Antecedents, Accidents, and Impacts

A Mixed-Methods Study of Adult and Child Survivors of 2020-2024 UXO Accidents in Lao PDR

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Finally, we extend our sincere gratitude to all individuals, whether mentioned by name here or not, who contributed their time, expertise, and support to make this research endeavor and report possible.

Foreword

The Lao People's Democratic Republic remains deeply affected by the legacy of unexploded ordnance (UXO). For communities across our country, especially in rural and ethnically diverse areas, UXO contamination continues to threaten lives, hinder agricultural livelihoods, restrict development, and impose a heavy burden on survivors and their families. Although significant progress has been made in clearance, risk education, and victim assistance, this challenge continues to shape the daily realities of our people.

The report *Antecedents, Accidents, and Impacts: A Mixed-Methods Study of Adult and Child Survivors of 2020–2024 UXO Accidents in Lao PDR* provides critical insights into these ongoing challenges. Through direct engagement with survivors, including children and adolescents whose perspectives have historically been underrepresented, this study brings forward evidence-based understanding of how accidents occur, what circumstances place individuals at risk, and how survivors and their families cope in the years that follow. The findings highlight persistent issues, such as delays in access to medical care, limited rehabilitation services, psychosocial impacts, and long-term livelihood losses. They also show clearly that UXO accidents are not random events, but are deeply connected to socioeconomic vulnerability, rural livelihoods, and gaps in awareness and services.

This report contributes important knowledge to guide national efforts toward achieving Safe Path Forward III (2021–2030) and Sustainable Development Goal 18: *Lives Safe from UXO*. The study underscores the importance of strengthening coordination across government agencies, development partners, and local communities to ensure more responsive risk education, integrated victim assistance, and targeted livelihoods support. Particularly notable are the insights into children's experiences, emphasizing the need for stronger child-centered approaches in both EORE and long-term support.

On behalf of the National Regulatory Authority, I extend sincere appreciation to the United Nations Development Programme (UNDP), the United Nations Children's Fund (UNICEF), and JSI Research & Training Institute for their strong partnership and technical leadership throughout this study. We also express our heartfelt gratitude to the survivors and families who courageously shared their experiences, as well as to provincial and district authorities who supported the research process.

As the government body mandated to coordinate the UXO sector, the NRA is committed to using the findings and recommendations from this study to strengthen policies, improve service delivery, and advocate for increased resources ensuring that no survivors are left behind and that communities most at risk receive timely and effective support. This report is both a call to action and a roadmap for advancing our collective responsibility to safeguard lives, promote inclusive development, and bring Laos closer to a future free from the dangers of UXO.

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Acronyms & Abbreviations

EORE	Explosive Ordnance Risk Education
IRB	Institutional Review Board
JSI	JSI Research & Training Institute, Inc.
KOICA	Korean International Cooperation Agency
LAK	Laotian Kip (national currency)
LDPA	Lao Disabled People's Association
Lao PDR	Lao People's Democratic Republic (Laos)
MOFA	Ministry of Foreign Affairs
MoLSW	Ministry of Labor and Social Welfare
NCPD	National Committee for Persons with Disabilities
NGO	Non-governmental Organization
NRA	National Regulatory Authority for UXO/Mine Action Sector
PTSD	Post-traumatic stress disorder
QLA	Quality of Life Association
SDG	Sustainable Development Goal
SPF III	Safe Path Forward III
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
UXO	Unexploded Ordnance

Executive Summary

This report presents the findings of a mixed-methods study exploring the contributing factors, circumstances, and consequences of unexploded ordnance (UXO) accidents in Lao People's Democratic Republic (Laos). The study, commissioned by the National Regulatory Authority for the UXO/Mine Action Sector in Lao PDR (NRA) and funded by the United Nations Development Programme (UNDP) and the United Nations Children's Fund (UNICEF), aims to inform national and sectoral efforts to strengthen evidence-based Explosive Ordnance Risk Education (EORE) and victim assistance.

