

# UNEXPLODED ORDNANCE SECTOR ANNUAL REPORT 2017



18 LIVES SAFE  
FROM UXO



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ລະເບີດບໍ່ທັນແຕກ





# 2017 UXO SECTOR ANNUAL REPORT

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# ACRONYMS AND ABBREVIATIONS

AC – Area Clearance	JMAS – Japan Mine Action Service
AFD – Agence Française de Développement	KOICA – Korea International Cooperation Agency
BAC - Battle Area Clearance	Lao PDR – People’s Democratic Republic of Lao
CA – Community Awareness	LARLP – Laos Australia Rural Livelihoods Programme
CLT – Community Liaison Team	MAG – Mines Advisory Group
CCM – Convention on Cluster Munitions	MEPA - Mineral Exploration and Production Agreement
CHAs – Confirmed Hazardous Areas	MOFA – Ministry of Foreign Affairs
CM – Cluster Munitions	MoU – Memorandum of Understanding
CMAC – Cambodian Mine Action Centre	MRE – Mine Risk Education
CRS - Catholic Relief Services	NPA – Norwegian People’s Aid
CTA – Chief Technical Advisor	NRA – National Regulatory Authority for UXO/Mine Action Sector in Lao PDR
DEO – District Education Office	NCDE – National Committee for Disability and Elderly
DFAT – Department of Foreign Affairs and Trade	NMFA – Norwegian Ministry of Foreign Affairs
DFID - Department of International Development	NPA – Norwegian People’s Aid
DPAA – Defense POW/MIA Accounting Agency	NTS – Non Technical Survey
DREAT – Disability Rights and Equality Awareness Training	PEO – Provincial Education Office
EMPEVL - Exxon Mobil Exploration and Production Vietnam Ltd	QA – Quality Assessments
EOD – Explosive Ordnance Disposal	RE – Risk Education
EOW - Explosive Ordnance Waste	RDPE – Rural Development and Poverty Eradication
ERW – Explosive remnants of war	RT – Roving Tasks
EU – European Union	SDC – Swiss Development Cooperation
FFE - Free From Explosive	SIG – Sterling International Group
GICHD – Geneva International Centre for Humanitarian Demining	SOS – Spirit of Soccer Laos
GIS - Geographic Information Systems	TA – Technical Advisor
GIZ – Gesellschaft für Internationale Zusammenarbeit	TS – Technical Survey
GOL – Government of Lao	TWG – Technical working group
GRET – Groupe de Recherche et d’Echanges Technologiques	UNDP – United Nations Development Program
GS – General Survey	UXO LAO – Lao National Unexploded Ordnance Programme
HI – Handicap International	UXO – Unexploded Ordnance
IA – Impact Assessment	UNMAS – United Nations Mine Action Service
ICRC – International Committee of the Red Cross	UNV – United Nations Volunteers
IEA – Impact Electrons Asia	UNDP – United Nations Development Programme (UNDP)
IEC – Information, Education and Communication	VA – Victim Assistance
IGA – Income generation activities	WRA – Weapons Removal and Abatement
IMSMA – Information Management Systems for Mine Action	WWM – World Without Mines
ISC – ITO Supporting Comity	
JICA – Japan International Cooperation Agency	
JICS – Japan International Cooperation System	

# FOREWORD:

## Chairman of the National Regulatory Authority for the UXO/Mine Action Sector in Lao PDR.

I am very pleased to present the 2017 Annual Report for the UXO Sector and take this opportunity to highlight some of the key achievements during the year.

During the ASEAN Summit in September 2016, Sustainable Development Goal (SDG) 18 was launched with the aim of reducing the number of casualties caused by Unexploded Ordnance (UXO), improving the socio-economic development in affected and contaminated areas, and guaranteeing better support is provided to the victims. In addition to SDG 18, a new Survey Strategy entitled 'From Survey to Safety' was also adopted and is in the process of being implemented over a 5-year period. This strategy includes targets for Non-Technical and Technical Survey, which help define the extent of Cluster Munitions contamination. In 2018, comprehensive survey efforts will further increase in 6 contaminated provinces.

In 2017, I issued a notification for 14 contaminated provinces to share their UXO-related priorities for 2018. The provinces identified 470,000 hectares (Ha) of priority land for development, of which we have already been able to determine at least 10,000 Ha of Confirmed Hazardous Areas (CHA) for clearance within this priority land. Many other areas still need to be surveyed before the level of contamination can be determined.

With regards to Mine Risk Education (MRE), we have integrated UXO awareness activities into the primary schools' curriculum in 10 contaminated provinces to reduce the risk of further casualties. The MRE curriculum aims to teach children how to live in UXO contaminated areas and provide a better understanding of the dangers associated with UXO, and to demonstrate how best to avoid these threats.

We have seen strong progress in the UXO sector in Lao PDR. More than three thousand hectares, most of which was highly contaminated, have been cleared for agricultural and development use and the number of casualties has decreased from 59 in 2016 to 41 in 2017. The 2017 figure is well below the national target of less than 75 per year as outlined in the "Safe Path Forward II UXO Sector Strategy 2011" and the introduction of SDG 18 promotes lowering the casualty number to zero by 2030. Lao PDR has a strong commitment to ensure that the number of victims continues to decrease. People, especially children, who are our future generation should be safe from UXO. In terms of capacity, progress has also been made with regards to the national institutions' capacity which has been strengthened through training seminars as well as on-the-job support in programme management and strategic planning.

While much progress has been made, we are still facing a number of challenges. Firstly, funding is not sufficient and this affects the UXO sector as a whole and is of particular concern for the two main national institutions responsible for the implementation and oversight of the provisions of the Convention on Cluster Munitions, namely the NRA and UXO Lao. The situation can affect the needs to both coordinate the national survey and to ensure timely monitoring of the clearance process. Secondly, the coordination and collaboration among sector stakeholders needs to be further improved in order to increase both the effectiveness and efficiency of the sector.

On behalf of the Lao Government, I take this opportunity to express our sincere gratitude to the donors, international organizations and NGOs for their continued assistance and support. The progress and outcomes achieved to date have involved operators, sector personnel and experts all demonstrating a high degree of commitment and care to this important cause. At the same time, I would like to thank UNDP, the United States of America and all development partners for the support given to the NRA and UXO operators working in Lao PDR. Without your valued technical support and commitment, the work undertaken would not be possible. I look forward to continuing and strengthening our collaboration in the future.

**H.E. Dr. Khampheng Saysompheng**  
**Minister of Labour and Social Welfare, Chairman of the National Regulatory Authority for the UXO/Mine Action Sector in Lao PDR.**

# FOREWORD:

## **Director General of the National Regulatory Authority for the UXO/Mine Action Sector in Lao PDR.**

The NRA is proud to work for the Government of Lao PDR in terms of implementing the national policies for UXO action such as UXO/mine risk education, victim assistance, survey and clearance.

In 2017, the Lao Government worked hard to improve the national survey and clearance activities. For example, in 2015 the UXO Sector in Lao PDR commenced non-technical and technical surveys in 6 affected provinces. This led to the successful creation of 22,873 ha of CHAs in 2017. The same year, the sector cleared 4,552 ha and destroyed 141,765 of UXO through both CHA clearance and roving tasks. Throughout 2017, the UXO Sector in Lao PDR reviewed, with the support of the United States of America and UNDP, the initial work conducted in non-technical and technical survey in order to determine how to improve operations. The sector determined that expanding the use of the Information Management System for Mine Action (IMSMA) to support survey planning and the review of all historical data, electronic and paper, will ensure that the non-technical survey will be followed by a robust technical survey. As a consequence, this process should lessen the number of follow up visits to villages after survey is concluded and provide a sound and reasonable quantification of the contamination in Lao PDR.

In addition, Lao PDR also developed a prioritized planning system for CHA clearance which has already been trialed in UXO contaminated provinces during 2017. Lao PDR, with support from the United States of America will commence the national cluster munition survey next year (2018). The strategy for this survey was developed with support from UNDP and will start in 6 provinces and it is foreseen that after 3 years of survey, Lao PDR will be able to provide an accurate data centric estimation of overall cluster munitions contaminated areas in Laos. As surveying quantifies the extent of contamination, there will be a need to ensure that there is early follow-up clearance in priority areas. This will require a significant increase in clearance resources in order for Lao PDR to meet its obligations under Article 4 of the Convention on Cluster Munitions.

With regards to Mine Risk Education (MRE) and despite the good progress of efficient clearance, we are still experiencing a high number of accidents and casualties. In 2017, we recorded 19 UXO accidents with 41 victims. Those who are the most at risk continue to be boys and men, with the most common cause of accidents occurring through lighting fires. Moreover, Laos has taken steps to increase the effectiveness of MRE through the development of a supplementary UXO curriculum for primary schools, and through sports activities and village visits in high risk areas. Radio messages are regularly broadcasted in coordination with the Ministry of Information, Culture and Tourism in four of the most contaminated provinces.

For victim assistance, the sector provided support to a total of 687 people, 120 of whom received medical care, 225 survivors received physical and psychological rehabilitation, 110 individuals received vocational support, and 232 survivors had access to financial support.

On this occasion, I would like to express my gratitude to our partners and the various donors for their humanitarian support in terms of grants, material and equipment, and to the technical personnel provided to the NRA. My sincere appreciation also extends to the different UXO operators as well as foreign experts for your hard work in addressing the UXO problem in the Lao PDR.

**Phoukhieo CHANTHASOMBOUNE**

**Member of Board and Director General of the National Regulatory Authority  
for UXO/Mine Action Sector in Lao PDR.**

# FOREWORD:

## **US Ambassador & UNDP Resident Representative Co-Chairpersons of the UXO Sector Working Group.**

As the co-chairs to the Unexploded Ordnance Sector Working Group we are in a privileged position to provide our joint introductory remarks to this report.

The legacy of wars extend decades beyond the duration of the fighting, more than 40 years after the last bombs dropped in the Lao PDR unexploded ordnance contamination still impacts affected communities, through accidents, by limiting the use of land and by increasing the costs of development.

This report provides an illustration of the evolving efforts to remove UXO as an obstacle to development. It is a report of optimism and commitment, recognizing challenges and building on experience and the creation of new opportunities.

Sadly, in 2017, 41 people became UXO casualties, 37 people injured and 4 killed, in addition accident victims from previous years still needed support. Reducing accident numbers is an on-going task and is achieved by a variety of risk education activities including a focus on educating children, by an increase of the numbers of UXO removed, by the identification of hazardous areas and by the creation of safer choices than farming contaminated land.

For accident victims health care systems are strengthening to enable physical and psychosocial support coupled with economic reintegration. Access to services for people living with disabilities, including UXO victims, is improving, although much more work remains to be done.

Troublingly the most contaminated districts remain strongly correlated with the country's least developed areas. Therefore, the work of the UXO Sector must especially address the needs of the poor and carefully align work plans with the development needs of those communities.

Survey and clearance methodology has also evolved. In 2015, all humanitarian operators established an evidence based approach to survey and clearance and by 2017 we can see the results. By concentrating efforts on confirmed contaminated areas, operational efficiency has improved and the numbers of UXO being destroyed has increased.

In 2017 UNDP launched a new project "moving towards achieving SDG 18 – removing the UXO obstacle to development". The aim of the project is to provide programmatic and technical support to the NRA and UXO Lao to pursue the targets set out in the UXO Sector's Five Year Plan 2015-2020. We hope that this will provide an effective mechanism for all Development Partners to engage in addressing the UXO problem in a coordinated manner.

In SDG 18, the Lao Government pledged to remove UXO as a barrier to national development by 2030. This is certainly a realistic goal and in support of it the United States has provided \$45 million to fund a national cluster munitions survey, which in turn will provide a tool for identifying the remaining contaminated areas, inform clearance planning and the management of residual risk. Beyond survey, a focus on increased clearance capacity will be required.

We still have a great deal of work ahead of us. We are optimistic that it can be done and we encourage the sector to think 'big' and to create and embrace opportunities, to build effective partnerships, to work openly and share plans and to have the confidence to discuss and resolve concerns as they arise. Under the leadership of the NRA, the sector can work with the quiet pride that comes from doing an important lifesaving job well. There has never been such a good opportunity as we have today for dealing with the obstacles created by UXO in the Lao PDR.

We would like to highlight the strong partnership between the different actors in the UXO Sector and to thank the Lao Government, the Development Partners and all UXO sector stakeholders for their support and energy in 2017 and for the continued effort as we move forwards.

**Mrs. Rena Bitter**

**Ambassador of the United States of America,  
Co-Chairperson of the UXO Sector Working Group.**

**Mrs. Kaarina Immonen**

**UN Resident Coordinator and UNDP Resident  
Representative, Co-Chairperson of the UXO Sector  
Working Group.**

# SECTOR ACHIEVEMENTS: THE NUMBERS

<i>Humanitarian clearance operators - UXO Found and Destroyed through Area Clearance 2010-2017</i>							
<i>Year</i>	<i>Hectares Cleared</i>	<i>Bomb</i>	<i>Bombies/CM</i>	<i>Landmines</i>	<i>Other UXO</i>	<i>Total UXO</i>	<i>CM/ha</i>
<b>2010</b>	2,996	39	19,740	18	14,506	34,303	<b>6.6</b>
<b>2011</b>	3,692	22	19,088	96	19,683	38,889	<b>5.2</b>
<b>2012</b>	3,823	60	26,011	18	17,318	43,407	<b>6.8</b>
<b>2013</b>	3,288	28	22,847	48	20,626	43,549	<b>6.9</b>
<b>2014</b>	3,662	36	26,566	78	17,697	44,377	<b>7.3</b>
<b>2015</b>	2,961	55	49,497	108	13,162	62,822	<b>16.7</b>
<b>2016</b>	3,315	43	61,144	1	15,503	76,691	<b>18.4</b>
<b>2017</b>	3,852	20	64,241	16	16,462	80,739	<b>16.7</b>

## UXO Casualties

<i>UXO Accidents and Casualties in Lao PDR, 2008-2017</i>										
<i>Year</i>	<i>Accidents</i>	<i>Injuries</i>				<i>Deaths</i>				<i>Total Casualties</i>
		<i>Males</i>	<i>Females</i>	<i>Boys</i>	<i>Girls</i>	<i>Males</i>	<i>Females</i>	<i>Boys</i>	<i>Girls</i>	
2008	186	99	22	67	15	66	8	20	5	<b>302</b>
2009	77	50	8	25	3	25	1	6	2	<b>120</b>
2010	75	33	8	47	7	9	1	9	5	<b>119</b>
2011	64	32	9	34	4	6	0	14	0	<b>99</b>
2012	36	17	11	11	2	6	1	6	2	<b>56</b>
2013	18	9	2	12	5	5	0	7	1	<b>41</b>
2014	22	8	5	9	7	4	0	12	0	<b>45</b>
2015	27	15	1	16	1	6	1	2	0	<b>42</b>
2016	35	17	3	24	5	2	0	8	0	<b>59</b>
2017	19	12	8	11	6	3	0	0	1	<b>41</b>

<b>Causes of Accidents:</b>			
	2015	2016	2017
Agriculture	4	6	2
Lighting a fire (for cooking and slash-and-burn agriculture purposes)	16	11	10
Destructing items	5	3	1
Playing with UXO items	2	12	3
Cutting grass	0	1	1
Disturbing UXOs	0	2	2
<b>Total Accidents:</b>	<b>27</b>	<b>35</b>	<b>19</b>



