearance and Risk Education Operators

As the most established and experienced humanitarian clearance operator in Laos, MAG have been working in clearance, roving, and risk education since 1994. At present MAG operates eleven clearance teams and nine community liaison teams. In support of gender equality, two of MAG's eleven clearance teams are all female and thirty-three percent of MAG Lao's total workforce are female (MAG 2009). MAG's clearance is always interrelated with development and according to MAG's program officer in Laos, Mr. Gregory Cathcart,

A recent post-clearance assessment by MAG found that a satisfactory level of development was occurring on approximately ninety-five percent of MAG clearance sites from between 2007 and January 2009.

(09 June 2009)

As well as employing and training local staff MAG use village assisted clearance teams to remove vegetation from contaminated land. MAG is also involved in risk education although according to Mr. Gregory Cathcart MAG is looking to scale down its current risk education program to only target at risk groups (09 June 2009). Alongside MAG, the Swiss Foundation for Mine Action (FSD) is also involved in a considerable level of clearance and roving activities. FSD were the first clearance company to receive full accreditation from the NRA and their clearance work is primarily in support of the World Food Programme (Sisawath et al. 2008). In addition to clearance, FSD provide risk education and other training programs and seek to create alternative forms of income for rural Lao.

4.2.5.2 Victim Assistance Operators

COPE provides the most comprehensive, nationwide, victim assistance service currently available in Laos (UNDP 2008). Although COPE work with patients that have a variety of disabilities and are not strictly limited to treatment of UXO casualties, according to the Co-founder of COPE, Mr. Mike Boddington, over forty percent of COPE's patients are UXO survivors (07 June 2009). In addition to providing corrective surgery, prosthesis, and orthotic devices, COPE is also involved in the skills training of local staff. COPE now have fourteen Laotian (international

standard) prostheses working for them. COPE pay all patient costs, including transportation, accommodation, and food for the patient and one carer, as well as the costs of any necessary surgery and of course the prosthetic or orthotic device. According to a COPE Occupational Therapist, Ms Jo Pereira, COPE does not consider itself as a service provider, rather its objective is to subsidise government services and improve the skills of national healthcare workers. As Ms Pereira states,

Our objective is to subsidize the service that the government provides and that is very much the message that we try and get out there. We support local peoples endeavours in meeting the needs of their fellow countrymen.

(18 June 2009)

In addition to the GoL, COPE also work in partnership with the Association for Aid Relief Japan (AAR) at the National Rehabilitation Centre. AAR builds wheelchairs and other disability devices. HIB also provide some minor victim assistance services and are substantially involved in risk education strategies and programs. HIB are involved in some clearance activities and small scale community development programs (Sisawath et al. 2008). Finally, WEC also provide educational and vocational training to rural Lao and provide some assistance in the treatment of UXO survivors (Sisawath et al. 2008).

4.2.5.3 Private Operators

There are three private UXO clearance operators (BACTEC, Milsearch, and PCL) currently working in Laos. These operators work primarily for other private companies and clear land for mining and hydro-electric projects. BACTEC and PCL have, however, also been involved in community risk education and roving tasks and provided non-financial support to HIB and COPE (Sisawath et al. 2008). Similarly to MAG, BACTEC uses village assisted clearance to provide economic support to local people, while PCL have been involved in a wetland restoration project in Khammouane province (Landmine Monitor 2008). In 2008 Milsearch and PCL cleared 1,067 and 1,975 items of UXO respectively. Considering that these three private clearance companies are operating in Laos, it may be beneficial to the UXO sectoral response for NGO's to scale down their levels of clearance and focus more on issues such as victim assistance or the improvement of risk education strategies. Having provided an overview of UXO operators and activities within Laos UXO sector, Section Two of this chapter will now consider where the UXO sector is in need of greater support.

4.3 Section Two: Strengthening IMAS' Pillars

4.3.1 Expanding Victim Assistance

While clearance, stockpile destruction, and advocacy against the use of cluster munitions (if not landmines) appear to be well functioning in Laos, victim assistance and risk education are two UXO action 'pillars' that require a more adequate response. The list of organisations some way involved in victim assistance is extensive and includes the Ministry of Health, The Ministry of Social Welfare, HIB, AAR, COPE, Lao Disabled Peoples Association and WEC. However, most of these organisations operate on small budgets, conduct other activities as well as victim assistance, and work with many individuals whose impairments are not the result of UXO. Working across a broad range of issues with limited staff and limited funding the response for UXO survivors and their families is far from adequate. As COPE occupational therapist, Ms. Jo Pereira succinctly explains,

I think the health systems are struggling to cope, but they are here and I think again compared to a lot of countries in a post-conflict situation where there is nothing, Laos does already have a lot of the shape of the infrastructure if not all of the investment that is needed in it.

(18 June 2009)

In regards to government institutions there is no sufficient system for the treatment of UXO casualties, no vocational training or education programs and no national UXO casualties database (GICHD 2007). Patients must pay for all government provided healthcare and UXO casualties are often amongst the poorest of the population. In addition to the physical injuries of UXO accidents is the psychological trauma that many accident victims experience and psychological support for UXO survivors is the most deficient area of victim assistance in Laos.

Mental health support services in Laos are extremely limited with only two psychiatrists for the whole population (BNBR 2008). Neither COPE, AAR, nor the GoL have psycho-social support programs for UXO survivors. Lao Disabled People's Association do have self help groups for the disabled, however, these have no specific focus on UXO survivors and are poorly managed and funded. HIB has a rehabilitation program in Savannakhet province and have recently published a report about the psycho-social effects of UXO accidents on children. According to this report no child survivors of UXO accidents, or their families, had received any psychological support other than traditional healing practices within their villages. Only one small mental health unit exists in Vientiane and despite the fact that UXO survivors are generally from remote rural areas there are no mental health services at the provincial or district level (HIB 2004). One organisation called Basic Needs, Basic

Rights are just beginning to become involved in mental health in Laos, however, they have no specific focus on UXO survivors. In fact, their first ‘base-line’ study made no mention of UXO related trauma and was conducted in Vientiane municipality where UXO casualties are rare. Urgent action is needed to provide psychological support to UXO survivors and their families, and according to HIB (2004) attempts to do so should operate primarily through existing health services. Basic Needs Basic Rights should consider expanding its work into UXO contaminated provinces and increase communication with organisations such as COPE, HIB, AAR, and WEC who could (with sufficient training) identify and refer patients to them. In addition HIB (2004) has suggested that the National University of Laos develop a psychology program.