As the most heavily bombed country per capita globally, Laos continues to face a pervasive threat from an estimated 80 million unexploded ordnance, with contamination and accompanying accident risk disproportionately falling on poor, rural, and ethnic minority communities. UXO accidents can cause severe and sustained challenges for survivors and their families, including physical disability, psychological trauma, educational disruption, and income loss.

This exploratory, mixed-methods study aims to fill previous research gaps by directly engaging with 50 UXO survivors (32 adults and 18 children along with caregivers) from five high-incidence provinces, to better understand survivor perspectives on UXO accident circumstances and impacts.

The report is organized into major sections corresponding to each of eight research questions, with the findings, discussion, and recommendations grouped together by question. The eight guiding research questions, respective key findings, and related recommendations, are summarized below.

Research Question 1: What were the specific circumstances around the accident and what were the circumstances that lead to the accident?

Key Findings:

- **Socio-demographic vulnerability:** The majority of survivors were male (56% of adults, 78% of children) and belonged to ethnic minority groups, particularly Mon-Khmer (59% of adults) and Hmong-Mien (44% of children). Most survivors had only a primary education or less.
- **Accidents clustered in predictable locations, primarily fields** (44% for adults, 33% for children) **and homes** (31% for adults, 22% for children), linking exposure directly to livelihood and domestic activities.

Key Recommendations:

- **Integrate EORE with poverty alleviation:** Address the root cause of risk by linking awareness campaigns with ongoing clearance and survivor support, and by making UXO vulnerability a factor in non-UXO-specific poverty alleviation efforts.
- **Integrate EORE with clearance and assistance** to reduce risk and increase efficiency.

Research Question 2. What were the victims doing when the accident occurred, and who else was involved?

Key Findings:

- **Adult risk is livelihood-driven:** The majority of adult accidents were caused by setting fires (63%) or engaging in agricultural work (22%).
- **Child risk is due to direct interaction:** For children, 67% of accidents resulted from touching, kicking, or stepping on UXOs. Children were often engaged in play or mistook the UXOs for toys.
- **Accidents often involve multiple people and can cause multiple casualties:** Most survivors were with others at the time of the accident, usually family or friends.

Key Recommendations:

- **Refine EORE for specific activities:** Tailor EORE messages to specifically target high-risk, routine activities like setting fires and digging with tools, which caused the majority of adult accidents.

Research Question 3. What was the victims' knowledge of key risk education messages, and if they were not applied, why not?

Key Findings:

- **Most children and a third of adults did not know about UXOs prior to their accident**. A significant majority of adults (66%) reported prior UXO awareness, but only 28% of children knew anything or had heard of UXOs prior to their accident.
- **Language is a barrier:** The rate of prior EORE exposure increased significantly with **Lao fluency**.
- **Source and message gaps:** Adults primarily learned from village leaders (62%) and NGOs (57%), while children mainly learned from school/teachers (60%). Critically, adults mostly knew *not to touch* a UXO, but their accidents often happened due to fire or digging—activities where they didn't see or touch the ordnance directly, indicating a gap in the specificity of messages and applicability to real-life situations. Furthermore, nearly one in five adults said they had heard of UXOs did not know what they looked like.

Key Recommendations:

- **Target children more frequently:** Increase the frequency and depth of school-based EORE, especially in primary years, and seek to reinforce messages through multiple complementary channels (e.g., parents, community leaders).

- **Use visual and active learning:** Employ tangible models and visuals of UXO and utilize active learning scenarios (e.g., role-play, games) for children, as simple verbal instructions are easily forgotten.
- **Ensure linguistic relevance:** Deliver EORE in local languages and actively engage community members/translators in schools to bridge the language gap and ensure comprehension.
- **Ensure that EORE reaches at-risk men of working age:** The data indicate rates of prior knowledge of UXO were higher among women than men, even though men are more likely to be injured or killed by UXOs.