## 2017 Humanitarian clearance operators

### Non Technical Survey

<i>Organization</i>	Number of Villages
UXO Lao	159
NPA	
MAG	91
Halo Trust	22
HI	3
<b>Total:</b>	<b>275</b>

### Technical Survey to establish the Confirmed Hazardous Areas (CHAs)

<i>Organization</i>	Hectares of Technical Survey outside of CHA	Hectares of CHA Established	Bomb	Bombies	Mine	Other UXO	<i>Total</i>
UXO Lao		8,931	2	19,686	2	3,280	<b>22,970</b>
NPA	239	5,396	7	3,692	0	438	<b>4,137</b>
MAG	181	6,518	1	5,956	0	9	<b>5,966</b>
Halo Trust	3,618	1,867.56	2	1893	0	627	<b>2,522</b>
HI	209	160	0	114	0	31	<b>145</b>
<b>Total:</b>	<b>4,247</b>	<b>22,873</b>	<b>12</b>	<b>31,341</b>	<b>2</b>	<b>4,385</b>	<b>35,740</b>

### Roving Tasks

<i>Organization</i>	<i>Number of Visits</i>	<i>Bomb</i>	<i>Bombie</i>	<i>Mine</i>	<i>Other UXO</i>	<i>Total</i>
UXO Lao	1,202	62	20,991	14	5,571	<b>26,638</b>
NPA	913	2	405	0	506	<b>913</b>
MAG	2,062	3	2,304	0	1,075	<b>3,382</b>
Halo Trust	382	4	1,625	0	327	<b>1,956</b>
HI	358	26	1,089	0	312	<b>1,427</b>
<b>Total:</b>	<b>4,917</b>	<b>97</b>	<b>26,414</b>	<b>14</b>	<b>7,791</b>	<b>34,316</b>

### Area Clearance (Hectares)

<i>Organization</i>	<i>Agriculture/Ha</i>	<i>Development/Ha</i>	<i>Total/Ha</i>	<i>Hectares of CHA Cleared</i>	<i>"Percentage of CHA Clearance"</i>	<i>Bomb</i>	<i>Bombie</i>	<i>Mine</i>	<i>Other UXO</i>	<i>Total</i>
UXO Lao	3,084	135	3,219	3,084	96%	7	57,610	15	14,779	<b>72,411</b>
NPA	8.06	5.24	13.3	13.3	100%	5	1,330	0	15	<b>1,350</b>
MAG	413	56	469	413	88%	8	3,166	1	405	<b>3,580</b>

Halo Trust	122.43	10	132.4	132.4	100%	0	1,640	0	1203	<b>2,843</b>
HI	16	2	18	14.0	78%	0	495	0	60	<b>555</b>
<b>Total:</b>	<b>3,643</b>	<b>208</b>	<b>3,852</b>	<b>3,657</b>	<b>95%</b>	<b>20</b>	<b>64,241</b>	<b>16</b>	<b>16,462</b>	<b>80,739</b>

Organization	Agriculture/Ha	Development/Ha	Total/Ha	Bomb	Bombie	Mine	Other UXO	Total
All Humanitarian	3,643	208	3,852	129	121,996	32	28,638	<b>150,795</b>
<b>Total:</b>	<b>3,643</b>	<b>208</b>	<b>3,852</b>	<b>129</b>	<b>121,996</b>	<b>32</b>	<b>28,638</b>	<b>150,795</b>

## Commercial clearance operators

### Roving Tasks

Organization	Number of Visits	Bomb	Bombie	Mine	Other UXO	Total
Milsearch	0	0	40	0	1	<b>41</b>
<b>Total:</b>	<b>0</b>	<b>0</b>	<b>40</b>	<b>0</b>	<b>1</b>	<b>41</b>

### Clearance

Organization	Agriculture/Ha	Development/Ha	Total/Ha	Bomb	Bombie	Mine	Other UXO	Total
Army 58	4.2	0	4	2	51	3	132	<b>188</b>
Lao Army	0	4	4	0	0	0	0	<b>0</b>
LAUNC	141.4	438.4	579.9	0	0	0	0	<b>0</b>
MILSEARCH	41.5	27.3	69	2	56	0	68	<b>126</b>
MMG	0	43.5	43.5	0	24	0	77	<b>101</b>
<b>Total:</b>	<b>187</b>	<b>513</b>	<b>700</b>	<b>4</b>	<b>131</b>	<b>3</b>	<b>277</b>	<b>415</b>

Organization	Agriculture/Ha	Development/Ha	Total/Ha	Bomb	Bombie	Mine	Other UXO	Total
All Commercials	187	513	700	4	171	3	278	<b>456</b>
<b>Total:</b>	<b>187</b>	<b>513</b>	<b>700</b>	<b>4</b>	<b>171</b>	<b>3</b>	<b>278</b>	<b>456</b>

## GRAND TOTAL

	Agriculture/Ha	Development/Ha	Total/Ha	Hectares of CHA Cleared	"Percentage of CHA Clearance"	Bomb	Bombie	Mine	Other UXO	Total
All humanitarian & commercials	3,831	721	4,552	3,657	80%	133	122,167	35	28,916	<b>151,251</b>
<b>Total:</b>	<b>3,831</b>	<b>721</b>	<b>4,552</b>	<b>3,657</b>	<b>80%</b>	<b>133</b>	<b>122,167</b>	<b>35</b>	<b>28,916</b>	<b>151,251</b>

## UXO Operators Personnel in Lao PDR 2017

Organization	Office Support				Operations				Total
	National		International		National		International		
	Men	Women	Man	Woman	Men	Women	Men	Women	
NRA	21	15	1	1	5	2			45
UXO Lao	27	20	7	1	1008	335	0	0	1,398
NPA	24	9	2	2	166	48	2	0	253
MAG	35	19	1	2	260	81	3	0	401
HI	10	2	1	1	60	19	0	0	93
Halo Trust	23	20	0	2	145	115	3	1	309
Milsearch	3	5	2	1	77	5	3	0	96
SoS	1	0	0	0	4	0	0	0	5
<b>Total:</b>	<b>144</b>	<b>90</b>	<b>13</b>	<b>9</b>	<b>1,725</b>	<b>605</b>	<b>11</b>	<b>1</b>	<b>2,600</b>

## 2017 UXO SECTOR FINANCIAL SUMMARY:

### Cash contributions:

#### Humanitarian clearance operators - 2017 (USD)

Organization	Contributions Received in 2017 (USD)	Expenditure on UXO Operations in 2017 (USD)
UXO Lao	11,214,012	10,908,309
NPA	5,151,301	5,151,301
MAG	4,156,050	4,156,050
HI	140,000	140,000
Halo Trust	3,616,000	3,616,000
Reduction to avoid double counting due to transfer among operators	-488,039	-488,039
	-215,022	-215,022
<b>Total:</b>	<b>23,574,302</b>	<b>23,268,599</b>

#### Commercial clearance companies - 2017 (USD)

Organization	Contributions Received in 2017 (USD)	Expenditure on UXO Operations in 2017 (USD)
Milsearch	496,248	376,246
MMG	3,246,563	3,246,563
<b>Total:</b>	<b>3,742,811</b>	<b>3,622,809</b>

## Risk education/Community Awareness and Victim Assistance Operators – 2017 (USD)

<i>Organization</i>	<i>Contributions Received in 2017 (USD)</i>	<i>Expenditure on UXO Operations in 2017 (USD)</i>
SoS	144,400	144,400
<b>Total:</b>	<b>144,400</b>	<b>144,400</b>

<i>Organization</i>	<i>Contributions Received in 2017 (USD)</i>	<i>Expenditure on UXO Operations in 2017 (USD)</i>
NRA (through UNDP)	1,450,310	1,372,263
NRA (through Sterling International Group)	100,000	106,305

### In-kind contributions

<i>Organization</i>	<i>Contributions Received in 2017 (USD)</i>	<i>Expenditure on UXO Operations in 2017 (USD)</i>
Lao Government	753,200	753,200
In-Kind contributions to UXO Lao	45,392	45,392

<b>GRAND TOTAL</b>	<b>29,806,015</b>	<b>29,308,568</b>
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## UXO FACTS AND FIGURES

- Lao PDR is the most heavily bombed country, per capita, in history
- 25% of villages in Laos are contaminated with UXO
- 15 out of 18 provinces in Lao PDR suffer with UXO contamination
- Over 2 million tons of ordnance were dropped on Laos between 1964 and 1973
- 580,000 bombing missions were flown over Laos
- Cluster submunitions or 'bombies' are the most common form of UXO found in Lao PDR
- More than 270 million bombies were dropped on Laos and up to 30% of these failed to detonate
- Approximately 80 million unexploded bombies remained in Laos after the war
- Over 50,000 people have been killed or injured since 1964
- There were 41 new casualties in 2017
- In the last decade, over 40% of all casualties were children

## WHAT IS UXO?

Unexploded ordnance, or UXO, are explosive weapons that failed to detonate when they were fired, dropped, launched or projected, and still pose the risk of exploding. UXO contamination in Lao PDR consists of large bombs, rockets, grenades, artillery munitions, mortars, landmines, cluster munitions and submunitions.

A cluster munition is a conventional weapon that consists of an outer canister that is designed to disperse or release smaller bombs (submunitions or bomblets) that weigh less than 20 kilograms each. These submunitions are known throughout the Lao PDR as 'bombies'. The cluster munition is dropped from a plane or launched from the ground into the air, where it releases the bombies over a wide area. The bombies that were dropped on Lao PDR had a high failure rate, leaving an estimated 30 percent unexploded and scattered across vast areas of land. When disturbed even decades later, bombies and other UXO can explode, thus, injuring and killing civilians as they carry out their daily activities.

Lao PDR is one of the most heavily UXO and cluster munitions affected countries in the world, with up to 25 percent of the country's 10,000 villages contaminated by the presence of these remnants of war. More than 270 million bombies were dropped over Lao PDR during the nine years of conflict (1964-1973) and an estimated 80 million failed to detonate, remaining live and littered throughout the country. In addition, over four million large bombs were dropped and extensive ground battles predominantly in the northern provinces left behind substantial amounts of other unexploded weaponry and munitions.

# OVERVIEW OF NRA ACTIVITIES IN 2017:

During 2017, the NRA aimed at increasing its capacity to deal with the problem of remaining unexploded ordnance to reduce the humanitarian threat and the remove barriers to productive and sustainable use of land. At outcome-level, it can be reported that a number of changes occurred in 2017, including a further reduction of casualties to 41 people in total. This figure almost reaches the target set in the National Strategic Plan's Mid-Term Review in 2015 for the UXO sector in Lao PDR of 40 and is close to the National Socio-Economic Development Plan (NSEDP) target of less than 40.

From 2008 to 2017, there was a substantial decrease in the total number of casualties as highlighted in the below graph from over 300 in 2008 to just over 40 in 2017. The number of accidents in 2017 have decreased to almost 10% of what it was in 2008.

The causes of UXO accidents is outlined below, with many happening through fire-making activities on land. However, there has been a steady decline in the number of accidents caused by the destruction of UXO items and through lighting fires.

In accordance with the implementation of new survey procedures for UXO by the Government of Lao PDR, all humanitarian operators in Lao PDR now employ an evidence-based approach to land clearance. As a result, it can be reported that the number of cluster munitions found per hectare cleared has more than tripled.

## UNDP's Contribution:

During 2017, UNDP supported the management and technical capacity-building of the NRA. In doing so, UNDP has contributed to all output and outcome-level achievements attributed to the sector. In terms of the specific support provided, some of the key elements can be summarized as follows:

- **Technical Advice** - UNDP provided Technical Advisory Support to the NRA through the deployment of a Chief Technical Advisor (CTA), Finance Advisor and Programme Management and Partnerships Officer. During the first quarter in 2017, UNDP provided substantial support to the revision of the draft of the new project document which would support the UXO sector including NRA and UXO Lao from 2017-2021. Support was also provided to prepare inputs for NRA's director for the annual landmine monitoring interview

and UNDP also provided substantial support to prepare for the representation of the NRA at the Seventh Meeting of States Parties (7MSP) to the Convention on Cluster Munitions (CCM) in Geneva, Switzerland in September 2017. For the CCM, UNDP was involved in the organization of the UXO side event which was successfully carried out with high level participation. The CTA also assisted in the drafting of the CCM law and provided technical input on the prioritization of clearance. UNDP's financial technical advisor provided support in the process of developing the Annual Work Plan for 2017 and the finalization of financial reporting for various donors. The finance technical advisor also assisted in the planning of funds expected for 2017.

- **Management and Procurement**- UNDP has supported the NRA in the procurement of equipment necessary for the NRA national office, the provincial offices and the Lao Army Humanitarian Teams. UNDP reviewed early drafts of the NRA's 2017 Annual Work Plan and provided guidance on the content of the AWP as well as on procurement plans.
- **Sector Leadership** - UNDP provided guidelines to support in the preparation of the NRA 2016 annual external auditing and provided guidelines support in the preparation of the signing of the new project document 2017-2021. UNDP also assisted with the preparation of the UXO Sector Working Group Meeting and UXO Project Board Meeting. UNDP played an active role along with the Ministry of Foreign Affairs in Laos in the preparation for the UXO side event in Geneva.
- **Capacity Building** - UNDP has continuously supported the NRA to work on drafting meeting minutes of UXO Sector Working Group Meeting, UXO Project Board Meeting and other important reports. UNDP's finance specialist has supported the financial management of the
- **Resource Mobilisation** - UNDP has been instrumental in engaging new and previous donors in financing the UXO sector. This has led to the successful negotiations with some of the current donors in providing additional funds.

## Output Level Achievements:

The Output Level achievements of the project during 2017 are summarized in the two tables below. The most notable achievements by the NRA include:

- UXO radio programs ran in 5 UXO contaminated provinces (Vientiane Capital, Khammouane, Sekong, Saravan and Champasack);



- Printing of 8,500 MRE books and 600 shirts out of which, 4,500 MRE books and 320 shirts were provided to 5 provincial radio station staff (Vientiane Capital, Khammouane, Sekong, Saravan and Champasack) to be used for MRE activities. The broadcasting of UXO information and mine risk education messages was completed in collaboration with the Ministry of Information, Culture and Tourism;
- Printing and distribution of 6,000 posters of UXO victim assistance Policy and UXO hotline, call number “1603” to 13 UXO provinces to be used for VA activities. Posters and UXO hotline number planned to promote in 2018. Local authorities and villagers who need assistance can directly report them to NRA office in Vientiane Capital;
- Technical Working Group (TWG) Meetings held for Victim Assistance, Clearance and Survey, Mine Risk Education, and Information Management;
- Survey and clearance activities conducted by the Humanitarian Clearance Units of the Lao People’s Army following the necessary training and procurement being completed;
- Key sector meetings held included the NRA Board Meeting, UXO Project Board Meeting and the UXO Sector Working Group;
- The IMSMA data base used for analysis in addition to data collection. Initial analysis of data has shown the need to ensure the use of all historical data in survey and has made a significant input in the development of the updated survey procedures. As survey and clearance activities progress, additional analysis will be made available;
- UNDP Project Document for 2017-2021 signed on 7 July 2017.