4.3.2 Re-orienting Risk Education

According to the IMAS, the term Mine/UXO risk education (RE) refers to ‘educational activities which seek to reduce the risk of injury from mines and UXO by raising awareness and promoting behavioural change, including public information dissemination, education and training, and community mine action liaison’ (IMAS 07.11, 55). Providing RE to affected communities is an important part of the ongoing efforts to reduce the negative impacts of UXO (UNDP 2008) and has been conducted in Laos for over a decade. A requirement of the cluster

munitions treaty that Laos recently ratified, according to Laos' national strategic plan for mine/UXO action there are four key priorities involved in risk education; to ensure focus is on high risk groups and high risk areas; to make RE sustainable; to effectively coordinate and manage the RE program; and to effectively monitor the program. To achieve these four priorities, RE has the three primary components of public information dissemination, education and training, and community liaison (GICHD 2007b). In 2008 RE was conducted in Laos by a variety of institutions and NGO's including the Ministry of Education and WEC, UXO Lao, MAG, HIB, World Vision, UNICEF, and the Lao Youth Union (Griffin et al. 2008). Of these operators, WEC and the Ministry of Education reached the most people at 160,134, while UXO Lao reached 145,332 people and MAG reached 12,148 people (Sisawath et al. 2008). Yet despite the large number of people receiving risk education activities in Laos a 2008 report by Griffin et al. has challenged the appropriateness and effectiveness of current RE activities. According to the report, community awareness programs could only be considered cost effective if every person that heard RE messages immediately modified their behaviour. Such levels of effectiveness are unlikely, however, particularly considering that many individuals who were likely to modify their behaviour have probably already done so (Griffin et al. 2008). With over thirty years of living every day with the presence of UXO, the

majority of rural Lao are aware of the potential danger of this material and engage with UXO out of necessity or choice rather than ignorance. Of existing RE practices only community liaison²⁴ remains important although in 2007 new materials targeting high risk groups were developed by the NRA, MAG and UNICEF. As the Mine Risk Education Operator for the NRA, Mr. Thongdy Phommavongsa states:

We have a strategy now regarding behavioural change rather than raising UXO awareness... children are our main concern... the main thing we are trying to address now is the scrap metal trade.

(22 June 2009)

Although these materials are still in the initial stages of implementation their likelihood of success is much greater than for previous programs.

4.4 Conclusion

To address the five pillars of UXO/Mine action outlined by the IMAS, Laos' UXO sector includes a variety of civil society organisations. A

²⁴ Community liaison refers to the system and procedures used to exchange information between national activities, UXO organisations, and local communities. They enable local communities to be informed when clearance is planned to take place, the nature and duration of the task, and the exact locations to be cleared (IMAS, 0.711). More an information exchange than the provision of 'education', community liaison teams establish a connection with local villagers and inform them of clearance teams in the area as well as discussing which areas are of the highest priority for clearance.

valuable broad framework, the IMAS provides a suitable guideline for UXO action in Laos so long as the level of response to each pillar is prioritised according to country specific needs. As has been shown in this chapter, UXO clearance is well established and well functioning in Laos, although success levels vary between organisations and institutions. Risk education is provided by many operators in Laos, however, until recently the message it has provided has been largely inappropriate for the extensiveness of UXO contamination. As will be shown further in *Chapter Six*, people's responses to UXO contamination in Laos have changed over time and, until recently, risk education programs have failed to adapt to these behavioural changes. While it cannot be expected of a worldwide best practice framework to provide guidance on the variances in the effects of UXO contamination in all affected countries, Laos need to reappropriate its risk education strategies highlights that the IMAS need to be shaped to fit post-conflict countries specific contamination problems. In Laos, such contextualising of the IMAS framework may involve a reconsideration of the relative importance of UXO pillars such as stockpile destruction and advocacy against the use of cluster munitions that are less immediate needs than greater government and NGO involvement in victim assistance. Furthermore, if private clearance companies were able to receive donor funding for clearance it may be beneficial to UXO action in Laos for NGO's such as

MAG and FSD to scale down their clearance activities and focus more on roving tasks, victim assistance, and developing more successful risk education programs. This is particularly so in regards to the virtual non-existence of psychological support for UXO casualties and their families. Most importantly of all, operators in the UXO sector must continue to research and improve their responses to Laos' scrap metal trade. As Laos continues to expand and develop socio-economically the effects of UXO and local people's responses to contamination will continue to transform. For a successful response to UXO contamination, the UXO sector must likewise adapt to these changes. Having explored how the civil society response to UXO contamination is functioning in Laos the effects of UXO on Laos' development will now be considered.

Chapter 5

-Unexploded Ordnance and the Body-

UXO is the biggest problem. When you are hungry you don't die, but when a bomb explodes you die.

(Mrs Phaengkham, 25 June 2009)

5.1 Introduction

All across Laos people live daily with the threat of unexploded munitions that distort the divisions between peace and conflict and since 1975 total UXO casualties have exceeded 50,000²⁵ (Nixon 2007: 163; Sisawath et al. 2008). More recently, over the past decade the average amount of UXO casualties per year has been two hundred and eighty-nine people and numerous accounts of UXO accidents can be seen throughout the reports of NGO's working in contaminated areas (Sisawath et al. 2008). As has already been stated, UXO casualty rates have increased in recent years and based on existing data, it appears that casualty rates continued to increase in 2008. In addition to the physical injuries of UXO,

²⁵ Until 2008, the best information available on the total number of casualties as a result of UXO accidents was about fourteen thousand. With the work of the National Survey of UXO Victims and Accidents, it is now known that the true number is over fifty thousand. Considering under-reporting it may in fact be as high as sixty-five thousand (Sisawath et al. 2008).

psychological trauma is also widespread amongst Laotians who live in contaminated districts. This chapter will explore the physical and psychological effects of UXO on the body.

5.2 The Physical effects of Unexploded Ordnance

UXO contamination continues to kill and injure civilians throughout Laos on an almost daily basis. Of the seven participants from Nakai interviewed for this research all could recollect accidents that had occurred in their home district. Two participants were themselves UXO survivors and Mr. Simsomsouk had lost both of his arms and one eye in a UXO accident. Another participant who was not herself a UXO survivor had five of her family members killed in UXO accidents. As is common within professional literature, the causes of the accidents ranged from deliberate interaction with UXO to coming into contact with UXO when farming and unknowingly building a fire above buried UXO. Participant's injuries included amputation, loss of eyesight, damaged hearing, and ongoing discomfort from shrapnel embedded beneath the skin. These injuries often cause pain and discomfort for the remainder of people's lives and impede human development by reducing the future outputs of these individuals.

Although this study was able to interview two survivors of UXO accidents, in many instances those involved in UXO accidents do not

survive. Approximately one third of UXO casualties die almost immediately following accidents with UXO while many more have died because they were unable to reach a hospital (Cave et al. 2006). Due to the main activities associated with UXO accidents being ‘playing’ or ‘tampering’, approximately sixty-five percent of survivors require upper limb amputations (HIB 2004). Furthermore, individuals who have lost limbs or are disabled from UXO accidents often encounter marginalisation from society, loss of education and employment, as well as limited relationship prospects. Difficulties in returning to work following UXO accidents were mentioned both by Mr. Simsomsouk and Mr. Khamphong as is seen in the following two comments:

Now I am very poor because I lost both arms and one eye and my other eye is not so clear. I cannot work very good and I have so many children and it is hard to find food to feed them.

(Mr Simsomsouk 26 June 2009)

When I was working a bomb exploded and made me blind in one eye and damaged my shoulder, my stomach, and my arm. When I am working now I cannot work to one hundred percent.

(Mr Khamphong 24 June 2009)

Should the definition used by the 2008 convention on cluster munitions be applied, that ‘cluster munitions victims means all persons who have been killed or suffered physical or psychological injury, economic loss, social marginalisation or substantial impairment of the realisation of their rights.... [Including] persons directly impacted by cluster munitions as well as their affected families and communities’, the majority of the Laotian population would qualify as victims.

5.3 Unexploded Ordnance and Psychological Trauma

One of the more difficult to measure and less recognised humanitarian effects of UXO contamination is the fear people experience from living in UXO contaminated areas. A problem that affects not only UXO survivors but almost all individuals who live in contaminated districts, fear of UXO was mentioned by all participants from Nakai district. Fear of hitting UXO while farming, fear for the safety of their children and family members, fear from seeing others who have suffered from UXO accidents, and fears about returning to work were all mentioned as effects of UXO. Some examples of how fear limits both socio-economic outputs and peoples everyday lived experience can be seen in the following two remarks by Mrs. Phaengkham and Mr. Somsak:

I am very scared of bombs at the moment because my son in-law died from bomb fishing and my three grandchildren died [from a UXO accident] in Talang.