Research Question 4. What were the trauma and rehabilitation requirements of the victims following the accident, and to what degree were they met and how?

Key Findings:

- **Critical delays in care:** Significant delays were common, with many adults (29%) and children (53%) waiting 1–3 hours for initial medical care. Only one survivor reported receiving immediate care at the scene.
- **Low rehabilitation access:** Only 19% of adults and no children reported receiving rehabilitation services.
- **Unmet long-term needs:** Survivors faced lasting physical impairments (vision, hearing, memory, mobility) and lacked access to assistive products. Emotional impacts were long-lasting for some, with survivors reporting intense fear and anxiety (especially children in play areas, adults in fields).

Key Recommendations:

- **Reduce time to care:** Increase awareness messages to stress the importance of immediate medical attention for all UXO accidents. Explore options for equipping local first responders (e.g., simple kits, basic training, leveraging UXO operator medics).
- **Decentralize and integrate care:** Expand follow-up and rehabilitation services, including psychosocial support, from urban centers to districts using mobile clinics or traveling services to overcome geographic barriers.

Research Question 5. Have victims been able to receive a proof of disability from the Government? What disability supports are victims aware that they are entitled to?

Key Findings:

- **No reported disability-specific support:** No survivor reported receiving support related to official disability policies, or mentioned an expectation of benefits they were entitled to due to disability status.
- **Low government awareness of process:** Government officials themselves reported limited and unclear knowledge about the process for obtaining proof of disability, including the role of the Lao Disabled People's Association (LDPA).

Key Recommendations:

- **Increase awareness among local authorities:** Provide training to village, district, and provincial authorities on disability policies, certification processes, and available benefits, as they are key coordinators of survivor support.
- **Clarify roles and coordination:** Strengthen the roles and coordination mechanisms between the NRA, the Ministry of Labor and Social Welfare (MoLSW), and the LDPA to ensure survivors with new disabilities are connected to ongoing benefits.

Research Question 6. What were the longer-term impacts of the accident in terms of livelihoods for both survivors and family and were they engaged in any structured livelihood support programmes?

Key Findings:

- **Income loss and job changes:** Adults with physical limitations often had to transition from heavy labor to lighter, less lucrative work, leading to a decline in household income. Unemployment among adult survivors rose sharply from 6% to 31% after the accident.
- **Increased Debt:** Households faced growing financial precarity, with the proportion of adult households reporting debt rising **from 34% to 53% post-accident**, often accumulating larger debts.
- **Lack of livelihood programs:** Only one adult survivor reported receiving livelihood support, and no survivors reported receiving small business support.

Key Recommendations:

- **Targeted financial and debt relief:** Offer financial assistance or debt relief to households to address the increased post-accident debt and prevent long-term financial insecurity.
- **Tailored livelihood support:** Develop a "menu of options" for tailored livelihood, vocational training, and economic support—such as local apprenticeships or mobile training—to meet the diverse needs of survivors with varying physical capabilities.

Research Question 7. What are the strategies of the local authorities for providing for survivors of UXO?

Key Findings:

- **Village leaders as key connectors:** Survivors overwhelmingly cited village authorities as critical system coordinators who helped them with documentation, fundraising, and referrals to assistance.
- **Centralized decision-making:** Subnational government officials consistently reported that they defer to higher levels of government for decisions on support and provision, resulting in inconsistent and variable support that is highly dependent on external factors like NGO presence or government budgets.
- **Encouragement is key support:** Where financial resources were lacking, local officials provided important non-material support like encouragement and visits, which survivors highly valued for their emotional well-being and reintegration.

Key Recommendations:

- **Empower local coordination:** While recognizing the centralized structure, explore ways to empower local community actors, like village committees, to act as more effective and direct referral points to support networks for survivors.
- **Establish Integrated Approaches:** Implement policies, facilitated by the NRA, to ensure consistently integrated physical, psychological, and socio-economic support across government and NGO efforts to reduce fragmentation.

Research Question 8. What supports do UXO victims feel they need to receive to improve their livelihood?