## ROUND TABLE IMPLEMENTATION MEETING 2017

The Round Table Implementation Meeting 2017 took place in Pakse, from 22-23 November 2017, at Champasak province. H.E Mr. Somdy Douangdy, Deputy Prime Minister of Lao PDR and Minister of Finance, and H.E. Mr. Haoliang Xu, United Nations Assistant Secretary-General, United Nations Development Programme Assistant Administrator and Regional Director for Asia and the Pacific officially opened the meeting. The Round Table Meeting continued with co-chairs H.E. Dr. Souphanh Keomixay, Minister of Planning and Investment, H.E. Dr. Bounthong Divixay, Governor of Champasak Province and Ms. Kaarina Immonen, UN Resident Coordinator/UNDP Resident Representative. More than 300 participants were present, including high-ranking government officials from the central and provincial levels, development partners, representatives from the private sector, as well as national and international non-profit organizations.

The meeting was organized under the theme: “Greater Partnership for Implementation of the 8th NSEDP: Realizing LDC Graduation and Achieving SDGs”, and focused on four key areas for dialogue: 1. Graduation from Least Developed Country (LDC) status and the integration of Sustainable Development Goals (SDGs); 2. Realizing quality private sector investment for sustainable development; 3. Investment in skills and labour force for human development; and 4. Enhancing south-south cooperation and triangular cooperation.

The NRA and UXO Lao, on behalf of the UXO Sector in Lao PDR, successfully exhibited the work of the UXO sector at this important meeting. The exhibition was visited by many summit delegates, international media and country representatives generating a lot of questions about the UXO issue in Lao PDR.

The NRA and UXO Lao were part of a very small group of Lao organizations who were invited to exhibit at this high-profile event.

A strong presence at these high-profile international events ensured strong advocacy for the victims of UXO in Lao PDR and served to generate awareness of the ongoing challenges of UXO contamination for the people of Lao PDR.



*RTM delegates from Lao government and donor countries visited the UXO Sector exhibition at the RTM in Pakse, Champasak province to learn about the UXO challenge in Lao PDR.*

## THE SEVENTH MEETING OF STATES PARTIES (7MSP)

The Seventh Meeting of States Parties (7MSP) to the Convention on Cluster Munitions was held at the Palais des Nations in Geneva, Switzerland from 4 to 6 September 2017.

The 7MSP provided an opportunity for States Parties to present progresses, challenges, plans and needs for assistance and cooperation to achieve their convention obligations and the commitments they made under the 2015 Dubrovnik Action Plan (DAP) and the Dubrovnik declaration. The 7MSP was presided over by Ambassador Michael Biontino of Germany. Over eighty States Parties and States non-party and representatives of international organizations, and non-governmental organizations attended the meeting.

In this important meeting, Laos has given great importance to the Convention on Cluster Munitions (CCM) through the approval of several related regulations, policies, strategies and practices. Led by Director General of International Organization Department, Ministry of Foreign Affairs Mr. Anouphap Vongnorkeo made the government's reaffirmation when delivering his speech at the meeting. The Lao delegation made substantive statements in all key sessions such as: Universalization, Clearance and Risk Reduction, Victim Assistance, International Cooperation and Assistance, National Implementation Measure.

Along with the Seventh Meeting of States Parties, Lao Government, in collaboration with UNDP and EU convened a side event entitled "UXO in Lao PDR – an update" on 5th September in room XIX. The side event aimed to provide an update on the process of survey

and clearance in Lao PDR with a focus on the timeline for the first national survey and the prioritization system for clearance tasks. Representatives from Japan, France, Germany and key stakeholders actively took part in the event with more than 60 people.

The Seventh Meeting of States Parties also acknowledged with appreciation the work of the Netherland and Norway, as the Coordinators on Clearance and Risk Reduction and in Particular commended their work with affected countries in assessing their national needs while promoting the use of effective and efficient methodologies in the effect implementation of the Convention. Then, the meeting welcomed Lao PDR as coordinator on Clearance and Risk Reduction to guide the intersessional work programme from 2017 until 2019.

The Seventh Meeting of States Parties decided to designate Ambassador Hernan Estrada Roman, Permanent Representative of Nicaragua to the United Nation in Geneva as President of the Eighth Meeting of the States Parties which will take place from 3-5 September 2018 in Geneva.



*Lao delegation attended the Eighth Meeting of States Parties (8MSP) to the Convention on Cluster Munitions (CCM) in Geneva, Switzerland.*



*UXO Side Event in Geneva, Switzerland.*



# 2017 NRA FINANCIAL REPORT

## Financial Information Summary

### Actual Expenditures per Cost Classification (in USD)

For the Year Ended, 1 January - 31 December 2017

<i>Costs Classification</i>	<i>UNDP-Managed Funds</i>	<i>Bilateral</i>	<i>Total</i>	<i>% to Total</i>
<b>Personnel Costs</b>	810,493.30		810,493.30	55%
<b>Operating Costs</b>				
<i>Travel - Local</i>	154,663.19		154,663.19	10%
<i>Rent and Maintenance</i>	109,310.97		109,310.97	7%
<i>Stationery and Office Supplies</i>	16,087.75		16,087.75	1%
<i>Phone and Internet Charges</i>	12,806.76		12,806.76	1%
<i>Utilities</i>	9,262.85		9,262.85	1%
<i>Postage and Pouch</i>	<b>3,157.73</b>		<b>3,157.73</b>	<b>0%</b>
<i>Insurance</i>	<b>2,306.55</b>		<b>2,306.55</b>	<b>0%</b>
<i>Bank Charges</i>	<b>161.38</b>		<b>161.38</b>	<b>0%</b>
<i>Sundries</i>	<b>23,502.71</b>	<b>106,305.00</b>	<b>129,807.71</b>	<b>9%</b>
<b>SUBTOTAL for Operating Costs</b>	<b>331,259.89</b>	<b>106,305.00</b>	<b>437,564.89</b>	<b>30%</b>
<b>Special Operating Costs</b>				
<i>GMS &amp; Implementation Support Service</i>	<b>100,331.75</b>		<b>100,331.75</b>	<b>7%</b>
<i>Travel - International</i>	<b>23,410.27</b>		<b>23,410.27</b>	<b>2%</b>
<i>Printing and Publications</i>	<b>20,995.48</b>		<b>20,995.48</b>	<b>1%</b>
<i>Translation Costs</i>	<b>9,425.80</b>		<b>9,425.80</b>	<b>1%</b>
<i>Promotional Materials</i>	<b>697.97</b>		<b>697.97</b>	<b>0%</b>
<i>Forex Gain (Loss)</i>	<b>1,381.12</b>		<b>1,381.12</b>	<b>0%</b>
<b>SUBTOTAL for Special Operating Costs</b>	<b>156,242.39</b>		<b>156,242.39</b>	<b>11%</b>
<b>Non-Expendable Equipment</b>				
<i>Materials and Goods</i>	<b>45,497.15</b>		<b>45,497.15</b>	<b>3%</b>
<i>Furniture</i>	<b>10,880.49</b>		<b>10,880.49</b>	<b>1%</b>
<i>Computer Hardware and Software</i>	<b>8,995.04</b>		<b>8,995.04</b>	<b>1%</b>
<i>Communication &amp; Audio Visual Eqmt</i>	<b>5,421.38</b>		<b>5,421.38</b>	<b>0%</b>
<i>Office Machinery</i>	<b>3,473.35</b>		<b>3,473.35</b>	<b>0%</b>
<b>SUBTOTAL for Non-Expendable Equipment</b>	<b>74,267.41</b>		<b>74,267.41</b>	<b>5%</b>
<b>Grand Total</b>	<b>1,372,262.99</b>	<b>106,305.00</b>	<b>1,478,567.99</b>	<b>100%</b>

**Actual Expenditures per Activity Result (in USD)**  
**For the Year Ended, 1 January - 31 December 2017**

<i>Activity Result</i>	<i>UNDP-Managed Funds</i>	<i>Bilateral</i>	<i>Total</i>	<i>% to Total</i>
<i>Mine Risk Education</i>	44,336.99		44,336.99	3%
<i>Victim Assistance</i>	79,299.97		79,299.97	5%
<i>and Clearance</i>	43,705.77	106,305.00	150,010.77	10%
<i>Effective Coordination and Regulation</i>	205,912.46		205,912.46	14%
<i>Institutional Development</i>	830,810.15		830,810.15	56%
<i>International Treaty Obligations Met</i>	53,240.85		53,240.85	4%
<i>Support to the Lao Army</i>	114,956.80		114,956.80	8%
<b>Total</b>	<b>1,372,262.99</b>	<b>106,305.00</b>	<b>1,478,567.99</b>	<b>100%</b>

**Budget vs. Actual Expenditures - Over-all (in USD)**  
**For the Year Ended, 1 January - 31 December 2017**

	<i>Fund Sources</i>			
	<i>UNDP-Managed Funds</i>	<i>Bilateral Funds</i>	<i>Unfunded</i>	<i>Total</i>
<i>Budget</i>				
<i>Actual Expenditures</i>	1,372,262.99	106,305.00		1,478,567.99
<i>Budget Balance</i>	99,742.01	19,667.00	382,260.00	501,669.01
<i>Actual Expenditures/Budget (%)</i>	93%	84%	0%	75%

**Budget vs. Actual Expenditures by Donor (in USD)**  
**For the Year Ended, 1 January - 31 December 2017**

	<i>Budget</i>	<i>Actual Expenditures</i>	<i>Budget Balance</i>	<i>Actual Exp./Budget (%)</i>
<b><i>UNDP-Managed Funds</i></b>				
<i>KOICA</i>	1,127,789.00	945,752.23	182,036.77	
<i>New Zealand</i>	138,847.00	165,279.74	(26,432.74)	
<i>European Union</i>	205,369.00	140,299.05	65,069.95	
<i>Luxembourg</i>		60,573.50	(60,573.50)	
<i>Ireland</i>		39,358.47	(39,358.47)	
<i>Republic of Korea</i>		21,000.00	(21,000.00)	
	1,472,005.00	1,372,262.99	99,742.01	93%
<b><i>Bilateral Funds</i></b>				
<i>US Sterling</i>	125,972.00	106,305.00	19,667.00	84%
<i>Unfunded</i>	382,260.00	-	382,260.00	0%
<b>Total</b>	<b>1,980,237.00</b>	<b>1,478,567.99</b>	<b>501,669.01</b>	<b>75%</b>

### Budget vs. Actual Expenditures by Donor (in USD)

For the Year Ended, 1 January - 31 December 2017

	<i>Budget</i>	<i>Actual Expenditures</i>	<i>Budget Balance</i>	<i>Actual Exp./Budget (%)</i>
<i>1 – Mine Risk Education</i>	91,451.00	44,336.99	47,114.01	48%
<i>2 - Victim Assistance</i>	193,142.00	79,299.97	113,842.03	41%
<i>3 - Clearance</i>	100,136.00	150,010.77	(49,874.77)	150%
<i>4 - Effective Coordination and Regulation</i>	434,675.00	205,912.46	228,762.54	47%
<i>5 - Institutional Development</i>	933,581.00	830,810.15	102,770.85	89%
<i>6 - International Treaty Obligations Met</i>	82,113.00	53,240.85	28,872.15	65%
<i>7 - Support to the Lao Army</i>	145,139.00	114,956.80	30,182.20	79%
<b>Total</b>	1,980,237.00	1,478,567.99	501,669.01	75%

### Summary of Fund Balances (in USD)

As of 31 December 2017

	<i>Fund Balance, 1 Jan. 2017</i>	<i>Funds Received</i>	<i>Funds Used</i>	<i>Fund Balance, 31 Dec. 2017</i>	<i>% to Total</i>
<b>UNDP-Managed Funds</b>					
<i>New Zealand</i>		363,953.17	165,279.74		
<i>European Union</i>		303,225.71	140,299.05		
<i>KOICA</i>	393,687.11	635,545.00	945,752.23	83,479.88	
<i>Canada Fund</i>		21,826.19		21,826.19	
<i>Ireland</i>		44,923.68	39,358.47	5,565.21	
<i>Republic of Korea</i>		21,000.00	21,000.00	0	
<i>Luxembourg</i>		59,836.32	60,573.50	(737.18)	
	393,687.11	1,450,310.07	1,372,262.99		81%
<b>Bilateral Funds</b>					
<i>US Sterling</i>	115,771.00	100,000.00	106,305.00		19%
<b>Total</b>	509,458.11	1,550,310.07	1,478,567.99		100%



# LAO PDR SURVEY AND CLEARANCE PROCESS

## STEP 1: NON-TECHNICAL SURVEY

*Non-technical survey “NTS” is used to identify evidence points of explosive contamination (primarily cluster munitions in Lao PDR). This involves collecting information of explosive hazards from historical records and from local population.*

## STEP 2: TECHNICAL SURVEY

*“Technical survey” is used to identify and map Confirmed Hazardous Areas (CHA) for future clearance. The area is divided into 50m by 50m boxes, with a grid placed over the starting evidence points. Each box is scanned with detectors for more evidence and-if found-the team stops and moves to the next box. The process follows the cluster munitions strike until no more evidence is found. Cluster munitions identified during this process are mapped and then destroyed. The boxes are color-coded based on the findings and the results are used to establish the CHA requiring clearance. This is the crucial step to define the extent of contamination and begin to plan operations.*

## STEP 3: CLEARANCE

*“Clearance” refers to activities used to remove and/or destroy all explosive hazards from a specified area, to a specified depth. The minimum depth is 25cm, which normally captures all surface and shallow contamination. Clearance is conducted on CHAs identified through the Technical Survey. Many more cluster munitions will be found and destroyed during clearance.*



U X O S E C T O R

*UXO  
Operator  
Reports*

18: LIVES SAFE FROM UXO

# HUMANITARIAN CLEARANCE ORGANIZATIONS



## HANDICAP INTERNATIONAL (HI)

### Activities in 2017:

The UXO project has been implementing the below activities in 4 districts includes Nong, Xepon, Villa and Phine Districts of Savannakhet province. This project implemented the below activities in 2017:

- Mine Risk Education
- Non-Technical Survey
- Technical Survey
- Clearance
- Roving

### Key achievements in 2017:

From January-October 2017, HI conducted NTS in 69 villages in 4 districts (Nong, Villa, Phine and Xepon in Savannakhet Province) identifying 23 Cluster Munitions Evidence Points (EP). In these 69 villages, the EP and primary data collection were reported through contacting a Hotline number and by conducting MRE activities.

Technical Survey was conducted and 160 hectares of CHA were established in 5 villages and after that HI halted the TS activity because there was quite a number of uncleared areas. As a result, HI reallocated a TS team to act as a Clearance team instead.

A roving team was deployed to destroy the UXOs reported by the population through the Hotline or RE sessions, as well as UXOs identified during the NTS process. The Roving Team conducted 109 Roving Tasks and destroyed 1,572 UXOs, including 1,203 Cluster Munitions.

HI conducted a total of 6 clearance tasks during 2017, releasing 18 hectares (2 hectares for development projects and 16 hectares for agriculture).

In total, 119 Risk Education sessions were provided in 48 villages and reached a total of 6,560 beneficiaries (1,310 women, 1,368 men, 1,972 boys and 1,910 girls).

### Focus areas of work in 2018:

Due to funding issues, HI will finish its UXO activities in Savannakhet province in December 2017, however, in early 2018 the HI UXO project will relocate to a northern province called Huaphan. This project is funded by the EU and will involve conducting UXO activities in Huamuang District of Huaphan Province which is deeply partnership with Group de Recherche et d'Echanges Technologiques (GRET) project that implements the Bamboo sector in Laos.