(Mrs Phaengkham, 25 June 2009)

People injured by bombs are afraid to return to work and people who see so many others [who have been] injured or died because of bombs are also scared to work in the area.

(Mr Somsak 24 June 2009)

Likewise NGOs operating in the UXO sector have received many accounts of fear from UXO by those living in contaminated areas and the effect of this fear has a serious impact on people's abilities to expand their opportunities and develop their potential.

For those who have experienced the trauma of a UXO accident the psychological effects are often substantial, including flashbacks, anxiety, depression, alcohol dependency, drug use, nightmares, poor memory, and learning difficulties (HIB 2004). It is not uncommon for UXO survivors to avoid the place where their accident occurred and psychological effects of UXO accidents may in turn lead to social exclusion and/or loss of employment (GICHD 2007b). The impact of fear on the human

development of UXO contaminated societies in Laos may be the most overlooked effect of UXO contamination.

5.4 Risk Taking and Risk Aversion

Presented with no viable economic alternatives, many people in Laos are forced to farm, forage and search for scrap metal on UXO contaminated land (Kett & Mannion 2004). While such risk-taking is understandable in a country where malnutrition affects one in every two children (WFP 2007), it does increase the likelihood of already impoverished communities experiencing UXO accidents and, as a result, facing greater poverty in the future (GICHD 2007b). Survivors after often unable to return to the same work that they did before UXO accidents and considering that a large majority of casualties are young males, accidents often affect families and villages principal income earners (Cave et al. 2006). In some instances people have developed risk aversion strategies for farming such as using buffaloes instead of tractors and only digging a few centimetres into the soil, however, these methods reduce the overall productivity of farming. Mr. Somsak provides one example of a simple risk aversion strategy and the effect it has on subsistence:

So when you are working in the bush you must work carefully, work carefully with your machete, and people are

scared of a bomb exploding. So it is difficult to survive and there is not enough food.

(24 June 2009)

5.5 High Risk Demographics

The overwhelming majority of UXO casualties in Laos are male and in 2008 males accounted for eighty-one percent of total casualties. According to both professional literature and many participants from Nakai district this is most likely the result of men's greater involvement in more physical agricultural work and because they are more likely to deliberately handle UXO:

Normally the problem is with men, who work hard and use the hoe.

(Mr. Saengchan 24 June 2009)

Men have to do so much work that puts them at risk of hitting a bomb.

(Mr Khamphong 24 June 2009)

Amongst males, young men and boys are particularly at risk of deliberately handling UXO and it has been suggested that this is due to a

combination of their inquisitive nature and attempts at social bravado (UNIDIR 2008). As Nakai is a district where people's subsistence is highly dependent on fishing, further reasons given for men handling UXO by participants from Nakai was to extract explosives for use in fishing. A common finding within many post-conflict countries (Borrie 2003), using explosives for fishing is generally incorporated by professional literature as part of the scrap metal trade and participation in the scrap metal trade is also another common cause for increased casualty rates amongst males.

Children of both sexes report higher UXO casualties than adults and the proportion of child casualties in Laos has increased in recent years (Cave et al. 2006). From 1964 to 2008 child casualties were less than thirty-nine percent, however, in the last decade the figure has increased to over fifty percent (UXO Lao 2009). One reason given for this by Kingshill (1991) and Murphy (1999) is that the BLU-26 sub-munition resembles a Lao fruit (see figure 5.1) or a small ball that children will try to play with (Kingshill 1991; Murphy 1999). In support of this idea, fifty-one percent of recent child casualties were the result of sub-munitions compared to only twenty-eight percent of all adult casualties. Although most child casualties do not survive, many of those who do face difficulties fitting back into their communities or families (HIB 2004).

In this study, all participants from Nakai identified children and men as the most ‘at risk’ groups. One participant recalled a recent UXO accident involving three boys in Khammouane province while Kim Warren from HIB described a recent UXO accident where nine children were injured:

Last year in January there was an accident in one of our target villages. Nine kids involved, five died, four survived. They were throwing stones at a dead cow and one of the kids picked up a bombie, he didn't know it was a bombie, and threw it at the cow.

(14 June 2009).

Such multiple casualties are common of UXO accidents in many contaminated countries (Borrie 2003), however, it is concerning for development that the majority of UXO casualties in Laos were born long after conflict had ceased (UNDP 2008).



Figure 5.1 Fruit (Left) that resembles UXO cluster sub-munitions (right).

(Photographs by Kearnin Sims)

5.6 Conclusion

Due to its poor socio-economic status Laos is in many senses a risk society abounding in potential livelihoods shocks (Beck 1992). None are more immediately devastating, however, than the effects of a UXO accident. Although a nationwide problem, UXO contamination has the greatest impact on those who are already disadvantaged and most dependent on agriculture. Approximately three hundred UXO accidents occur every year in Laos and survivors often have extensive disabling injuries that affect them for the remainder of their lives. In addition to physical injuries UXO survivors often experience ongoing psychological effects and significant socio-economic losses. Treatment for UXO injuries is often expensive and many individuals are unable to return to traditional forms of income generation following a UXO accident. At the national level, UXO casualties place a substantial burden on Laos' underfunded, understaffed, and undersupplied health care system, impede the expansion and use of agricultural land, restrict the construction of schools, hospitals, roads, housing, and destroy the social and human capital of the Lao workforce. These socio-economic effects of UXO will be discussed further in the following chapter.

Chapter 6

- The Socio-economic Effects of Unexploded Ordnance -

This was the poorest ban [village] I stayed in- UXO poor. Cultivable land was nearby; I had been overlooking it, far below on the banks of the Nam Ghouan, as I sat by the roadside. But everyone feared its contents.

(Murphy 1999)

6.1 Introduction

Aside from the humanitarian effects of UXO contamination, UXO is one of the primary factors limiting social and economic development in Laos. A strong correlation exists between the prevalence of poverty and UXO contamination (see figure 6.1) and according to Cave et al. (2006: 35) in all UNDP development assistance frameworks and humanitarian development frameworks for Laos UXO contamination is considered an ongoing development concern. Likewise, the GoL's own NSEDP for 2006-2010 recognises UXO as a significant inhibitor to development that affects, in particular, already poor and vulnerable groups. While Laos' population is slowly becoming more urbanised, population growth continues to create the need for more safe land. Approximately eighty percent of the Lao population are subsistence farmers (Capati 1997) and

the inhibitory effect of UXO on land access is a significant livelihood constraint for many people. In contrast to the negative socio-economic effects of UXO, through the sale and reuse of its metal and explosive contents UXO has also become an economic resource. Perhaps the most well established informal economy in Laos, the scrap metal trade provides a means for the rural poor to transform UXO from a livelihood restraint into an economic opportunity. Acknowledging this duality, this chapter explores both the socio-economic restraints of UXO contamination and its potential benefits.