Key Findings:

- **Desire for self-sufficiency:** Survivors consistently expressed a desire for support that would help them generate their own income and regain self-sufficiency. Requests included livelihood support, such as livestock, capital to start businesses, and vocational training.

- **Quality of life requests:** Other needs included specialized medical care (e.g., shrapnel removal), accessible vehicles, and UXO clearance around their homes.
- **Children's dreams:** Child survivors expressed hopes of continuing their studies and securing professional jobs underscoring the need for accessible education and long-term support.
- **Need for psychosocial support:** Government officials explicitly named the need for mental health and psychosocial support, a gap survivors expressed indirectly through reports of fear and anxiety.

Key Recommendations:

- **Support survivors to access vocational training, livelihoods development, and employment opportunities:** Survivors overwhelmingly desired ways to support themselves and their family through productive means rather than simply wishing for a handout. (See related recommendations under Question 6)
- **Case-management approach:** Consider establishing a systematic, case-management-style process for regular follow-up with survivors to document evolving needs and connect them to new, relevant support programs over time.
- **Educational continuity:** Provide educational support, such as scholarships or flexible schedules, to ensure children impacted by a UXO accident can remain in school and fulfill their future aspirations.

This study documents the experiences of survivors before, at the time of, and after UXO accidents. By keeping survivor voices at the center, the findings provide critical, evidence-based direction for national and sectoral stakeholders to strengthen prevention and ensure that assistance is inclusive, sustainable, and survivor-centered. The related recommendations aim to spur discussion and inspired refined approaches toward increased specificity, coordination, and long-term engagement in both EORE and victim assistance to empower survivors and at-risk communities.

Introduction

Lao People's Democratic Republic (Laos) is the most heavily bombed country per capita in the world. Between 1964 and 1973, during the Indochina Conflict, over 2 million tons of ordnance were dropped on Lao territory by the United States, including more than 270 cluster submunitions.[1] An estimated 30% of these failed to detonate, leaving nearly 80 million unexploded submunitions in Laos, particularly in the eastern provinces bordering Vietnam.[2] Since the end of the war, 50,000 people have been killed or injured by unexploded ordnance (UXO), and accidents continue to occur to this day.[3]

The Government of Lao PDR has been active in the process of clearance since shortly after the conflict with a significant acceleration of efforts in the mid-1990s. Lao PDR is a state party to the Convention on Cluster Munitions (CCM) and hosted the first Meeting of States Parties in 2010. It also embraced UXO contamination as a key development issue by establishing the Sustainable Development Goal 18 (SDG18), "Lives Safe from UXO". NRA data indicates that more than one million total UXO were found and destroyed through area clearance from 1997 through October 2025.[4]

However, despite these significant efforts in removal, the scale of UXO contamination means that detonation of UXO by civilian populations remains a persistent threat, particularly for poor, rural, and marginalized ethnic groups.[5] Survivors often face severe and long-lasting challenges, including physical disability, psychological trauma, loss of income, and educational disruption.

In this context, the Lao government has elevated UXO as a cross-cutting issue relevant to all other sectors in the 9th National Socio-Economic Development Plan for 2021-2025 (9th NSEDP). Giving the UXO sector its own output ("Output 6: UXO clearance progressively accelerated, and more lives made safe from UXO" under "Outcome 3: Enhanced well-being of the people" according to the 9th NSEDP endorsed by the Government of Lao PDR on March 2021) has elevated the UXO issue to a national level and increased awareness. The *National Strategic Plan for the UXO Sector in the Lao PDR "The Safe Path Forward III" period 2021-2030* (SPF III) aims to "Ensure safer lives and better livelihoods for target people through effectively addressing UXO as a barrier to national development by 2030" with four goals that address risk education, clearance, survivor support, and sector management and coordination.[6]

Risk education is a national effort and a variety of initiatives have cumulatively reached more than 4 million people since 2010, with a particular focus on reaching the most high-risk populations, including