### Some Good News:

#### A Case study from HI intervention in Xepon District Savannakhet province.

Ms. Khampan is 78 years old and despite her age, she is still working as a farmer in Sepon Kao village, where HI Laos operated. One year ago she benefited from the clearance of her land. Before HI's intervention, she was aware of the danger associated with UXO and was worried, she stated: "I was afraid every time I had to work on my land. Some people in my village were not careful enough and accidents occurred, so I minded every step and it made farming very difficult for me. I kept asking myself how long would I have to work with this risk" When HI was collecting data in the village for development plans to support them with clearance, she made a request for her land to be cleared. Once HI cleared her land, Ms. Khampan's life changed greatly: "From that moment, my life totally changed and I would go to my land with a smile. Thanks to HI, my family and I have made more income from the land as it made work easier". Ms. Khampan can now work on her land without any fear as she trusts HI's work and would like HI to do even more clearance work to help other people in Laos.



## Implementing Partners

HI's main partner is the National Regulatory Authority (NRA) at local, provincial and national level. In addition, HI also worked closely with the District Education Office (DEO) and Provincial Education Office (PEO) with regards to their Risk Education team. HI also worked with district and provincial Social and Welfare Offices.

## Personnel in 2017:

<i>Office Support</i>				<i>Operations</i>			
National		International		National		International	
Men	Women	Men	Women	Men	Women	Men	Women
10	2	1	1	60	19	0	0
<b>Total</b>		<b>93</b>					

## Detailed statistic figures in 2017:

No.	Mine Risk Education/Community Awareness Activities					
	Village Visits	Beneficiaries				
		Men	Women	Boys	Girls	Total
1	Soppa	0	1	12	11	24
2	Namahi	2	0	7	15	24
3	Namchalo	1	0	8	8	17
4	Kenglin	0	0	23	27	50
5	Tagnong	0	0	23	20	43
6	Tang Alai	0	0	78	77	155
7	Labeng-Khok	0	0	29	26	55
8	Patoy-Noy	0	0	49	45	94
9	Keng	39	35	46	51	171
10	Lakai	0	0	22	15	37
11	Bangyalang	0	0	24	21	45
12	Muanglouang	0	1	21	20	42
13	Tohua	0	1	23	22	46
14	Kalay	1	0	8	10	19
15	Nampa	2	0	20	13	35
16	Boung	1	1	32	44	78
17	Salo-Pakouy	2	0	28	22	52

18	Sopsaloung	2	0	24	18	44
19	Namkhin	1	0	33	45	79
20	Vangmahang	1	0	5	12	18
21	Nakaxin	1	0	12	11	24
22	Tang-Alai-Nua	0	0	52	52	104
23	Tang-Alai-Nua	78	81	81	70	310
24	Phalou	1	0	10	11	22
25	Nonglouang	2	0	28	17	47
26	Angkham	1	0	13	10	24
27	Nathou	2	0	56	35	93
28	Houayxay	0	2	60	76	138
29	Tang-Alai-Nam	63	59	49	47	218
30	Tang-Alai-Nam	0	0	20	21	41
31	Labeng-Nam	73	65	57	52	247
32	Labeng-Nam	0	0	21	23	44
33	Naxeng-Kao	1	0	18	11	30
34	Somsa-At	0	1	15	9	25
35	Nakhanong	1	1	31	33	66
36	Vangthakhoay	0	1	7	8	16
37	Salang	0	0	26	28	54
38	Salang	67	59	45	48	219
39	Songpuay	0	2	17	33	52
40	Nakhano	1	0	7	10	18
41	Phalong	2	1	42	28	73
42	Paxia	0	0	48	49	97
43	Paxia	73	72	65	67	277
44	Khamsa-l	0	2	31	31	64
45	Kang-Kao	1	1	12	27	41
46	Koy	2	0	33	17	52
47	Naphokham	0	1	15	11	27
48	Kang-Mai	0	2	19	30	51
49	Nathom-Kao	1	3	75	75	154
50	Dongphoungun	1	2	44	39	86
51	Nonxai	0	4	81	78	163
52	Patoy-Gnai	0	0	28	26	54
53	Patoy-Gnai	59	56	43	48	206

54	Nakhanong	0	1	20	20	41
55	Nathou	1	0	30	20	51
56	Khamsa-I	1	0	10	13	24
57	Nonsa-At	0	3	36	29	68
58	Kayong	0	1	21	22	44
59	Paloy	0	0	57	26	83
60	Paloy	43	59	56	58	216
61	Xouang-Gnai	0	0	26	26	52
62	Xouang-Gnai	46	39	49	47	181
63	XouangKhanKhak	0	0	26	22	48
64	XouangKhanKhak	42	39	49	53	183
65	Xouang-Tai	0	0	47	41	88
66	Xouang-Tai	69	60	77	72	278
67	Pountong	0	0	22	22	44
68	Pountong	53	58	61	65	237
69	Houaysan	26	20	27	26	99
70	Nakhanong	26	24	27	25	102
71	Naxeng-Kao	27	25	23	26	101
72	Kang-Kao	22	24	20	23	89
73	Nakhano	25	25	25	25	100
74	Khamsa-I	24	26	27	25	102
75	Kayong	26	25	24	28	103
76	Kang-Mai	26	25	27	24	102
77	Phalou	24	26	23	25	98
78	Somsa-At	25	23	21	24	93
79	Nonglouang	26	25	27	24	102
80	Nathou	27	26	26	25	104
81	Phalong	51	49	51	56	207
82	Houayxay	27	26	25	26	104
83	Nathom-Kao	28	26	25	24	103
84	Songpuay	25	24	24	23	96
85	Koy	22	19	28	24	93
86	Dongphoungun	27	26	25	26	104
87	Nonxai	76	73	83	79	311



**Survey:**

Technical Survey (Village Complete)	UXO Roving Task(number)
Fuang, Aho and Alai villages	358 UXOs (298 CM)

**Area cleared:**

Area Clearance (Hectares)			
Agricultural	Development	Total	Percentage within CHA
41	12.5	53.5	41%

**CHA Survey: Only for operators that are conducting Cluster Munitions Technical Survey:**

Technical survey outside of the CHA (Ha)	Hectares of CHA Established	Hectares of CHA Cleared
209 Hectares	160 Hectares	14 Hectares

**UXO found, removed and destroyed:**

UXO Removed/Destroyed					
Task	Bombs	Bombies	Mines	Other UXO	Total
Roving Task	26	1,089	0	312	1,427
Area Clearance	0	495	0	60	555
Technical Survey	0	114	0	31	145
Total	26	1,698	0	403	2,127

**Geographic operations:**

Activity	Provinces/Districts
Survey	Xepon District of Savannakhet province
Area clearance	Nong and Xepon Districts of Savannakhet province
Roving Tasks	Nong,Xepon and Phine Districts of Savannakhet province
Risk Education	Nong,Xepon and Phine Districts of Savannakhet province
Victim Assistance	VA was not implemented in 2017

**Financials: Expenditure for 2017: (USD)**

Item	Amount
Personnel costs	554,281
Operational costs	119,777
- UXO Mine Risk Education	36,949
- Victim Assistance	
- UXO Survey and Clearance	82,828
Equipment	
<b>Total</b>	<b>674,058</b>

**Donor contributions for 2017: (USD)**

<i>Donor</i>	<i>Contribution received in 2017</i>
AFD (Agence Française de Développement)	626,904
Norway MOFA	1,647
Handicap International	45,508
<b>Total</b>	<b>674,059</b>



# LAO NATIONAL UNEXPLODED ORDNANCE PROGRAMME (UXO LAO)

## Background and mandate

The Lao National Unexploded Ordnance Programme (UXO Lao) was established in 1996 by the Government of Lao People's Democratic Republic with the support of UNDP, UNICEF, and other stakeholders. UXO Lao's mandate is:

- Reduce the number of UXO casualties and accidents.
- Increase the amount of the land available for food production and for other socioeconomic development.

## UXO Lao: 22 years of Achievements (1996-2017)

- More than 379 square kilometres of land cleared for safe use.
- Land cleared for hundreds of schools, water facilities, roads and other important projects.
- More than 1,617,000 items of unexploded ordnance destroyed.
- More than 12,000 risk education village visits conducted. Over 3,000 Confirmed Hazardous Areas (CHA) established.

## Key achievements in 2017

During 2017, UXO Lao undertook survey, clearance and mine risk education (MRE) activities in the nine most contaminated provinces in Lao PDR: Attapeu, Champasack, Huaphanh, Khammuane, Luangprabang, Saravan, Savannakhet, Sekong and Xiengkhuang. The organization's activities include:

### **Community Awareness or Mine Risk Education (MRE):**

These activities aim to increase the awareness for people living in UXO effected areas to the danger of UXO through various education activities, for instance: songs, dances, plays and puppet shows. During 2017, UXO Lao undertook 498 visits, reaching 172,286 beneficiaries. The continued efforts to ensure awareness of risks has contributed to the major decline in the number of UXO accidents and casualties over the past decade. The UXO/mine risk education teams' activities include puppet shows and games targeting children, as new generations need to be informed of the dangers of UXO. Refresher activities for older villagers were also conducted by the MRE teams to ensure these residents are not taking undue risks in their daily lives.



### **Non-Technical Survey (NTS):**

NTS involves reviewing all UXO related data on the village-by-village basis and consulting with as many households as possible to locate all known UXO contamination in the village. NTS identifies UXOs for roving clearance and cluster munitions evidence for follow-up technical survey (TS). NTS also generates sketch maps of villages showing UXO related information such as previous clearance, confirmed hazardous areas (CHAs) and evident points. During 2017, UXO Lao's NTS teams continued the transition from what was previously called General Survey (GS) to NTS. Throughout 2017, NTS was carried out in 159 villages in 9 provinces, with more than 6,500 UXO items found, including 4,386 cluster munitions (67%), and more than 2,000 other UXO items (31%) including 47 aircraft bombs.



**Technical Survey (TS):** TS follows the NTS activity by using the cluster munitions evidence points as start points and detector searching systematically outwards in all directions to find the limits of the CM contamination. Once the boundaries of the CM contamination have been found the contaminated area is recorded and reported to the NRA as a Confirmed Hazardous Area (CHA). 50 metre by 50 metre boxes are used to manage and control the TS. All 50m x 50m boxes bordering the box with the original evidence are searched. Initially this will involve eight boxes but if the TS continues, further

boxes outside the first eight may also be searched. Boxes are colour coded to indicate the results of the TS work. During 2017, UXO Lao implemented technical survey to establish CHAs based on evident points of UXO contaminated. By doing so, UXO Lao was able to establish a total of 603 sites, covering 8,931 hectares of CHA.



#### **Area Clearance (AC):**

The focus for AC is the clearance of CHAs, however as the GOL organization, UXO Lao sometimes carried out approved AC for development projects. AC involves dedicated teams searching and clearing to a depth of clearance based on the intended land used. For development, this depth normally 25 centimetres. During AC all UXOs are removed from the cleared area to the required depth of clearance.

During 2017, UXO Lao cleared 3,219 hectares of UXO contaminated land. This cover 3,084 hectares of agriculture, and 135 hectares for development projects, which included educational facilities, roads, water services, and other infrastructure. Of the 3,219 hectares were cleared within established Confirmed Hazardous Areas. These figures represent an increase in the clearance outputs from 2016 (2,593 hectares).



#### **Roving Clearance:**

Roving or spot tasks involve the on-demand removal and destruction of UXO when they are reported by villagers or non-technical survey teams. With 1,202 visits made in 492 villages across the country in 2017, 26,638 UXO items were destroyed through the activity, of which 20,991 were cluster munitions (CM), 62 big bombs, 14 mines, and 5,571 were other UXOs.

#### **UXO Destruction:**

The number of UXO destroyed by UXO Lao AC operations in 2017 was 72,409 items including 57,608 CM items. This is a substantial performance improvement and is the result of the 2014 adoption by UXO Lao of the new Concept of Operations, which has seen UXO Lao switch to an evidence-based approach to clearance. The implementation of this approach has meant that, across the country, the number of cluster munitions found per hectare cleared (CM/ha) increased from 5 items in 2014 to 19 items in 2017 and largely accounts for the increase in the number of UXO found and destroyed.

#### **Brush Cutter Machine:**

UXO Lao has received several “brush cutters” under Japan’s Grant Aid for Conflict Prevention and Peace Building. This activity aims to support UXO clearance activity in Sekong, Salavan and Champasack provinces by making overgrown areas easier to access and clear of UXO. This has reduced the reliance on manual vegetation clearance thus, increasing UXO clearance speed. After identifying monthly clearance priorities, the brush cutter teams conduct vegetation cutting to prepare the areas for clearance teams. From 1 January to 31 December 2017, brush cutter teams in three provinces were able to clear 132 hectares of dense vegetation areas.





### **Clearance for Development Projects:**

During 2017, UXO Lao cleared 135.4 hectares for development projects including schools, health facilities, water services, roads, temples, irrigation, bridges, plantations, meeting halls and new villages. These projects were supported by a broad range of actors in the development sector. A few selected examples are given below:

#### ■ **Lao Australia Rural Livelihoods Programme (LARLP):**

In 2017, through the support of the Australian Government, five UXO Lao clearance teams in Savannakhet, Salavan and Champasack continued to support LARLP projects and work on UXO Lao's work plan. The teams cleared 166.7 hectares of land and destroyed more than 3,319 UXO items. Their work benefitted over 15,317 inhabitants (7,550 females).

#### ■ **Clearance for agriculture production, Luangpabang province**

Mrs. Keomany, 43 years old, lives in Pik Yai village with her five family members. In 2015, as Keomany started to prepare her land for rice plantation she found unexploded bombies and immediately reported the incident to the village chief who reported the discovery to UXO Lao Luangpabang to remove and destroy.

The family was very afraid to work on the land, however, as agriculture was the main food source for the family, they had no alternative but to farm and continued working on their land very carefully to grow agricultural products.

The technical survey conducted on Keomany's land did not take long and UXO Lao Luangpabang included Keomany's land into the UXO Lao work plan and began clearing UXO from 3 April to 16 June 2017. The total area was 95,365 m<sup>2</sup> and 202 bombies and 28 other UXO items were found and destroyed during this period.

After UXO clearance, Keomany's family was very happy and has worked on the land without fear of UXO accident. Her family is hoping to expand their rice field in the near future.

#### ■ **Coffee Plantation, Huaphanh province:**

UXO Lao Huaphan cleared land for the Coffee Plantation Project responded to a request made by Nam Neune Village, Xone district on 15 June 2017. The clearance took place from 14 - 15 July 2017, covering 2,700 square metres. During clearance, 5 UXO sub-munitions were found and destroyed. On 1 January 2017, the coffee plantation construction begun and was completed on 12 September 2017. This project operated under the

support of the United Kingdom and hired 15 local staff (including 7 females).

#### ■ **Thamla-Neua Primary School, Huaphanh province:**

In 2017, UXO Lao responded to a request made by Department of Labour and Social Welfare for school construction in Thamla-Neua village, Hiem district in Huaphan province. An area of 1,555 square meters was cleared by the UXO Lao team from 30 November to 1 December 2017 and 3 UXOs were found and destroyed. The school construction started on 17 December 2017 and is expected to be completed by 27 July 2018. This school was built to replace the old building and will benefit over 300 students. The construction was supported by Poverty Reduction Fund.

#### ■ **Clearance for Agriculture Land:**

In 2017, UXO Lao cleared more than 3,084 hectares for agriculture. This work has brought confidence to local people who live and work on farming land without putting their lives at risk from UXO. This enables poor families expand areas for farming and cultivate more produce to sell. The result is that people now have a greater income thus, making significant changes to their lives.