6.2 The Socio-economic constraints of Unexploded Ordnance

Within Laos' forty-seven poorest districts the amount of contaminated land with potential agriculture use is some 200,000 hectares. At current clearance rates it has been estimated that this land will take approximately fifty years to clear and will not be inexpensive (Griffin et al. 2008: 11). Yet despite the high costs of clearance, a 2008 study by Griffin et al. found that, at current expenditures, even from a strictly economic standpoint the clearance of UXO is cost-effective. Access to shops, schools, and healthcare facilities as well as the disruption of markets, tourism, mining, hydroelectric power, forestry and other potential investments, are all affected by UXO contamination. Livestock

are at risk of UXO accidents, and even access to water and fuel is impaired by UXO contamination (Kett & Mannion 2004; World Bank 2009). As can be seen in the following comments by COPE employee Ms. Jo Pereira and Nakai residents Mr Saengchan and Mr. Simsomsouk, the widespread effects of UXO commonly mentioned within professional literature were supported in this research by both UXO sector operators and those living in contaminated landscapes:

I think that the problem with the UXO issue is that it permeates pretty much every level in society... UXO affects poverty, it affects disability, it affects infrastructure, it pretty much just affects everything that people are trying to do here.

(18 June 2009)

It [farming] is also very hard because of the bombs. There are lots of bombs here and people are scared of the bombs. When we plant rice we must be careful and we cannot grow enough food.

(Mr. Saengchan 25 June 2006)

UXO is the biggest problem. We do have other problems but UXO is the biggest.

(Mr. Sisomsouk 26 June 2009)

That said, although Ms. Pereira considers UXO to be a wide-ranging problem for development in Laos, many UXO sector operators interviewed for this study also stated that UXO was not the biggest development problem to affect Laos. As COPE Co-Founder Mr. Mike Boddington States,

There are three major development issues in Laos. One education. Any community must educate its people and this is a huge problem in Laos particularly because of the Lao script and the very limited availability of books... The second biggest issue is health and the third biggest issue is the environment. And the environment in Laos is in a terrible state at the moment.

(07 June 2009).

This was in contrast to the responses from the majority of participants from Nakai, who, as Mr Sisomsouk highlights, considered UXO to be the biggest problem that they faced.

In addition to restricting land access, UXO has resulted in the over-use of non-contaminated land and reduced agricultural yields from environmental degradation (UNIDIR 2008). Such restrictions on

development because of UXO have been labelled by the World Bank (2008) as ‘negative investment’ because of the many ways they detract from Laos’ development by adding to the expenditures and timeframes needed for development initiatives. Similarly to casualty databases, however, although obviously extensive, the *exact* overall socio-economic impact of UXO contamination has been poorly quantified in Laos (World Bank 2008). A recent estimate of the excessive cost to civilian infrastructure resulting from UXO contamination made by the GoL’s ministry of transport was as much as 5,000 USD per hectare (World Bank 2008). For the Lang Xang Minerals company, UXO clearance has for more than a decade cost up to 3,000,000 USD per year (UNDP 2008), while the Nam Theun II hydro-electric dam spent over \$US16.7 million on UXO related activities from February 2003 to October 2007 (Landmine Monitor 2008).

6.3 Treatment of Unexploded Ordnance Casualties

Aside from the limitations to employment and development initiatives that UXO survivors and UXO contaminated communities often experience, the costs of medical treatment or funeral ceremonies for UXO casualties can also send a poor family further into poverty and destitution (Cave et al. 2006). As Mr. Tim Horner explains:

You do have to pay for whatever treatment you require and the people hit hardest by UXO are often the poorest. Having to pay for treatment basically takes people from just being able to cope to being poverty stricken.

(02 June 2009)

One of the most common methods used by rural villagers to pay for medical treatment is the selling of livestock yet this practice also often leads to labour shortages and the removal of family assets that may have been used to cope with future financial hardship (HIB 2004). According to the GoL's National Socio-Economic Development Plan (2006) the average cost of treatment for UXO injuries can be as much as half the annual income of a rural family and it is in this sense that UXO contamination has been labelled by HIB (2004: 26) as a 'poverty multiplier' that further impoverishes already poor families and communities. On a broader scale, treatment and care of UXO survivors can be a burden for whole communities and a significant additional expenditure for Laos' overtaxed medical system (UNDP 2008). Beyond the immediate socio-economic constraints of UXO contamination is a widespread (UXO inclusive) scrap metal trade that is both a form of income generation for impoverished rural Laotians and one of the primary causes for increasing UXO casualty rates. The most under-researched socio-economic effect of UXO contamination, this informal

economy and how it may be more adequately addressed will constitute the remainder of this thesis.

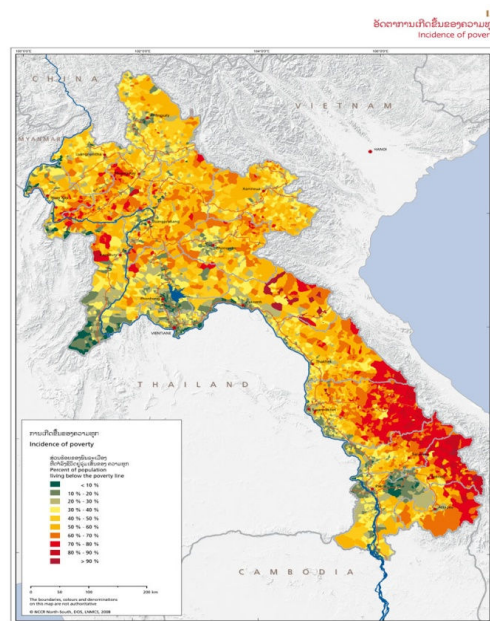
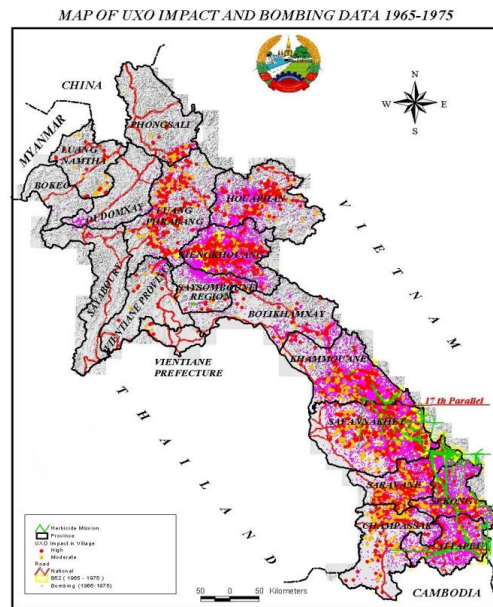


Figure 6.1: Map of UXO Contamination alongside Map of the Spread of Poverty in Laos (Courtesy of PCL Bombing Data; Swiss National Centre of Competence in Research ((NCCR)) 2008)

6.4 The Informal Economy and Unexploded Ordnance:

The Scrap Metal Trade

The New Cash Crop is Scrap Metal.

- EOD Technician (Bomb Harvest 2007)

6.4.1 Introduction

The collection of war scrap as an economic and everyday resource to be recycled into items such as cooking utensils, flower pots, buckets, boats, prosthetic limbs, and building supplies is widespread throughout Laos. Since the completion of the war, and especially since 2004, the collection and sale of scrap metal has developed into one of the most extensive economic structures in Laos. As development, trade, and the availability of consumer goods increases, former subsistence economies are becoming increasingly cash driven and in many areas the sale of scrap metal provides one of the only means for the impoverished to participate in a monetary economy (UNDP 2008). Furthermore, regional and global increases in the demand for steel alongside an increased availability of cheap metal detectors and expanding road networks are all increasing the prevalence of the scrap metal trade. In the past five years scrap metal collectors, scrap metal dealers and scrap metal foundries have all increased (MAG 2008b).