#### ■ **Clearance for agriculture production, Luangprabang province:**

Mrs. Keomany, one of UXO Lao's beneficiaries, is 43 years old, living in Pik Yai village with her five family members. In 2015, as Keomany started to prepare the land for rice plantation she found bombies. She immediately reported the incident to the village chief who then reported the discovery to UXO Lao Luangpabang for detonation.

The family was very afraid to work on the land, however, as agriculture was the main food source for the family, they had no alternative but to farm. Therefore, they continued working on their land very carefully to grow agricultural products.

The technical survey conducted on Keomany's land did not take a long time and UXO Lao Luangpabang included Keomany's land into the UXO Lao work plan and began clearing UXO from 3 April to 16 June 2017. The total area was 95,365 m<sup>2</sup> and 202 bombies and 28 other UXO items were found and destroyed during this period.

After UXO clearance, Keomany's family was very happy and has worked on the land without fear of UXO accident. The family is planning to expand their rice field in the near future.



## Key Events and Visits

In 2017, UXO Lao facilitated many important visits to UXO contaminated provinces around Lao PDR. These events and visits provided guests with an insight into the work and operation of UXO Lao and created worldwide public awareness of the UXO issue in Lao PDR by featuring in international media. Some of UXO Lao's most notable visits in 2017 are listed below:

### ■ The Prime Minister of Lao PDR visit to an operational site in Xiengkhuang province.

On 9 August 2017, H.E Mr. Thongkoun Sisoulith, Prime Minister of Lao PDR, visited a clearance site in Nyuane Thong Village of Pek District in Xiengkhuang province. During this visit, the Prime Minister had the opportunity to explore UXO Lao's field operation in addressing UXO issues and also demolished UXOs found on site. The visit was accompanied by the UXO Lao Director, Mr. Thiphasone Soukhathamavong and the UXO Lao Xiengkhuang Provincial Coordinator, Mr. Kingphet Phimmavong.

### ■ Her Majesty Queen of Belgium visit to Champasak province.

On 23 February 2017, Her Majesty Queen Mathilde of Belgium, accompanied by her delegation paid a visit to UXO Lao's mine risk education activity in Nongsai village, Champasack province. Her Majesty was briefed by the UXO Lao Director regarding the organization's operations in Lao PDR, detailing UXO Lao's achievements since its establishment and the benefits of mine risk education activities.

### ■ Round Table Meeting Delegation visit to UXO Lao Champasak.

UXO Lao represented by Mr. Wanthong Khamdala, UXO Lao Deputy Director, and Mr. Thongkeo Singhavong, Champasack Provincial Coordinator, had the honour of warmly welcoming delegates from the Round Table Meeting on 22 November 2017 to Kaeng-Yao School, Kaeng-Yao village, Bachiengchalernsouk District, Champasack Province. All delegates were briefed on UXO Lao's 20 years of achievement and the organisation's future plans. The delegates were exposed to mine risk education activities through soccer, puppet shows, singing and asking-answering questions about UXO.

In addition, different displays and exhibitions of UXO Lao's activities were available during this visit which included a Free from Explosive display, South-South Cooperation (Laos-Cambodia) display, equipment and processes of UXO surveys, a UXO clearance demonstration and Brush Cutting exhibitions. Other material such as brochures, reports and manuals were also shared with the delegation.

### ■ UXO Lao welcome U.S. High-Level Political Party at Luangprabang province.

On 28 July 2017, UXO Lao welcomed the U.S. Delegation High Level Political Party, U.S. Ambassador to the Lao PDR and Lao Government staff from various Ministries concerned visited UXO Visitor Center in Luang Prabang province. The delegation was warmly welcomed by Mr. Houthaphanh Chanthavong, Director of UXO Lao Luang Prabang at the Visitor Center to explore different types of UXO items (Free from Explosive) and were briefed about the UXO problem as well as the operational achievements since 1998 in Luang Prabang. The entire delegation paid a visit to a clearance site in Phik Gnai Village where they were briefed on UXO Lao's operation processes and also observed the field operation, followed by the demolition of 9 cluster munitions/bombies found on site.

## Partners:

- The National Regulatory Authority for the UXO/Mine Action Sector in Lao PDR (NRA)
- The United Nations Development Programme (UNDP)
- The European Union (EU)
- The Government of Australian
- The Government of Canada
- The Government of Ireland
- The Government of Japan
- The Government of New Zealand
- The Government of Norway
- The Government of the Grand Duchy of Luxembourg
- The Government of the United States of America
- The Government of the Republic of Korea
- International Committee of the Red Cross (ICRC)
- ITO Supporting Comity (ISC)
- Japan International Cooperation Agency (JICA)
- Japan Mine Action Service (JMAS)
- Japan International Cooperation System (JICS)
- Norwegian People's Aid (NPA)
- Sterling International Group (SIG)
- Spirit of Soccer Laos (SOS)
- Cambodian Mine Action Centre (CMAC)
- The Intrepid Foundation
- World Without Mines (WWM)
- The Government of Belgium

## Personnel in 2017:

<i>Office Support</i>				<i>Operations</i>			
<i>National</i>		<i>International</i>		<i>National</i>		<i>International</i>	
Man	Woman	Man	Woman	Man	Woman	Man	Woman
27	20	7	1	1,008	335	0	0

## Detailed statistical figures in 2017:

<i>Number of Cluster Munitions found per hectare per province 2017</i>										
2014 National Average for comparison										5
2015 National Average for comparison										22
2016 National Average for comparison										22
<i>2017 Monthly</i>	<i>ATP</i>	<i>CPS</i>	<i>HP</i>	<i>KM</i>	<i>LPB</i>	<i>SLV</i>	<i>SVK</i>	<i>SK</i>	<i>XK</i>	<i>Average</i>
<i>January</i>	17	16	21	15	20	21	10	16	10	16
<i>February</i>	21	73	23	16	20	21	9	19	16	24
<i>March</i>	10	12	26	15	20	17	10	21	16	26
<i>April</i>	11	30	20	21	20	11	12	20	13	17
<i>May</i>	30	24	19	21	20	15	12	23	44	23
<i>June</i>	20	31	23	17	15	20	11	31	19	20
<i>July</i>	20	15	44	14	20	17	12	17	17	19
<i>August</i>	18	21	14	12	22	25	11	17	30	18
<i>September</i>	20	17	22	17	18	24	12	30	33	21
<i>October</i>	21	19	0	15	23	13	13	26	9	16
<i>November</i>	18	23	16	17	23	23	11	21	8	15
<i>December</i>	17	14	2	11	12	5	45	14	18	15
<i>Average</i>	20	20	18	17	11	18	24	23	19	19

<i>Mine Risk Education/Community Awareness Activities</i>					
<i>Village Visits</i>	<i>Beneficiaries</i>				
	Men	Women	Boys	Girls	Total
498	43,196	42,528	42,202	44,360	172,286

<i>Non-Technical/general UXO Survey<sup>1</sup></i>		<i>UXO Roving Tasks</i>	
<i>Number of Visits</i>	<i>Number of Villages</i>	<i>Number of Visits</i>	<i>Number of Villages</i>
	159	1,202	

<i>Area Clearance (Hectares)</i>			<i>Land Released by Technical Survey (Hectares)</i>		
<i>Agricultural</i>	<i>Development</i>	<i>Total</i>	<i>Agriculture</i>	<i>Development</i>	<i>Total</i>
<b>3,084</b>	135	3,219	NA	NA	NA

<i>UXO Found, Removed and Destroyed</i>					
<i>Tasks</i>	<i>Bombs</i>	<i>Bombies/CM</i>	<i>Mines</i>	<i>Other UXO</i>	<i>Total</i>
Roving Task	62	20,991	14	5,571	<b>26,638</b>
Area Clearance	7	57,610	15	14,779	<b>72,411</b>
Technical Survey	2	19,686	2	3,280	<b>22,970</b>
<b>Total:</b>	<b>71</b>	<b>98,287</b>	<b>31</b>	<b>23,630</b>	<b>122,019</b>

### Geography of operations:

<i>Activity</i>	<i>Provinces/districts</i>
Survey	Houaphanh, Xiengkhuang, Luang Prabang, Khammouane, Savannakhet, Salavane, Sekong, Champasak, Attapeu
Area clearance	Houaphanh, Xiengkhuang, Luang Prabang, Khammouane, Savannakhet, Salavane, Sekong, Champasak, Attapeu
Roving Tasks	Houaphanh, Xiengkhuang, Luang Prabang, Khammouane, Savannakhet, Salavane, Sekong, Champasak, Attapeu
Risk Education	Houaphanh, Xiengkhuang, Luang Prabang, Khammouane, Savannakhet, Salavane, Sekong, Champasak, Attapeu

### Financials:

#### Expenditure for 2017: (USD)

<i>Item</i>	<i>Amount</i>
Personnel costs	
Operational costs:	
Special Operating Expenses	
Non-Expendable Equipment	
Expendable Materials	
<b>Total</b>	<b>10,908,309</b>

**Donor contributions for 2017: (USD)**

<i>Amounts Received between 1 January and 31 December 2017</i>	
<b>Donor</b>	<b>Contribution received in 2017 (USD)</b>
<b><i>UNDP-Managed Funds</i></b>	
New Zealand	2,959,330
EU	874,325
Ireland	544,699
Canada Fund	39,652
Luxembourg	114,380
Republic of Korea (CPR TTF*)	29,000
<b><i>Total</i></b>	<b><i>4,561,386</i></b>
<b><i>Bilateral Funds</i></b>	
U.S. Sterling	4,682,018
Japan Mine Action Service (JMAS)	159,221
Intrepid Foundation	2,261
Department for Int'l Development (DFID)	108,746
Norwegian People's Aid (NPA)	379,347
World Without Mines (WWM)	193,700
Japan Int'l Cooperation System (JICS)	1,077,829
<b><i>Total</i></b>	<b><i>6,603,122</i></b>
<b><i>Government Contributions and Others</i></b>	
Lao PDR Government	45,329
Various - LP Sales Proceeds, Training Fees	4,112
<b><i>Total</i></b>	<b><i>49,504</i></b>
<b><i>Grand Total</i></b>	<b><i>11,214,012</i></b>





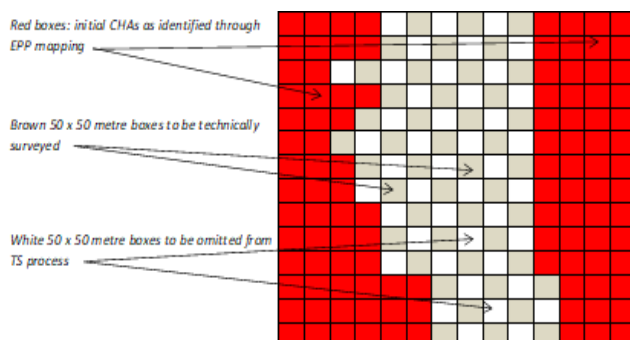
## MINES ADVISORY GROUP (MAG)

### Activities in 2017:

In 2017 MAG continued to implement high quality humanitarian mine action activities across four target districts within two of the most heavily contaminated provinces in the country, Xieng Khouang and Khammouane.

Activities conducted during 2017 include:

- Non-Technical Survey (NTS), during which the Community Liaison Team (CLT) conducts multiple village meetings, community mapping exercises and carries out household interviews to develop a comprehensive profile of the UXO contamination within that community. The CLT continues to conduct their investigation of a village until they are satisfied that all historical data has been verified and any new evidence points gathered for future TS activities.
- Technical Survey (TS) is then carried out in areas where contamination has been confirmed by through the NTS process. TS results in the establishment of Confirmed Hazardous Area (CHAs).
- Clearance of land in priority CHAs means that land can be returned to the community for safe and productive use.
- Explosive Ordnance Disposal (EOD) spot tasks were carried out to destroy items of UXO which posed an immediate risk to communities. This included the destruction of cluster munitions as well as other larger aircraft dropped bombs.
- Mine Risk Education session for communities



Example of Checkerboard TS, prior to deployment of survey MAT.



Excavation of a M117 750lb airdropped bomb found by MAG at the construction site for a market in Najat village Bualapha district Khammouane.

### Key achievements in 2017:

During 2017, MAG trialed of a method of surveying heavily contaminated areas called 'Checker Boarding' which aims to accelerate the TS process, while simultaneously preserving resources.

'Checker Boarding' required the TS team conduct survey in alternate boxes, i.e. survey one 50 x 50 meter box, omit the next, survey the next 50 \* 50 meter box, omit the next, and so on (see Figure 1). If there is a high frequency of cluster munitions identification within the alternate boxes searched, then there is a very strong likelihood that there is contamination within the omitted boxes. This means that MAG can confidently establish a CHA that includes both the boxes searched and the boxes omitted. If when

conducting TS a high frequency of alternate boxes with no cluster munitions evidence is encountered, MAG will return to conduct TS on the omitted boxes to determine if those areas contain contamination.

During 2017 MAG used this approach to define over 4.5 million m<sup>2</sup> of land as part of a CHA without the need to conduct TS.

Key outputs for 2017 were:

- NTS of 91 villages
- TS established over 6,518 hectares of CHA
- Clearance activities resulted in over 469 hectares being returned to communities. This included support for a number of development projects such as school and market construction
- Destruction of almost 13,000 items of UXO; 88% of which were cluster sub munitions

### Focus areas of work in 2018:

In 2018, MAG will continue to conduct evidenced-based survey and clearance activities in Xieng Khouang and Khammouane Provinces. MAG will also continue to focus on enhancing operational efficiencies and effectiveness while delivering quality high-impact land release to beneficiary communities and development partners.

In Xieng Khouang Province MAG will commence implementing the US government funded survey project. This entails a significant scaling up of teams and expanding into new areas of the province. Some clearance activities will continue but the primary output is the technical survey of 12,850 hectares to create CHAs for clearance.

Following the success of the integrated survey and clearance projects in 2015-2017, MAG intends to continue its partnership with Norwegian Peoples Aid (NPA) in Boualapha district, Khammouane province in 2018. In addition, MAG will also continue to maintain strong working relationships with national and local authorities as well as strengthening partnerships with other development NGOs. This strengthening of partnerships will help ensure that the impact of MAG's UXO clearance work is maximized through onward development projects.

Activities that will be conducted in 2018 include:

- Quality survey that will accurately and efficiently identify CHAs for clearance

- Clearance of priority CHAs that deliver high impacts in terms of development outcomes
- Immediate destruction of UXO items that pose an imminent danger to communities
- Delivery of Emergency MRE to sectors of society identified as most at-risk
- Introduction and trailing of new operational methodologies and equipment/assets
- Close coordination and sharing of information and experience with other UXO operators and the NRA

### The good news:

#### UXO Clearance for Cotton.

Bomb craters scar the landscape throughout Phanop village in Boualapha district, Khammouane province. Located next to the Ho Cho Minh trail, the village was heavily bombed by American forces during the Vietnam War in an attempt to disrupt this key logistical supply route used by the North Vietnamese Army. Over forty years after the war ended, unexploded bombs continue to contaminate the land in Lao PDR, placing lives at risk and hindering development activities.

In 2017, MAG was tasked by the provincial authorities to clear community land in Phanop village to support the development of a cotton farm project supported by French NGO, Sourire d'Enfant. Sourire d'Enfant has been working with the women's union in the village to develop a cotton weaving project to help supplement the income of this farming community. As part of the project, Sourire d'Enfant aimed to help equip and train members of the union to grow and maintain a cotton farm and small vegetable plot. However, before this could take place the land needed to be cleared of UXO.