While contributing substantially to rural livelihoods, the scrap metal trade is also the most common way in which people voluntarily expose themselves to risks with UXO and is likely to be the primary reason why UXO casualty rates in Laos are increasing. As UNDP Senior Technical Advisor to UXO Lao, Mr. John Dingley, states:

The scrap metal trade is a major problem for the creation of casualties, but it is also a big enabler of cash into rural households.

(19 June 2009)

Yet current responses to the trade have focused only on the negative components of this potentially high risk activity. Legislation outlawing participation in the industry and risk education programs with a ‘don’t touch’ message have been the most commonly applied practice and have had little success in reducing either casualties or people’s involvement with war scrap. What is needed instead is a threefold approach combining improved risk education strategies with increased support and training for those involved in this risky trade alongside the provision of alternative forms of income.

6.4.2 Participants, Purposes, and Practice

The scrap metal trade is primarily a dry season activity that is used as a secondary economic endeavour to supplement wet season agriculture (Moyes 2005). In the majority of instances the scrap metal trade operates through a simple three stage system (See figure 6.2); scrap metal collectors search for scrap and sell their findings to local dealers, who then in turn sell to scrap metal foundries where metal is melted down and converted into 'rebar' for construction (MAG 2008b). People engage in the scrap metal trade for a variety of reasons, perhaps even including boredom and a desire for excitement, however, the most common and influential reason is want or need of money (Vosburgh 2006). Indeed, the sale of scrap metal is an activity that connects some of Laos' poorest people to international trade markets (Moyes 2005).

A trade with diverse levels of involvement, some people leave other forms of employment to search for scrap metal while for others participation merely involves selling items found while farming (Robson 2008). Some people may stay away from their homes for several days to search for scrap while other may join scrap metal collection labour gangs²⁶ (Moyes 2005). Broadly speaking, distinctions may be made between those who search for scrap and those that merely discover it by

²⁶ Scrap metal labour gangs is the name given to people who accompany a scrap metal dealer to an area where it is believed there is a lot of scrap metal. These individuals are given the day to search for scrap and then sell their findings in the evening.

chance, as well as between those who avoid UXO when discovered and those who will actively engage with or try to dismantle UXO (GICHD 2007). In the case of the latter, many scrap metal dealers and scrap metal foundries will not take items that they identify as UXO and, not wanting to lose the value of the metal, some scrap collectors will attempt to dismantle UXO. Essentially, this means that the poorest individuals in the scrap metal trade face the greatest levels of risk (UNDP 2008).

In the context of poverty and geographical isolation, scrap metal collection is often regarded as a safe activity in the sense that it generates an extra income to complement subsistence farming (GICHD 2007). Intentional risk taking by those engaged in the scrap metal trade is generally based within a rational decision making process that evaluates the costs and benefits of pursuing other options (Durham 2007). Indeed previous studies (Durham 2007) have shown that where other options have more perceived advantages than the collection of scrap, people will generally abandon the scrap metal trade. Such viable alternatives have, however, proven extremely difficult to create. Even when other sources of income are available the sheer amount of scrap metal to be found means that the trade generally provides the most substantial returns on time and labour invested (Moyes 2005). Inputs required for the business are minimal, with a low initial investment needed and high returns on labour invested and quick returns on investment are common.

Furthermore, scrap metal collection is one of the few activities where buyers will come into the village to collect the product and where other forms of loans are nonexistent some scrap metal dealers have even been willing to provide metal detectors in lieu of payment (Moyes 2005; GICHD 2007). Finally, the collection of scrap metal can be used not only as an immediate form of income, rather if stored, it can become a form of financial investment for families without means of saving.

When labelling the scrap metal trade as a high risk activity it must be remembered that in heavily UXO contaminated areas it is likely that the limited available farmland may also be contaminated and so even the growing of food is a potentially risky activity. Indeed in a 2007 study by GICHD, rural Laotian villagers claimed that they could find up to thirty kilograms of scrap metal per year just by conducting their regular farming activities. In times of food shortage, illness, or other livelihood shocks, any additional income is beneficial in strengthening the family survival buffer and scrap metal collection is therefore often perceived as an activity like any other (GICHD 2007). That said, although scrap metal collection may be more prevalent amongst societies poorest, it is not solely an activity used for subsistence. In many areas the sale of war scrap is increasingly being used as a means to generate income for an expanding market of consumer goods (Moyes 2005: 17) or for social events such as weddings or other parties. In other words, the financial

contributions of the scrap metal trade into the local or household economy differs between districts and provinces (GICHD 2007). For the future of the scrap metal trade, that scrap metal is a finite resource may also lead to an increase in scrap metal collection as people are aware they must exploit this resource while it is still available. Likewise, as safe scrap becomes harder to find people are also likely to take greater risks with UXO (Moyes 2005). In such circumstances, creating an adequate nationwide response to the reduction of casualties resulting from the scrap metal trade will be no simple task.

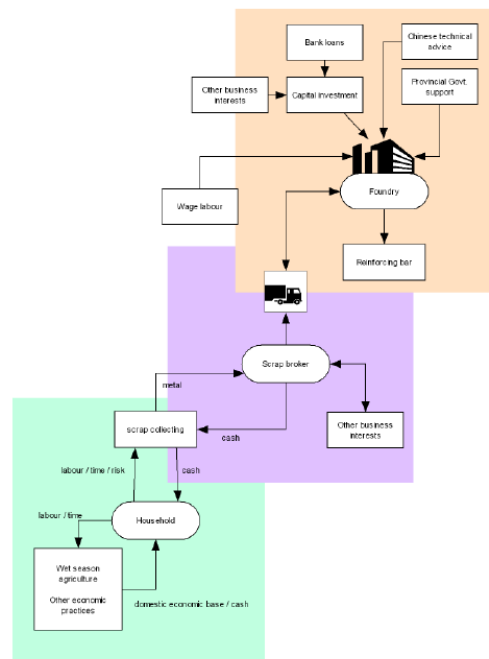


Figure 6.2 Diagram of Common Interchanges in the Scrap Metal Trade
(GICHD 2007)

6.4.3 Existing Responses to the Scrap Metal Trade:

6.4.3.1 Legislation

Due to the high UXO casualty rates that the scrap metal trade produces the core national response has focused on outlawing scrap metal collection. In many provinces in Laos there are already decrees against scrap metal collection and the GoL's currently strategy is to expand these decrees to a nationwide legislation against the scrap metal trade (GICHD 2007). However, considering how crucial the income generated from scrap metal is for many rural families such legislation is inappropriate and seemingly ineffective. To date, already existing provincial decrees appear to have had little to no effect on reducing the trade and this was supported by many participants from group one who stated that legislation would do nothing. In many cases people are unaware of the laws against collecting scrap metal and when people are aware, enforcement of such laws is highly difficult. In Khammouane and Savannakhet provinces, for example, metal detectors are technically illegal yet they are still openly for sale in many local markets and used daily by people who are searching for scrap metal or checking that their land is safe for farming (Moyes 2005: 18). Such laws conflict with local knowledge that some items of scrap metal are not dangerous (Moyes 2005), and if police were to become more vigilant the trade would become more secretive, more difficult to address, and therefore less safe.

Furthermore, a 2004 study by HIB has indicated that illegalising the trade may have a detrimental effect on the lives of UXO accident victims if they become seen by fellow villagers as criminals.