MAG cleared 23,804m<sup>2</sup> of land for the cotton farm. The team found and destroyed 16 items of UXO before returning the land to the community. Since clearance, the cotton trees and vegetable seedlings have been planted and a modest first crop has been harvested.

"This is the first year, so the trees and harvest is small" explained Mrs. Don of the Women's Union. "But we hope for more in the following years as the trees get bigger. We have found lots of UXO in and around our village before so I am happy this land is cleared. It means I can dig the ground with confidence".

As the plot is located next to a school, it also provides educational value. "If the land was still full of UXO, we would not allow the children to help" explained Mrs. Don, "now they can learn a new skill".





*We have found lots of UXO in and around our village before so I am happy this land is cleared. It means I can dig the ground with confidence.” Mrs. Don of the Women’s Union.*



*pupils watering the vegetable plot.*

### Partners:

- Norwegian Peoples Aid

### Personnel in 2017:

<i>Office Support</i>				<i>Operations</i>			
<i>National</i>		<i>International</i>		<i>National</i>		<i>International</i>	
Man	Woman	Man	Woman	Man	Woman	Man	Woman
35	19	1	2	260	81	3	0
<b>Total</b>				<b>401</b>			

## Detailed statistic figures in 2017:

<b>MINE RISK EDUCATION</b>				
<b>Community Awareness</b>				
Beneficiaries				
Village Visits	Men	Women	Boy	Girl
2	15	5	3	31

## Area cleared:

<b>Area Clearance (Hectares)</b>			<b>Land Released by Technical Survey (Hectares)</b>		
<b>Agriculture</b>	<b>Development</b>	<b>Total area</b>	<b>Agriculture</b>	<b>Development</b>	<b>Total area</b>
413	56	469			

<b>Non-Technical/general UXO Survey</b>		<b>UXO Roving Tasks</b>	
Number of Visits	Number of Villages	Number of Visits	Number of Villages
	91	2,062	

## CHA Survey:

<b>Technical Survey to establish Confirmed Hazardous Areas</b>		
Technical survey outside of the CHA (Ha)	Number of CHA established	Total area of CHA established (Ha)
181	6,518	413

## UXO found, removed and destroyed:

<b>UXO Removed/Destroyed</b>					
<b>Task</b>	<b>Bombs</b>	<b>Bombies</b>	<b>Mines</b>	<b>Other UXO</b>	<b>Total</b>
Roving	3	2,304	0	1,075	3,382
Clearance	8	3,166	1	405	3,580
Technical Survey	1	5,956	0	9	5,966
<b>Total</b>	<b>12</b>	<b>11,426</b>	<b>1</b>	<b>1,489</b>	<b>12,928</b>

## Geography of operations:

<b>Activity</b>	<b>Provinces/districts</b>
Survey	Phaxai-Khoun-Nonghet / Xiengkhouang
Area clearance	Phaxai-Khoun-Nonghet-Boualapha-mahaxay-Xaybouathong / Xiengkhouang - Khammouane
Roving Tasks	Phaxai-Khoun-Nonghet-Boualapha-mahaxay-Xaybouathong-Gnommalat / Xiengkhouang - Khammouane
Risk Education	Phaxai / Xiengkhouang



## Financials:

### Expenditure for 2017: (USD)

<i>Item</i>	<i>Amount</i>
Personnel costs	449,594
Operational costs	3,022,536
Equipment – expendable	517,920
Others	166,000
<b>Total</b>	<b>4,156,050</b>

### Donor contributions for 2017: (USD)

<i>Donor</i>	<i>Contribution received in 2017</i>
US Department of State, Office of Weapons Removal and Abatement (WRA)	3,026,000
Norwegian Ministry of Foreign Affairs (NMFA)	584,486
Altadis Foundation	74,814
Freeman Foundation	390,750
Terra Renaissance	80,000
<b>Total</b>	<b>4,156,050</b>

## Transfer of funds:

### Funds transferred to another UXO sector operator

<i>What organization were the funds transferred to?</i>	<i>How much was transferred? (USD)</i>
Norwegian People's Aid (NPA)	228,336
<b>Total</b>	<b>228,336</b>



## NORWEGIAN PEOPLE'S AID (NPA)

### Activities in 2017:

NPA conducted three key activities during 2017:

- Cluster munition remnants survey (CMRS) and clearance of high-priority confirmed hazardous areas in Attapeu, Saravane and Sekong provinces. This activity utilized the majority of NPA's resources and personnel during 2017. NPA utilized 24 CMRS teams, 1 battle area clearance (BAC) team and one quality management team in the southern provinces in 2017.
- CMRS in Khammouane province, as part of a joint project with the Mines Advisory Group (MAG). Four NPA CMRS teams worked to conduct non-technical survey (NTS) and technical survey (TS) to identify confirmed hazardous areas (CHAs), after which MAG teams conducted clearance.
- Support to UXO Lao in Luang Prabang by providing experienced monitoring and training staff, and salaries and equipment for UXO Lao staff (both field teams and support staff).

In addition to this, NPA was also heavily involved in coordination and cooperation activities within the UXO sector in Vientiane and liaised regularly with both the NRA and UXO Lao as well as other INGOs.

### Key achievements in 2017:

Key success for NPA during 2017 include:

- Visiting every village in Attapeu, Saravane and Sekong province to conduct CMRS
- Successfully implementing a partnership with UXO Lao in Luang Prabang, which was a new province for NPA operations in 2017
- Continued partnership project with MAG in Khammouane province.

### Focus areas of work in 2018:

In 2018, NPA will focus on implementing the national cluster munition remnants survey in Attapeu, Champasak, Saravane and Sekong provinces, and conducting high-priority clearance of CHAs in these areas. Champasak is a new province of operation for NPA, and they look forward to continuing to establish partnerships with village, district and provincial authorities and UXO

Lao in Champasak to ensure strong coordination and cooperation for the national survey project.

NPA also looks forward to continuing the partnership with UXO Lao in Luang Prabang province in 2018. They hope to work closely in partnership with UXO Lao to strengthen their ability to conduct survey and clearance in Luang Prabang province, and to begin to clarify the extent of contamination in priority villages while also supporting UXO Lao clearance activities in high-priority areas. NPA will also continue close cooperation with UXO Lao in Vientiane and in the southern provinces to ensure a coordinated approach to all survey and clearance activities.

In addition, NPA looks forward to continuing cooperation and coordination with other actors in the sector, particularly the NRA and UXO Lao, and working closely with all sector stakeholders to continue working towards a Lao PDR that is free from the impact of cluster munitions and other UXO.



*Oad, NPA project manager in Luang Prabang, speaks to UXO Lao team leaders on a UXO Lao survey task. This is part of the partnership project between NPA and UXO Lao in Luang Prabang.*



*NPA BAC team member sets up the boundary lines for clearance task in Saravane province.*

### The good news:

The area surrounding the village of Phokhem in Saravane province was a victim of heavy U.S. bombing during the Indochina War Vietnam War. As a result, the community had been living in constant danger from explosive remnants of war for over fifty years. There have been two major accidents involving cluster bombs in this village, which have killed five people. Three of those killed were young teenagers, who had been playing with a bomb without any knowledge of the danger it posed.

Community leader Khamphong Sorphaxay said the village plans to develop the area for tourism as there is a pristine waterfall close by. They see this as a great potential to develop village-based tourism projects in the area, which will significantly benefit the entire community. “We knew about the dangers in this area, and we have been hesitant in using the land for growing coffee, which is our main income, however, we look forward having this area cleared as we have big plans for the community to develop without having to face the danger of cluster munitions,” says Khamphong. NPA’s battle area clearance team removed over 100 cluster bombs from the site during a clearance task conducted in 2017.



*Khamphong Sorphaxay, Head of Phokhem village in Saravane province, standing on a site he hopes to develop into a community tourism project after an NPA team completed clearance in 2017.*

### Implementing Partners::

- UXO Lao in Luang Prabang, under the partnership project detailed above.
- MAG in Khammouane province, under the joint survey and clearance project detailed above.

### Personnel in 2017:

Office Support				Operations			
National		International		National		International	
Man	Woman	Man	Woman	Man	Woman	Man	Woman
24	9	2	2	166	48	2	0
<b>Total</b>		<b>253</b>					

### Detailed statistic figures in 2017:

#### Area cleared:

Area Clearance (Hectares)			Land Released by Technical Survey (Hectares)		
Agricultural	Development	Total	Agriculture	Development	Total
8.06	5.24	13.30			

#### CHA Survey:

Technical Survey to establish Confirmed Hazardous Areas		
Hectares of Technical Survey outside of CHA	Hectares of CHA Established	Hectares of CHA Cleared
239	5,396	13.30

## UXO found, removed and destroyed:

<i>UXO Removed/Destroyed</i>					
<i>Task</i>	<i>Bombs</i>	<i>Bombies</i>	<i>Mines</i>	<i>Other UXO</i>	<i>Total</i>
Roving	2	405	0	506	913
Clearance	5	1,330	0	15	1,350
Technical Survey	7	3,692	0	438	4,137
<b>Total</b>	<b>14</b>	<b>5,427</b>	<b>0</b>	<b>959</b>	<b>6,400</b>

## Geography of operations:

<i>Activity</i>	<i>Provinces/districts of Lao PDR where the activities were implemented</i>
UXO Survey	Attapeu, Khammouane, Saravane and Sekong
Area clearance	Attapeu, Saravane and Sekong
Roving Tasks	Attapeu, Khammouane, Saravane and Sekong

In addition, NPA conducted monitoring activities under a partnership agreement with UXO Lao in Luang Prabang province.

## Financials:

### Expenditure for 2017: (USD)

<i>Item</i>	<i>Amount</i>
Personnel costs	2,806,194
Operational costs:	
- UXO/Mine Risk Education cost	0
- Victim Assistance	0
- UXO survey and clearance	2,066,010
Equipment	279,106
<b>Total</b>	<b>5,151,310</b>

### Donor contributions for 2017 (USD)

<i>Donor</i>	<i>Contribution received in 2017</i>
US Department of State (USDOS)	2,371,205
Norwegian Ministry of Foreign Affairs (NMFA Frame)	712,420
Fag for budget	48,402
Norwegian Ministry of Foreign Affairs (NMFA Bilateral)	812,069
Mine Advisory Group (MAG) (under grant awarded by NMFA)	215,022
Department of International Development (DFID)	992,191
<b>Total</b>	<b>5,151,310</b>





## HALO TRUST (HALO)

### Activities in 2017:

In 2017, The HALO Trust received further funding from the US Department of State for the following activities to be implemented in the four eastern and most contaminated districts of Savannakhet Province: Sepon, Vilabouly, Phin and Nong Districts.

**Survey:** 14 multi-disciplinary survey teams conducted 22 NTS Entry Meetings and Technically Surveyed 3,618 hectares of land, establishing 1,868 hectares of CHA.

**Clearance:** 10 multi-disciplinary clearance teams completed 42 Battle Area Clearance (BAC) tasks resulting in the clearance of over 132 hectares, benefiting 4,069 people.

**Explosive Ordnance Disposal (EOD) Roving Tasks:** HALO survey and clearance teams, supported by Senior Operations Staff, responded to 382 EOD reports, destroying 1,956 items. HALO destroyed a total of 7,321 items in 2017.

**Risk Education (RE):** HALO's Community Outreach and Risk Education Team (CORE) supported by our RE-trained survey teams carried out 70 village visits with over 131 Risk Education sessions that benefitted 5,112 children and 2,229 adult community members.

**Monitoring and Evaluation / Impact Assessment:** HALO's CORE Team completed 98 Post-Clearance Assessments and conducted a clearance and survey impact assessment.

At the beginning of 2017 HALO employed 240 staff, however, by the end of 2017 the organization grew in size to 303 Lao personnel. A new Capacity Development Officer was recruited during this period, who is responsible for teaching Lao literacy, English literacy and basic computer skills.

### Key achievements in 2017:

During 2017, HALO continued operations in Savannakhet Province conducting survey, clearance and risk education. HALO's operations were supported by the US Department of State (PM/WRA) and with close coordination of their partners across all administrative levels and working in-line with the strategy of the Government of Lao PDR, HALO reached some major milestones.

In October, HALO completed clearance of its 100<sup>th</sup> task in Phonhai village, Sepon District. After several months



*HALO Survey Team conducts a demonstration of the survey process with members of the community.*

of clearance work, HALO handed over approximately 3 hectares of land which will be developed into a community temple in January 2018.

As mentioned, the HALO programme expanded to 303 staff this year and currently employs 240 operations staff and 63 administrative staff. All HALO teams have been cross-trained as of 2017, meaning that clearance personnel can conduct survey and vice-versa. Further training was conducted to improve the skills and promotion opportunities for staff, such as technician training for vegetation clearance operators and EOD training. This enables the programme to be more adaptive in responding to the needs of different communities.

During 2017, HALO expanded its operations to 22 new villages with multi-disciplinary teams conducting the NTS and follow-up TS required. During an Entry Meeting (NTS) in Aloumai Village, Phin District, after presenting risk education, a HALO survey team was alerted to an old scrap metal pile which had been collected by a member of the community many years ago and included pieces of UXO. With the support of HALO's senior operations management, the team investigated and were able to identify 278 items, many still with explosives inside to which they destroyed all hazardous items.

### Focus areas of work in 2018:

In 2018 HALO looks forward to continuing its survey, clearance and risk education activities in Savannakhet Province. The programme is proud to be supporting the national survey process and will soon begin to expand geographically across Savannakhet with the goal of identifying and mapping contamination, while eliminating the risk of UXO in the process.



*HALO Risk Education in Latup Phin*



*HALO Risk Education in Latup Phin*

With the forthcoming expansion of survey across the Province, HALO is committed to strengthening relationships with villages, districts and local leadership. HALO will focus on good communication and coordination to ensure the results and activities of the survey process are thoroughly understood by the communities who are then able to work with HALO and other operators to prioritise clearance and exercise safe behavior, thus, demonstrating awareness of the risks of UXO contamination. HALO will conduct post-survey impact assessments with village members, gathering data on their comprehension and satisfaction of the survey process which will also provide an opportunity to discuss clearance priorities and assess any further needs of the village such as new copies of maps of new EOD roving tasks.

HALO will establish better coordination with its partners across the province, hosting work-planning meetings and monitoring visits with UXO Lao and the 15 District Offices in Savannakhet, incorporating feedback into the annual plans. The information taken from HALO's partners in the sector will enable them to target their surveys and prioritize CHAs for clearance as per the national development strategy.

### **Some Good News:**

Ms Ting and her husband Mr Oiy own land in Sepon District. Back in 2015, we cleared 2 hectares of their family land which was being used to plant upland rice for personal consumption. Each year they would harvest only 8 bags of rice from the 2 hectares. Due to heavy UXO contamination and thick tree and vegetation coverage much of their land wasn't being used at all.

Following clearance by HALO in 2015, Ms Ting's family began planting cash crops like cassava (primary crop) and continuing with upland rice (secondary crop).

With the confidence that their land was cleared, they were able to use a tractor to flatten the ground for planting cassava. Right after HALO finished clearance,

they invested in 20,000 KIP in cassava trees which could be sold the following year - they earned 8 million kip (US 1,000\$).

Furthermore, they expanded the upland rice area behind the cassava plantation, and by 2016 they were cultivating 20 bags of rice annually instead of just 8 bags from previous years. Today, what they grow on their cleared land is their main family income and the rice they grow is enough for their personal consumption.

Not only has the cultivation on their cleared land become the main income source for Ms Ting's family, she also said, "[the] benefit of UXO clearance makes her family safe from danger of UXO and it's easier when they are digging on the ground". Additionally, their fear level when they are using the land has changed from very fearful to not fearful at all.



*Ms Ting with her 2 ha of cleared land*

**Partners:**

HALO coordinates with partner organizations in Savannakhet Province to ensure they are targeting clearance in areas with the highest UXO impact. For example, HALO is liaising with World Vision and CRS to prioritize clearance of development projects at schools. HALO also works with VA organizations like COPE and World Education to better advocate for and connect people with disabilities who they meet in their area of operation.

Additionally, HALO has worked closely with district authorities for the survey and clearance of district and village development projects. In 2017, HALO cleared land for the building of a new temple and a primary school and for many more development projects.

**Personnel in 2017:**

<i>Office Support</i>				<i>Operations</i>			
<i>National</i>		<i>International</i>		<i>National</i>		<i>International</i>	
Man	Woman	Man	Woman	Man	Woman	Man	Woman
23	20	0	2	145	115	3	1
<b>Total</b>		<b>309</b>					

**Detailed statistic figures in 2015:**

Mine Risk Education/Community Awareness Activities					
Village Visits	Beneficiaries				
	Men	Women	Boys	Girls	Total
70	1,433	796	2,720	2,392	7,341

**Area cleared:**

<i>Area Clearance (Hectares)</i>			<i>Land Released by Technical Survey (Hectares)</i>		
Agriculture	Development	Total area	Agriculture	Development	Total area
122.43	10	132.43			

**CHA Survey:**

Technical Survey to establish Confirmed Hazardous Areas		
Hectares of Technical Survey outside of CHA	Hectares of CHA Established	Hectares of CHA Cleared
3,618	1,867.56	132.43

<i>Non-Technical/general UXO Survey</i>		<i>UXO Roving Tasks</i>	
Number of Visits	Number of Villages	Number of Visits	Number of Villages
	22	382	

### UXO found, removed and destroyed:

<i>UXO Removed/Destroyed</i>					
<i>Task</i>	<i>Bombs</i>	<i>Bombies</i>	<i>Mines</i>	<i>Other UXO</i>	<i>Total</i>
Roving	4	1625	0	327	1,956
Clearance	0	1640	0	1,203	2,843
Technical Survey to establish the CHAs	2	1893	0	627	2,522
<b>Total</b>	<b>6</b>	<b>5,158</b>	<b>0</b>	<b>2,157</b>	<b>7,321</b>

### Geography of operations:

<i>Activity</i>	<i>Districts/Provinces</i>
Survey	Sepon and Vilabouly Districts, Savannakhet Province
Area clearance	Sepon and Vilabouly Districts, Savannakhet Province
Roving task	Sepon and Vilabouly Districts, Savannakhet Province
Risk Education	Sepon and Vilabouly Districts, Savannakhet Province

### Financials:

#### Expenditure for 2017: (USD)

<i>Item</i>	<i>Amount</i>
Personnel costs	2,040,000
Operational costs:	1,248,000
- UXO/Mine Risk Education cost	(included in Survey Teams)
- Victim Assistance	N/A
- UXO survey and clearance	1,248,000
Equipment	328,000
<b>Total</b>	<b>3,616,000</b>

#### Donor contributions for 2017 (USD)

<i>Donor</i>	<i>Contribution received in 2017</i>
Donor	Contribution received in 2017 (USD)
US Department of State (PM/WRA)	3,616,000
<b>Total</b>	<b>3,616,000</b>





## MILSEARCH LAO EOD SOLE COMPANY LTD

### Activities in 2017:

2015 2017 saw Milsearch complete its twenty-fourth year of continuous operation in Lao PDR. Milsearch Lao continued to support the mineral exploration and mining industry along with construction and the renewable energy sector (hydro and wind energy) in the Lao PDR.

Milsearch Lao also conducted projects for Exxon Mobil Exploration and Production Vietnam Ltd (EMPEVL) in Vietnam, for Vestas Wind Energy in Sri Lanka and for Framaco Philippines Inc. at the US Embassy in Manila.

In addition to our support of commercial ventures, Milsearch Lao began 2017 with a humanitarian project on behalf of CARE International in Laos and a US based INGO - We Help War Victims (WHWV). The project involved small area clearance for a number of remote villages in Sekong Province, Lao PDR. The Milsearch Lao team cleared 111 discrete areas totalling 421,734.20m<sup>2</sup> to varying depths. In total 1,376 anomalies were investigated including 67 geological anomalies, 354 items of Explosive Ordnance Waste (EOW), and 955 pieces of scrap metal. In total, 35 items of UXO were destroyed.

Perhaps the most rewarding achievement for Milsearch in 2017 was receiving a contract to support the US Defence POW/MIA Accounting Agencies (DPAA) Detachment Three, Lao PDR Mission to return missing service personnel to their families.

Our Milsearch Lao office also continued to support our Head Office in Canberra, Australia, providing support and manpower for several ongoing projects in South East Asia and the Pacific.

### Key achievements in 2017:

Milsearch in Laos has always been reliant on the extractive industry, mineral exploration and production as its main revenue source. In 2017 this mould was finally broken seeing Milsearch Lao diversify into the renewable energy sector, humanitarian projects, construction and the oil and gas industry.

Milsearch Lao was also awarded two subcontractor roles for the US Government, construction at the US Embassy in the Philippines and the DPAA in Laos.



Milsearch Medical Emergency and Control Point set up.

### Milsearch Lao revenue comparison 2016/2017:

Whilst overall revenue for 2017 was low, Milsearch's oil and gas contract in Vietnam and the DPAA mission in Laos started very late in the year and will continue in 2018 and beyond, providing strong revenue growth well into the future. Additionally, and perhaps most importantly, Milsearch's association with the renewable energy sector, which is strongly supported by the Government of Lao ensures further company growth over the next few years.

Milsearch Lao finished the year with 320 consecutive days without a time losing incident.

### Focus areas of work in 2018:

Milsearch Lao plans to continue to diversify its revenue base and is deeply committed to the Defense POW/MIA Accounting Agency (DPAA) Missing In Action (MIA) mission, the renewable energy sector and humanitarian endeavors throughout the Lao PDR and SE Asia.

Milsearch will commence 2018 with two humanitarian projects scheduled for January:

- CARE/WHWV – Sekong
- CRS – Savannakhet

The US DPAA support project will continue throughout 2018, as will the international projects with EMEPVL and Framaco Philippines which bring foreign revenue to Lao PDR.

Milsearch's association with the renewable energy sector will continue and expand throughout 2018.



Safety brief by Ian Mulroy to Milsearch and NTPC Personnel prior to demolitions.

In 2018 Milsearch plans to:

- Continue to diversify our revenue stream;
- Continue to improve product quality;
- Continue to support the National Regulatory Authority for the UXO and de-mining sector;
- Continue to explore new technologies;
- Continue to build the capability of their Lao national staff;
- Continue to improve the health, welfare and safety of their Lao national staff and of the communities they interact with.

### Personnel in 2017:

Office Support				Operations			
National		International		National		International	
Man	Woman	Man	Woman	Man	Woman	Man	Woman
3	5	2	1	77	5	3	0

### Detailed statistic figures in 2017:

Area cleared:

Clearance (Ha)		
Agriculture	Development	Total area
41.5	27.3	68.8

### Clients:

#### Milsearch Lao Clients (Lao Projects)

- Vestas Wind Systems
- Phu Bia Mining
- Nam Theun 2 Power Company
- Phonsubthavey Mining
- CARE / We Help War Victims
- Lao Global Engineering
- Impact Electrons Asia (IEA)
- DPAA/S2S

#### Milsearch Lao Clients (Regional Projects)

- ExxonMobil Exploration and Production Vietnam Limited
- Framaco Philippines Inc (Philippines)
- Vestas Wind Systems (Vietnam & Sri Lanka)

### UXO found, removed and destroyed:

<i>UXO Removed/Destroyed</i>					
<i>Task</i>	<i>Bombs</i>	<i>Bombies</i>	<i>Mines</i>	<i>Other UXO</i>	<i>Total</i>
Roving Task	0	40	0	1	<b>41</b>
Area Clearance	2	56	0	68	<b>126</b>
Technical Survey	0	0	0	0	<b>0</b>
Total	2	96	0	69	<b>167</b>

### Geography of operations:

<i>Activity</i>	<i>Provinces/districts</i>
Area clearance	<p><b>Lao PDR:</b>  Vangvieng District, Vientian Province; Dakcheung District, Xekong Province  Anuvong District, Saysomboun Region; Nonghad District, Xiengkhouang Province; Nakhai District, Khammouanne Province; Multiple Districts, Attapue and Xekong Provinces; Boulapha District, Khammouanne Province</p> <p><b>International:</b>  Chu Lai Open Economic Zone, Quảng Nam Province, Vietnam  Manner Island, Sri Lanka  Manila, Philippines</p>
Roving tasks	Roving/Xekong Province Nakhai District/Khammouanne Province Dakcheung District/Xekong Province

### Financials:

#### Expenditure for 2017: (USD)

<i>Item</i>	<i>Amount</i>
Personnel costs	309,300
Operational costs	56,090
Equipment – expendable	2,800
Equipment – non-expendable	8,056
<b>Total</b>	<b>376,246</b>

#### Donor contributions for 2017 (USD)

<i>Donor</i>	<i>Amount</i>
Donor Lao PDR Projects	Contribution received in 2017 (USD)
Phu Bia Mining	71,766.55
CARE	19,417.00

WHWV	30,000.00
Phonsubthavy Minerals	31,110.78
Vestas Wind Systems	5,409.22
NTPC1	4,547.90
IEA	1,254.00
Lao Global Engineering	1,159.40
S2S	155,686.27
Sub-Total	319,191.72
Donor International Projects	Contribution received in 2017 (USD)
Framaco Philippines Inc.	46,534.86
EMEPVL Vietnam	116,791.00
Vestas Wind Systems Sri Lanka	13,730.00
Sub-Total	177,055.86
<b>Total</b>	<b>496,247.58</b>





# ENGINEERING DEPARTMENT, MINISTRY OF NATIONAL DEFENSE ASSOCIATED WITH MMG LXML (MMG)

## LXML – MMG STRATEGY and VALUES

We deliver value through four strategic drivers and we are guided by our values.

GROWTH	OPERATIONS TRANSFORMATION	PEOPLE AND ORGANISATION	REPUTATION
We acquire and discover base metal assets that transform our business. We unlock the potential value of our project pipeline	We develop effective plans to deliver innovative growth opportunities and improve productivity	We provide a healthy, secure and safe workplace and a culture that values collaboration, accountability and respect.	We are valued for our commitment to progress, long-term partnerships and international management



**WE THINK SAFETY FIRST**

We stop and think then act to prevent injury



**WE RESPECT EACH OTHER**

We are honest, considerate and act with integrity



**WE WORK TOGETHER**

We engage diverse views to achieve better outcomes



**WE DO WHAT WE SAY**

We take responsibility and follow through on our commitments



**WE WANT TO BE BETTER**

We always look for opportunities to improve

## Sepon Mine in Brief

In At MMG LXML, we mine to build wealth through the development of our people; the investments we make in improving local capability; and the value we deliver to our shareholders.

MMG LXML UXO clears land from UXO that allow safe mining, exploration and infrastructure building Operations. Approximately 80% of the 124,195 Hectares Mineral Exploration and Production Agreement (MEPA) area was heavily bombed during the Indo-China war as part of the Ho Chi Minh Trail.

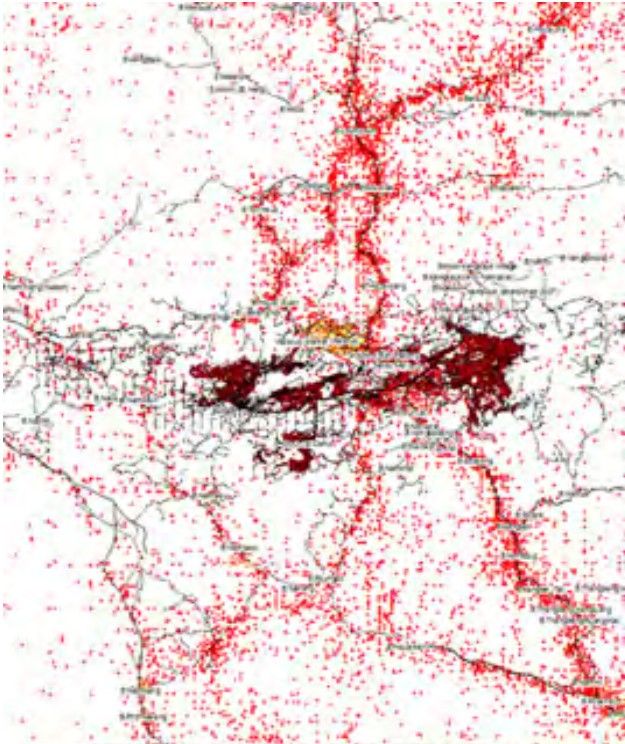
Since 1996, UXO clearance at Sepon has found and

destroyed more than 58,000 UXO's while more than 7,500 hectares of land have been cleared from UXO and released for safe mining Operations and to the community.

Sepon Mine has spent more than USD\$45M to clear UXO hazards from mining activities and community; however the danger of UXO continues to be a major threat to staff and local people.

MMG LXML UXO is a fully in-house MMG-LXML Department since 2009, and directly supporting the mining activities on site. In mid-2013, MMG-LXML signed a Memorandum of Understanding (MoU) with the Lao Ministry of Defence Engineering Department to operate in a joint effort in clearing UXO within the Sepon MEPA

area. MMG LXML is granted with a full NRA accreditation to conduct UXO Clearance operations within the MMG – LXML Sepon Mine agreed projects.



The map shows the main target was on Route 28A, and therefore a lot UXO were found when doing UXO clearance along the track and nearby area.

### Activities in 2017:

From January to December 2017, the joint effort between MMG-LXML and the Ministry of Defense Engineering Department released about 304 Hectares of safe land for MMG general development with some for the purpose of the land owners of garden and plantations near the airport and the explosives magazine.

An additional 245 Hectares of area was deep searched by the UXO clearance pit crews conducting successive flitch checks down to 14 meters below the original surface in support of safe mining operations. As with previous year's findings, large aircraft bombs were discovered

deep below the original surface. At Thengkhamb North Pit, a Mk 82 500lb was located at 12.5 meters below the original surface despite the USAF bombing records showing little activity over the Thengkhamb North area.

The main key UXO Clearance activity during 2017 was conducted to support:

- Operations for active mining pits, quarry and dam development,
- Projects for seepage control, road widening, drainage construction and culvert installation,
- Drilling programs, and
- Clearance of community gardens surrounding the MMG airport, the explosives magazine and the archeological site at the Dragon field.

The PSD UXO workforce was subject to a restructure in response to the reduction of planned UXO related activities at Sepon. The planned redundancies were completed in September 2017 with 50 positions removed. Full capability of UXO clearance related tasks is being maintained despite the reduction in the overall work scopes.

### Key achievements in 2017:

#### Safety Performance.:

The MMG LXML UXO team promoted "Safety is a Value" and conducted all its activities with no recordable injury for the 2017 year. A "recordable injury" at MMG LXML is any injury that would require a medical treatment by the MMG LXML clinic and this includes any minor injury as bruise, bee sting and minor cuts.