More pertinent than these issues is that such laws essentially seek to punish the impoverished for attempting to compensate for the many negative effects of UXO contamination. Aware of this fact, some district administrators have complained that they are being asked to encroach upon people's livelihoods without providing them with any viable alternatives (Moyes 2005). Indeed, successful illegalisation of the trade would mean the destruction of an extensive economic industry and means of food security as well as an increase in the overall amount of time before Laos will be free from UXO. As already mentioned, people engage in the scrap metal trade primarily because it is one of few opportunities available for them to generate a cash income. Instead of outlawing these activities, the GoL and other UXO operators may achieve greater successes in making the trade less dangerous by working with scrap metal collectors, dealers, and foundries. As Griffin et al (2008) has rightfully argued, the only legislation against the scrap metal trade worthy of implementation is an illegalisation of the involvement of children in the industry.

6.4.3.2 Inappropriate Risk Education

When people engage with UXO it is generally out of necessity rather than a lack of knowledge. As a result, general ‘don’t touch’ risk education messages on the dangers of UXO are inappropriate and thus ineffective (Wells Dang 2006). In a 2005 study by GICHD on risk education in Laos, little evidence was found to show that existing programs had resulted in a reduction of casualty rates (Griffin et al. 2008: 30). Likewise, in 2006 MAG conducted an assessment that found that despite a high overall awareness of the dangers and risks of UXO amongst both adults (82%) and children (99.6%) people continued to live or interact with potentially dangerous UXO on a daily basis (Durham 2007). An issue not limited to Laos, similar findings have been discovered by researchers in other heavily contaminated states such as Lebanon and Cambodia, where up to ninety-seven percent of UXO casualties had participated in risk education activities (UNIDIR 2008; Vosburgh 2006). These findings do not mean that risk education should be abandoned; rather they simply demonstrate that previous risk education strategies have been poorly targeted.

6.4.4 Recommendations for Future Responses:

6.4.4.1 Increased Support for Scrap Metal Activities

Rather than trying to eliminate the scrap metal trade the GoL and NGO's should consider providing education and support networks to reduce the risk of scrap metal related activities. New policies would benefit from including the provision of safety and UXO identification training to scrap metal collectors, dealers, and foundry employees and more efficient response times by roving teams to reports of UXO (Vosburgh 2006). To facilitate these changes the amount of roving²⁷ teams will need to be increased and should establish strong communication networks between themselves, scrap metal collectors, dealers, and foundries (Griffin et al. 2008). Individuals who report UXO to clearance or roving teams should either be provided with the scrap metal from the munition once it has been rendered safe or paid the equivalent cash value when this is not possible. In a 2008 report on the UXO sector Griffin et al. suggested lotteries as a possible way of providing UXO clearance to families personal agricultural land. A similar system would be useful for providing small cash rewards to those who have reported UXO to clearance or roving teams. To make UXO accidents less fatal, village medics from highly contaminated areas could be trained to deal with UXO accidents, and all foundries could be made to have at least one

²⁷ Roving teams are UXO clearance teams that respond to reports of UXO.

employee with basic medical training. Furthermore, as Moyes (2005: 44) has argued, scrap metal foundries should be required to open their premises for inspection, store suspicious items separately to other scrap, and provide their employees with basic training in UXO recognition. Any scrap metal dealers or foundries to be discovered purchasing scrap from children should be held legally accountable. If the scrap metal trade were approached in this manner it would at the very least remove the need for people to try and dismantle UXO. Thankfully, some organisations in Laos are already adopting a more pragmatic approach that is in accordance with the aforementioned recommendations.

In 2008 MAG cleared 85,000 items of UXO from a scrap metal foundry in Xiengkhouan province²⁸ and provided over one hundred risk education sessions to nearby scrap metal dealers and the foundry employees. In addition MAG set up communication networks so scrap metal dealers and the scrap metal foundry could more easily report items of UXO. In regards to scrap metal collectors, MAG is already implementing a program where they return the scrap metal from disarmed UXO to those who discover and report items that are suspected to be dangerous. Additionally, FSD is indirectly making the scrap metal trade safer through its training program for village health volunteers, while HIB

²⁸ Xiengkhouan province has one of the most prolific scrap metal industries in Laos

recently began a home gardening program intended to provide an alternative form of income to scrap metal collectors (Sisawath 2008).

6.4.4.2 Reappropriating Risk Education

Conscious of the limitations of existing risk education programs in Laos, operators are beginning to alter their risk education strategies to focus more on behavioural change amongst high risk groups. According to Mr. Gregory Cathcart, for example, MAG are looking at scaling down their risk education activities and focusing only on high risk groups such as those involved in the scrap metal trade (09 June 2009). Likewise, HIB have also begun to target at risk groups and are using village volunteers within these communities. Furthermore, with funding from UNICEF, HIB recently developed a new risk education module titled 'how to protect your children from Unexploded Ordnance- A guide for parents'. This module is in accordance with recent changes in risk education policy towards a behavioural change communication approach.

WEC and the Ministry of Education have been working together to implement risk education programs into the national primary school system and hopefully this program will increase the nationalisation and sustainability of risk education procedures (UNDP 2008). UXO Lao is in the process of changing the focus of its risk education programs to target at risk groups such as scrap metal collectors, parents of children who

collect scrap, and villages with high casualty rates (UXO Lao 09). Of risk education practices already in use, community liaison will remain an important part of the sector as without it there would be no local information on contamination or priority areas for organisations to conduct clearance (MAG 2008). Instead of trying to completely eliminate risky behaviour, risk education strategies would achieve greater successes if they sought to make this largely unavoidable activity safer (Vosburgh 2006). Likewise, new approaches should seek to ameliorate the disparity between UXO operators and rural Laotians opinions on the dangers of UXO (Durham 2007) and are fortunately slowly beginning to be implemented in Laos.

6.4.4.3 Providing Alternative Incomes

While providing better risk education and greater training and support will make the scrap metal trade immediately safer, these programs will not provide an opportunity for individuals to altogether cease their involvement in the industry. To achieve this end, what is needed is a viable and competitive economic alternative. Poor harvests and food shortages coupled with no economic opportunities and widespread contamination are the primary factors informing people's decisions to take risks with UXO and when livelihoods improve people's willingness to take risks generally decreases (CMVIS, 2006) In a 2006 study by the

Cambodia Mine Victims Information Service (CMVIS) on why UXO casualty rates were decreasing in a Cambodian village, improved economic factors were found to be the principal reason why casualties, and scrap metal collection, had decreased. While this may seem an obvious conclusion, through illegalisation and a ‘don’t touch’ risk education strategy, the response to the scrap metal trade in Laos has focused more on the prevention of engagement with scrap metal rather than the provision of alternatives.

Due to variations in climate, ethnicity, and socio-economic status, alternative income programs will need to differ between the highlands, midlands, and lowlands of Laos. Within these regions alternatives would benefit from a variety of activities so that the failure of one project does not necessitate the collapse of the whole program. Small pilot programs such as HIB’s home garden program²⁹ are in accordance with this idea and should be developed by other NGO’s alongside risk education and other previously mentioned support systems. Although no ‘magic bullet’, an increase in the relationship between the UXO sector and tourism may be one way to provide financial opportunities, particularly in the southern provinces of Khammouane and Savannakhet.

²⁹ A recent initiative by HIB has been to provide training and support to develop a home gardening program in villages with high levels of involvement in the scrap metal trade. The aim of this program is to create a safe, income generating alternative to scrap metal collection (Kim Warren 14 June 2009).

6.4.4.3.1 Post-conflict Tourism

Over the past decade tourism has become a major source of revenue for Laos' economy. According to a 2006 Lao PDR Human Development Report, tourism is the country's largest service export and in 2004 accounted for approximately 119,000,000 USD. One of the governments eleven priority sectors for socio-economic development, the potential financial, social, environmental and cultural benefits of tourism have been embraced by the Lao government (Askew et al. 2007). Although not all tourism in Laos may be beneficial to human development, the existing UNESCO/ Lao National Tourism Association eco-tourism project at Luang Namtha has been recognised internationally and won several awards for its success. Of equal importance to international praise, local people have reported high levels of satisfaction with the project and have been able to gain employment and other forms of economic benefits without having to migrate from their remote communities (Schipani 2008). As the tourist industry continues to expand in Laos there is potential for the UXO sector to use previous projects such as Luang Namtha as a base framework to increase the linkages between UXO activities and tourism. Although tourism does have the potential to worsen human development, it is not in the scope of this thesis to provide an analysis of tourism's possible flaws. Instead this thesis will simply provide a proposal for the creation of a tourist program that, if

implemented correctly, may be one of the few industries with the potential to provide an adequate alternative to the scrap metal trade.

Many UXO operators in Laos already have some involvement with the tourism sector. UXO Lao has a museum about UXO in Luang Prabang, MAG have a visitors centre in both Phonsavan and Vientiane, and COPE also has a visitors centre. In addition to these centres tour operator *Intrepid Travel* provide funding to UXO Lao and various other tour operators such as *Carpe Diem* have been supportive of COPE's services. An important component of UXO activities, tourism raises awareness about the problem of UXO contamination and provides a valuable form of revenue for UXO operators. There remains much potential, however, to further the relationship between UXO activities and tourism and, in particular, to expand the benefits of the tourist industry beyond UXO operators and into UXO affected communities. As it is currently operating the UXO sector is largely focused on providing the opportunity for development to occur as opposed to creating development. As MAG Lao's Program Officer, Mr. Gregory Cathcart, states,

Clearance doesn't do much by itself and we have to ensure that once clearance has taken place development is undertaken.

(09 June 2009).

Yet if the bonds between clearance, risk education, victim assistance, and tourism could be improved these activities could provide income generation, skills training, and new opportunities for UXO affected communities. Put simply, through tourism there is the potential for UXO activities to shift from a development pre-requisite to a development provider.

6.4.4.3.2 Tourism and the Scrap Metal Trade

With the success of the Luang Namtha eco-tourism project and the already existing relationships between risk education teams and local communities much of the ground work is already in place to develop eco-tourism amongst UXO affected communities. RE staff are already in contact with local people and know their livelihood systems, cultural practices and development priorities and these relationships could be used to discuss and develop eco-tourism projects. Combining tourism skills training with RE should make more people interested in participating in RE activities and make RE programs more cost effective. Existing RE village volunteers could use their knowledge of UXO to become guides for UXO related tourism; transforming RE activities into employment training as well as a risk reduction strategy. First aid training for tour guides would provide the skills for local people to assist UXO casualties and, perhaps most importantly of all, tourism is an

industry that is more popular in the dry season when scrap metal collection increases. Although not a nationwide solution, there are regions where substantial opportunities for the expansion of eco-tourism exist.

In Savannakhet and Khammouane province, the expansion of eco-tourism would provide a mid-point destination for tourists between the already popular destinations of Vientiane and Laos' southern 'four thousand islands' region. Described by the 2008 Lonely Planet as containing 'often spectacular mountains', Khammouane province is home to people from the Hmong, Tais, Makong, Kri, Katang, Maling, Atel, Phuan, and Themarou ethnicity groups. Likewise there are many ethnic minority groups in Savannakhet province and HIB already has existing interaction with some of these communities. Furthermore, an already existing border crossing between Laos and Vietnam in Savannakhet province has made Savannakhet town a popular tourist destination for Vietnamese tourists to Laos and a large number of hotels and guest houses are already operating in this area.

6.5 Conclusion

UXO is a widespread inhibitor of socio-economic development and all NGO's working in contaminated areas must be aware of what effect UXO is going to have on their specific objectives. Yet just as UXO

contamination restricts socio-economic growth, the resourcefulness of rural Laotians has in many areas resulted in the transformation of this economic burden into an economic asset. An extensive and well organised industry, the scrap metal trade is one of the only means of cash income for many of Laos' rural poor. Both a generator and an inhibitor of economic wealth, due to extensive UXO contamination the scrap metal trade is largely responsible for recent increases in UXO casualty rates throughout Laos. As development increases in Laos so too will the demand for steel, the availability and desire for consumer goods and, it can be assumed, the scrap metal trade. Yet due to misunderstandings of local perceptions and practices current responses to the scrap metal trade have been largely unsuccessful. Unless alternative forms of income are provided people's involvement in the scrap metal trade is unlikely to experience any significant reduction. However, creating alternative incomes that are competitive with the level of income generation provided by the scrap metal trade is a difficult task that will require input from development organisations not directly involved in the UXO sector. Until this can be achieved the UXO sector should consider shifting its response from condemnation of the trade to providing support for those involved in this high risk economic market. Risk education programs would achieve greater success if they sought not to prevent people from engaging with UXO, rather they should attempt to explain how this

inevitably risky activity can be made safer. Greater interaction between UXO operators and scrap metal collectors, dealers, and foundries would be beneficial and roving teams should be increased so that reported UXO responses are immediate. Except in regards to children, laws against the scrap metal trade must be removed. Although undoubtedly a high risk activity, if handled correctly the scrap metal trade does provide an economic opportunity for Laos' rural poor.

7. Conclusion: Unexploded Ordnance as an Inhibitor of Laos' Development

Now over thirty-four years since the Second Indochina War, unexploded ordnance (UXO) remaining from this conflict persists as one of the most widespread restraints to human development in Laos. While there is an increasingly well functioning UXO sector in Laos, outside of this small collection of civil society organisations insufficient recognition has been given to the effects of UXO contamination. As in most post-conflict UXO contaminated states, Laos' UXO sectoral response has been created in accordance with the International Mine Action Standards guidelines and, as has been shown in this thesis, having a basis in such an internationally accepted framework means that Laos' UXO sector can be rigorously assessed. However, even in the three UNDP's Human Development Reports on Laos by the United Nations Development Program (UNDP), UXO contamination is barely mentioned (UNDP 1998; UNDP 2001; UNDP 2006). Although the UNDP and various multi-lateral and bilateral donors do offer funding and support to the UXO sector in Laos, they do so almost as if UXO contamination is a singular problem that has no influence on other fields of development. Furthermore, despite being the worlds most UXO contaminated country (Cave et al. 2006), non-UXO related development agencies in Laos

continue to overlook what effect UXO will have on their prospective projects.