#### Deep Detection Equipment:

The UltraTEM detection to support mining pit operations continued successfully through 2017 and confirmed to be the most efficient means of clearing 2.5m benches while ensuring at least a 0.5m safety buffer area on the floor of the reduce level. In high detection noise areas, the cleared depth is reduced based on operational experience. A key success measure is the reliable detection of Mk 81 250lb aircraft bomb in any orientation to the target level. The UltraTEM is able to operate in all High Magnetic type of soils found in the Sepon mine area.

The UltraTEM data collected in the field is now confidently being sent from any clearance sites to the

Geophysicists at Sepon or off site for interpretation, and for External Quality Control. Clearance results are sent to Lao National UXO Geographic Information Systems (GIS) and back to the field operations with Handover Certificates or for the eventual deep contacts excavations. All clearance data are systematically stored in specific folder and can be used later for quality management purpose.

An alternate detecting methodology was trialed under comprehensive testing process and is discussed in the following pages of this report. When new technology offers potential for improvement, MMG LXML UXO will continue developing and trialing the safest and the most cost efficient practices to run its operations.

### Engagement for the Community - Citrus plantation project:

November 2017 saw the first harvesting at the citrus plantation in Ban Nahoy remote areas. This is a project supported by Vilabouly district authorities, MMG LXML and Ironbark Lao, a subsidiary of Australia based Ironbark Citrus. Several Hectares of land were cleared from UXO prior to be planted with several types of citrus in 2016. Despite being a commercial operator, MMG LXML continuously demonstrated its commitment to support the local community development in remote areas.

### Expansion of MMG UXO Quality Management – UXO Blind seeding:

Quality Management and permanent use of Free From Explosive (FFE) UXO blind seed planted in all land to be cleared was continued and reinforced throughout 2017. This is to ensure MMG LXML UXO is consistently achieving and delivering high quality clearance for the benefit and safety of mining operations. As per internal procedure, MMG LXML UXO Quality Management coordinator ensured planting at least one (1) 1/2 FFE BLU 26 shell blind seed for up to twelve detectors operating on a single UXO clearance site every day.

In mining, blind seed FFE Mk 81 250lb UXO's were also placed regularly throughout the year in different pits to maintain assurance of the quality of the data collected by the UXO teams in the field and the quality of the geophysicists interpretation.

With a single international EOD expert remaining in the MMG LXML UXO team at Sepon in 2016, the newly qualified SEOD national staff took a larger role to ensure compliance with NRA standards and maintain a safe

and professional approach to the work carried out.

### Some Good News and Case Studies:

#### UXO Awareness Day at MMG Sepon site:

On 21 December 2017 around fifty MMG LXML Sepon employees and contractors joined the UXO supervisors at the UXO detector test pit for a series of UXO Awareness activities. The potential risks of encountering UXO accidentally while conducting any routine maintenance, construction or mining operations exist at the Sepon Mine site was highlighted. The purpose of this activity was to provide refresher awareness training on UXO risks and hazards present around the MMG LXML working sites.

The awareness activities were prepared and organised by the MMG LXML UXO clearance supervisors and allowed UXO and non UXO EOD personnel to share experiences, to refocus on UXO marking system used by MMG LXML UXO Workforce



*UXO Awareness day*



*UXO Awareness day for Non EOD MMG Personnel*

and to ensure MMG LXML workers understand the tasks undertaken by MMG LXML UXO's teams.

#### MMG UXO Display at Vilabouly Boat Racing Festival

Wit The Vilabouly Boat Racing festival was held on



the Saturday 14 October at Phonsaad Dam. This popular event attracts lots of visitors (>200) from a number of surrounding villages impacted by the UXO problem. LXML Sepon had a stall at the community event with the MMG LXML UXO team setting up displays and information boards. The MMG LXML UXO staff and volunteers were on hand to explain the dangers of UXO's and how to respond when an UXO is found to the local community members .

### First Females Trained for Operating the Menzi Muck:

A number of female UXO members have commenced training on the Menzi Muck to provide additional skills and alternate career pathways. Additional proactive







Training of MMG Female UXO Clearance Operators to Menzi Muck Operators

steps have commenced to increase the rate of female participation away from administration based jobs.

### MMG LXML UXO Marking System and Equipment Testing Area:

The MMG LXML UXO marking system is covered in a MMG controlled document that can be assessed easily by all staff and contractors on the MMG global Intranet system. All visitor and personnel at MMG LXML Sepon receive an UXO awareness training that covers the standard UXO Marking system. The training is also part of the General Site induction.

A new UXO detector testing area was established late 2017. This area is used for the daily testing and calibrating of all the detecting equipment to be deployed in the field for that day. The area is also used to conduct training and refresher training on detecting equipment. A number of blind seeds and FFE UXO targets are buried within the test area and allows quality checking of the data logging and the

THE MMG UXO MARKING SYSTEM			
UXO UNCLEARED AREA		UXO SHALLOW SEARCHED TO 0.25 Metre	
 <p><b>YOU CAN</b></p> <ul style="list-style-type: none"> <li>Only UXO EOD personnel can walk in Red area and <b>only</b> during vegetation reduction and UXO Clearance task.</li> <li>Ask for UXO pathfinder when required to go outside UXO Cleared area.</li> </ul>	<p><b>YOU CANNOT !</b></p> <ul style="list-style-type: none"> <li>Walk over the area.</li> <li>Drive over the area.</li> <li>Dig and disturb the area.</li> <li>Drill in the area.</li> <li>Dump any material over the area.</li> <li>Fall tree over the area.</li> </ul>	 <p><b>YOU CAN</b></p> <ul style="list-style-type: none"> <li>Walk over the area.</li> <li>Drive LV and Truck over the area.</li> <li>Blast tree over the area.</li> </ul>	<p><b>YOU CANNOT !</b></p> <ul style="list-style-type: none"> <li>Dig and disturb the area.</li> <li>Use a grader over the area.</li> <li>Stockpile equipment and material.</li> <li>Drive heavy machinery, excavator, drilling bulldozer (except in mining pit).</li> <li>Light fire.</li> </ul>
UXO DEEP SEARCH AREA UP TO 1.25 Metre		UXO DEEP SEARCHED AREA UP TO 2.50 Metre	
 <p><b>YOU CAN</b></p> <ul style="list-style-type: none"> <li>Walk over the area.</li> <li>Drive all type of equipment.</li> <li>Dig and mine up to 1.25m depth or specified on Hand Over Certificate.</li> <li>Grade the area.</li> <li>Stockpile material, soil and ore.</li> <li>Dump over the area.</li> <li>Drill with non-aggressive specific bit.</li> </ul>	<p><b>YOU CANNOT !</b></p> <ul style="list-style-type: none"> <li>Drill with any technique that can penetrate metal casing (diamond bit, DTH)</li> <li>Conduct blasting (except when borehole check is completed)</li> </ul>	 <p><b>YOU CAN</b></p> <ul style="list-style-type: none"> <li>Walk over the area.</li> <li>Drive all type of equipment over the area.</li> <li>Dig and mine up to 2.5m depth.</li> <li>Grade the area.</li> <li>Stockpile material, soil and ore.</li> <li>Dump over the area.</li> <li>Conduct any type of drilling up to 2.5m.</li> </ul>	<p><b>YOU CANNOT !</b></p> <ul style="list-style-type: none"> <li>Conduct blasting (except when borehole check is completed)</li> </ul>

Panel displaying the Typical MMG UXO Marking system



New UXO Detector test area

analog equipment before the daily deployment in the field.

Next to the detector test area, the UXO marking panel is a great tool used by anyone to refresh their knowledge about the UXO marking system. The panels are available in both languages.

### Moving Loop UltraTEM Deep UXO Detection Trial:

The fixed loop UltraTEM system (UltraTEM FLEM) has proven effective across a wide range of geological conditions encountered at the MMG LXML Sepon copper-gold mine. Adverse geological conditions have been encountered where the fixed loop system was unable to confidently detect MK81 bombs to the required 2.8 m clearance depth. In these areas, the clearance depth is reduced to 1.55m. Two trials were conducted using a moving loop (UltraTEM MLEM) with 4m x 4m, 4m x 2m and 2m x 2m loops to test for efficiency in terms



of production speed and noise reduction from geological background. The MLEM systems appear to work across a fairly wide range of conditions but still the variability of background response across the site is high for the MLEM systems. Picture 9 shows the 4m x 4m loop under trial in a pit environment.



Trialing the Ultra TEM Small loop (MLEM)

The outcomes of the trial (MLEM) were similar to the current (FLEM) with no support to change in challenging geological conditions. However, the FLEM is still by far the best system in terms of all round performance and only suffers in conditions of very high conductivity. A recommendation was made to trial an increase in the voltage of the loop (4m x 4m and 4m x 2m) and hence signals strength which

### Localization - Local Capacity-Building Achievements in 2017:

MMG LXML has also continued to be active in furthering the progress of local employees. Other skills and knowledge enhanced through different training courses organized by MMG LXML are included in the table below.

Course	Location	Personnel
Laos Driving License	Sepon	3
Computer/Software	Sepon	8
MMG Safety Courses	Sepon	73
Supervisor Development Programme	Sepon	11
UltraTEM Training	Sepon	26
Menzi Muck Driver	Sepon	4
Using lightning detector	Sepon	26
First aid	Sepon	29
UXO Identification	Sepon	38
Fire wooden & Fire fighting	Sepon	15
Heavy Vehicle driving permit	Sepon	3
Brush cutter	Sepon	3

### Personnel in 2017:

Office Support				Operations			
National		International		National		International	
Man	Woman	Man	Woman	Man	Woman	Man	Woman
2	2	2	0	63	04	1	0
<b>Total</b>		<b>74</b>					

## Detailed statistic figures in 2017:

### Area cleared:

<i>Clearance (Ha)</i>		
Agriculture	Development	Total area
19	285	304

### UXO found, removed and destroyed:

<i>UXO Removed/Destroyed</i>					
<i>Task</i>	<i>Bombs</i>	<i>Bombies</i>	<i>Mines</i>	<i>Other UXO</i>	<i>Total</i>
Clearance	4	18	0	66	<b>88</b>

### Geography of operations:

<i>Activity</i>	<i>Provinces/districts</i>
Area clearance	Vilabouly District, Savannakhet Province

## Financials:

### Expenditure for 2017: (USD)

<i>Item</i>	<i>Amount</i>
Personnel costs	2,216,274
Operational costs	763,343
Equipment – expendable	266,947
Equipment – non-expendable	0
<b>Total</b>	<b>3,246,563</b>

### Donor contributions for 2017 (USD)

<i>Donor</i>	<i>Amount</i>
MMG self funded	
<b>Total</b>	<b>3,246,563</b>



## SPIRIT OF SOCCER (SOS) (MRE)

Spirit of Soccer (SOS) coaches visit primary and secondary schools in Xiengkhuang Province and conduct football clinics for school children that focus on basic football and games reflecting Mine Risk Education (MRE). During the clinic, coaches use an interactive, specialized curriculum with football analogies to teach children what bombs look like, what they should do if they encounter one in their community, and how to avoid UXO accidents with four core messages; “Keep Away”, “Don’t Touch”, “Report”, and “Communicate”. Some of the core materials include posters of UXOs, footballs with anti-UXO signs and school notebooks, which are given to each of the participants and contain pictures of famous football players holding anti-UXO signs and slogans, such as, “Don’t play with UXOs, Play football”. For project sustainability, SOS provides football coaching and MRE training to school teachers and also distributes footballs and MRE materials for the schools to continue teaching the children about the danger of UXO.

### Key achievements in 2017:

- 69 teachers from 7 districts of Xiengkhuang and Salavanh province participated in football/MRE coaching workshop.
- 200 teachers from primary schools and 82 teachers from secondary schools participated in the football/MRE clinic with Spirit of Soccer professional coaches which also gave the opportunity of learning by doing.
- Organized the 3rd Female Football / MRE Coaching Course for female coaches from 6 countries; Laos, Vietnam, Cambodia, Myanmar, Iraq and Hong Kong whose organizations are using football as tools to educate children about UXO, Health, Human Rights and Gender Equality. The total participants: 48 female coaches, 28 from Laos and 5 from each country.
- 8,500 students from secondary schools and primary schools in Xiengkhuang and Salavanh provinces attended the project activity.
- Organize Football D license / MRE coaching course for 28 local coaches in Salavanh province and 300 students participated in this workshop.

### Focus areas of work in 2018:

- 150 teachers from 7 districts in Xiengkhuang province and 150 teachers from 7 districts of Salavan province will participate in football/MRE coaching workshop.
- 300 teachers from 193 primary schools and 82 teachers from 93 secondary schools will participate in the football/MRE clinic with Spirit of Soccer professional coaches.
- Continue Salavanh project for 1 year for 100 school with 6,000 students attending the program.
- Organize Football tournament and MRE festival in both Xiengkhuang and Salavanh.
- 50 secondary schools and 200 primary schools attend the project activity reaching 13,000 students from secondary schools and primary schools in Xiengkhuang.
- 100 secondary schools and primary schools attend the project activity reaching 6,000 students from secondary schools and primary schools in Salavan province.

### The most pressing issues are:

- Transportation while rainy season.
- Timing of paper work such as renew MOU, agreement from central level.
- Coordination from central level to local authority.
- Planning and scheduling with local authority.
- Lower student participation on the activity while the school is closed.

### Partners:

- MoFA Lao
- Ministry of Education and Sport (Department of Physical and Arts Education)
- NRA/Ministry of Labor and Social Welfare
- Provincial Education and Sport

## Some Good News:

70,000 USD of additional funding from PMWRA was utilized to organize the 3rd Female Football / MRE Coaching Course for female coaches from 6 countries; Laos, Vietnam, Cambodia, Myanmar, Iraq and Hong Kong whose organizations are using football as tools to educate children about UXO, Health, Human Rights and Gender Equality. The total number of participants included 48 female coaches (28 from Laos and 5 from each country).

## Personnel in 2017:

<i>Office Support</i>				<i>Operations</i>			
National		International		National		International	
<i>Man</i>	<i>Woman</i>	<i>Man</i>	<i>Woman</i>	<i>Man</i>	<i>Woman</i>	<i>Man</i>	<i>Woman</i>
1	0	0	0	4	0	0	0

## Detailed statistic figures in 2017:

<i>MINE RISK EDUCATION Community Awareness</i>					
<i>Village Visits</i>	<i>Beneficiaries</i>				
	<i>Men</i>	<i>Women</i>	<i>Boys</i>	<i>Girls</i>	<i>Total</i>
105 schools	2,622	2,121	3,536	3,075	<b>11,354</b>

## Geography of operations:

<i>Activity</i>	<i>Districts/Provinces</i>
Risk Education	7 districts throughout Xiengkhuang and Salavanh province

## Financials: Expenditure for 2017: (USD)

<i>Item</i>	<i>Amount</i>
Personnel costs	23,000
Operational costs	
- UXO Mine Risk Education	117,000
- Victim Assistance	N/A
- UXO Survey and Clearance	N/A
Equipment	N/A
<b>Total</b>	<b>140,000</b>

## Donor contributions for 2017: (USD)

<i>Donor</i>	<i>Contribution received in 2017</i>
PMWRA	70,000
PMWRA to organize 3rd Female Football / MRE Coaching Course in Laos	70,000
<b>Total</b>	<b>140,000</b>





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