Within the UXO sector discrepancies exist between how UXO response operators perceive the problem of UXO contamination and how people living in contaminated areas perceive this problem. According to many UXO operators UXO contamination is not the biggest development problem that Laos experiences as problems such as food security and education are considered to be more important. However, as was shown in *Chapter Six*, UXO contamination affects both food security and education and all participants from Nakai district that were interviewed for this research reported UXO as the biggest livelihood problem they faced. One possible reason for this discrepancy is that UXO operators are more concerned with normalised structural foundations of development while Laotians from Nakai were more concerned with their everyday lived experience. Fear of UXO contamination, for example, was one of the most repeated problems described by those participants who lived daily on Nakai's UXO contaminated landscape. Yet fear is a difficult factor for development organisations to measure and the effects of fear from UXO on Laos' human development have been largely overlooked in the UXO sectors response to UXO contamination. No psycho-social response specifically targeting the effects of UXO exists in Laos, either from the government or from other civil society organisations. While

clearance is undoubtedly an important part of the response to UXO contamination, more support needs to be given to the physical, social and psychological needs of UXO contaminated communities. As in most UXO contaminated countries, high risk groups for UXO casualties in Laos were found to be adult males and children of both sexes and the support of UXO casualties is important to socio-economic development, individual comfort, and the reduction of fear in UXO affected communities. Put simply, greater support is needed for the effects of UXO on the body.

Although the negative socio-economic effects of UXO are well known by the professionals working in Laos' UXO sector, greater research is needed into the economies of the scrap metal trade. Due to high levels of casualty rates resulting from scrap metal collection (that often includes tampering with UXO) previous risk education responses to the UXO sector have focused on 'educating' people of the dangers of UXO and why they should not engage with dangerous items. These risk education programs have been supported by government attempts to outlaw scrap metal collection. However, as has been shown in this thesis, the scrap metal trade is both a cause of casualties and a means of income for Laos' rural poor and outlawing the trade or warning people of its potential danger will have little success in reducing casualty rates. Instead, what is needed is a risk education program focused on behavioural change,

greater interaction with and support for scrap metal collectors and dealers, and the provision of alternative incomes to provide people with the cash that they are currently acquiring from the sale of scrap metal. As development and economic growth increases in Laos, so too will people's desire for consumer goods and, as a result, those who are not benefiting from growth are likely to become more involved in the scrap metal trade. With an estimated fifty more years before UXO is cleared from useable land, people's engagement in the scrap metal trade is not likely to cease anytime soon and reducing the risk of scrap metal activities should be a priority of the Laos' UXO sector. Indeed it is probable that the relationship between development and increased involvement in scrap metal economies is common to many long-term UXO affected countries, although further research is required to confirm this.

In regards to the field of development theory, Laos' UXO contamination and the need for greater understanding of the effects of UXO on development draw attention to the deficiencies of post-conflict theory and human development theory in examining the legacy of conflict in the consolidation stages of post-conflict development. UXO contamination affects over eighty-two (Borrie 2003) countries worldwide and its presence should be of greater concern to the international development community. Much international outcry has rightfully existed about the

use of anti-personnel mines in warfare (APM's) but as has been shown throughout this thesis UXO contamination often has a more substantial effect on post-conflict communities than APM's and requires an equal amount of attention. Future research into the effects of UXO contamination must seek to strengthen the relationship between post-conflict and human development understandings of development. In Laos, more research is required into the effects of fear from UXO on human development and how casualty rates resulting from the scrap metal trade can be more adequately reduced. This thesis has suggested eco-tourism as one possible economic alternative to scrap metal collection and more research considering the feasibility and implementation of this proposal should be undertaken. The provision of alternative incomes to the scrap metal trade is an activity that will require expertise from outside of Laos' UXO sector and again brings forth the need for greater integration of the issue of UXO contamination into other fields of development. Unless the response to unexploded ordnance becomes a central component of wider development practice in post-conflict countries, true consolidation of post-conflict reconstruction will remain unattainable.

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Annex 1

Semi-Structured Interview Questions

Semi-Structured Interview Questions for Sample Group 1

1. Is there a certain area/s in Laos where you/your organization work most frequently?
2. What primarily does your work involve?
3. Since you have been in Laos what changes have you seen or made in this area?
4. Have you noticed any particular challenges to rural communities? If so, what are they?
5. Do you think that rural Laotians access to safe, farmable, land has been consistently improving for the period that you have been working? What factors are restricting Laotian land usage?
6. Do you think enough work is being done towards improving land access? Are there any structural or bureaucratic restraints in regard to providing Laotians with safe land or with any other key socio-economic issues you may have identified while operating in Laos?
7. Are there any areas related to your field of socio-economic development that you think are being neglected or may require

- greater attention? What should new developmental workers/organizations in Laos focus on?
8. How important do you think education programs about the dangers of UXO are?
 9. What about the local people, have they developed their own ways to seek access to safe land or found other means of subsistence when safe land is not available? How do you think they have adapted to the socio-economic problems they face in post-conflict Laos?
 10. I understand there is an emerging scrap metal trade in Laos? How significant a problem do you think this is?
 11. Do you think outlawing the trade or the use of metal detectors is likely to have a strong reductive effect on scrap metal collection?
 12. Do you know of any alternative means of income that may be viable to replace the scrap metal industry?
 13. How significant a problem do you think UXO is for Laos and its socio-economic development?
 14. Do you think there are other developmental issues that are equally or more significant than the issues that you and your organization are focused on?
 15. How has the government responded to the socio-economic development of rural land access and other key challenges

regarding post-war capacity building? What capacities is it still lacking in?

16. What sort of support systems are in place by the government for people who have injuries or a loss of income as a result of injuries from UXO?
17. Does tourism fit into your program in any way? Are tourists showing an interest in the work that you/your organisation do?
18. Do you think an increased international awareness of the problem of UXO contamination in Laos would help to improve the international developmental support that Laos receives?
19. What about non-formal work related to land access or food provision? Are there any tour operators, restaurant owners, or other businesses, that have been supportive of post-conflict issues of development?
20. What would you consider the most significant socio-economic problem for the future work of development organizations in Laos?
21. Is there anything else that you would like to add?

Semi-Structured Interview Questions for Sample Group 2

1. What province in Laos are you from? What is the land like in the area where you live? Is it heavily forested? Is it mountainous or flat?
2. How do people in your village earn an income? How do they support their families?
3. How is land used where you live? Do most people only grow enough food to live on or is there a surplus of food that they can sell?
4. What are some of the biggest problems people from your village face in their everyday lives?
5. Is access to farmable/useable land an issue?
6. Obviously the legacy of the American-Vietnam war still continues to impact on many peoples lives in Laos. Do you feel that your livelihood, or the livelihood of others in your village, is still being affected by the war?
7. In what ways have people adapted to these issues that you have mentioned or incorporated them into their lives?
8. I understand that people in Laos still continue to suffer injuries from unexploded ordnance that remains from the America-Vietnam conflict. During the past year have people from your village suffered any injuries that were a result of remnants of the

war such as scrap metal? Can you explain how these accidents affect these peoples livelihoods or their ability to participate in village activities?

9. Are these accidents/injuries common and are they more likely to happen to certain people because of the work they do? Are children and adults affected equally?
10. I understand that in Laos people still sell or collect scrap metal that is left over from the war. Do people from you village do this?
11. How do people get access to scrap metal? How do they know where to look for it and how do they find it?
12. Why do you think they do this? how do they usually spend the money they get from selling scrap metal?
13. Is there a difference between safe and unsafe scrap metal? How do people tell the difference? What do people from your village normally do if they find unsafe scrap metal?
14. Do you think an increase in tourism to where you live would benefit the local people?
15. Have any organizations come to your village to help with the war legacy issues that we have talked about or with any other development issues? What work did they do? Was there anything else you would have liked them to have done?

16. Would you say that the problem of UXO is one of the biggest inhibitors to socio-economic development that you face in your everyday life?
17. What others problems do you face that are equally or more important than the issues we have spoken about?
18. Is there anything else you would like to add?