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[1] National Regulatory Authority for UXO/Mine Action Sector in Lao PDR, 2023. UXO Sector Annual Report 2023. http://www.nra.gov.la/resources/AnnualReports/English/UXO%20Sector%20Annual%20Report%202023_ENG.pdf
[2] ibid.
[3] ibid.
[4] National Regulatory Authority for UXO/Mine Action Sector in Lao PDR, dashboard data through October 30, 2025.
[5] National Regulatory Authority for UXO/Mine Action Sector in Lao PDR, 2022. *2022 UXO Sector Annual Report (ENG)*. https://nra.gov.la/resources/AnnualReports/English/2022%20UXO%20SECTOR%20ANNUAL%20REPORT%20(ENG).pdf
[6] National Regulatory Authority (NRA). (2021). Safe Path Forward III: Lao PDR's National Strategic Plan for the UXO Sector 2021–2030. Vientiane. https://nra.gov.la/resources/Strategy/SPF%20III%20Eng%20version%20on%2019.1.2023.pdf

children and rural farmers.[7] Victim assistance policies and programs support medical treatment, physical rehabilitation, psychological support, and vocational training and economic support; in 2023, this support reached 3,262 people.[8] Yet, accidents continue to occur, and when they do, families and communities must bear the broader burden of care, lost productivity, and ongoing vulnerability.

To address this pressing issue, and in support of the Government of Lao's efforts to achieve its SDG 18 and SPF III goals, the NRA commissioned this study with UNDP and UNICEF funding to explore the causes and consequences of UXO accidents and assess the current state of support for survivors. By focusing on more recent incidents and directly engaging with both adult and child survivors, the research aims to identify gaps in risk education and survivor support. The findings are intended to inform national and sectoral efforts to strengthen inclusive, evidence-based explosive risk ordinance education (EORE) and victim assistance initiatives.

Context

A growing body of evidence sheds light on persistent gaps in support systems for victims of UXO accidents, particularly in medical care, rehabilitation, mental health services, and long-term livelihoods assistance. Access to services among survivors is sporadic and often influenced by geography and limited awareness.[9] While there is recognition of the challenges facing people living in contaminated areas and the barriers to supports for UXO survivors, fewer studies have captured the voices and perspectives of survivors themselves in a systematic way.

A study conducted in Xieng Khouang, Savannakhet, and Attapeu in 2018 emphasized the lack of mental health support and called for stronger coordination by the National Regulatory Authority (NRA) and entities such as the National Committee for Persons with Disabilities (NCPD).[10] Similarly, Indochina Research's assessment in Xieng Khouang and Khammouane elevated concerns around the fragmented delivery of services for survivor rehabilitation and livelihoods.[11] However, both studies focused exclusively on adults, most with an average age over 60, and did not include the voices or needs of children and youth under 18. This leaves a critical gap in understanding the full spectrum of survivor experiences, particularly as children have incurred nearly half of all injuries in UXO accidents from 2008 to October 2025[12] and may require distinct forms of care, education support, and psychosocial assistance.

UXO contamination increases poverty and reduces educational attainment for children, because families reliant on subsistence agriculture farm more slowly and less efficiently, leading children to

[7] Mathouchanh, P. (2025) 15-Year Journey: Lao PDR Story under the Convention on Cluster Munitions (2010-2025). National Regulatory Authority for UXO/Mine Action in Lao PDR (NRA) and United Nations Development Programme (UNDP) in Lao PDR. https://nra.gov.la/resources/WorkingGroup/15-Year%20Journey%20report.pdf
[8] National Regulatory Authority for UXO/Mine Action Sector in Lao PDR, 2023. *UXO Sector Annual Report 2023*.
[9] UNDP (2022). Project Document: Supporting Effectiveness and Efficiency in the UXO Sector contribute to the achievement of SDG 18 and Safe Path Forward III (SPF III). https://www.undp.org/sites/g/files/zskgke326/files/2022-10/UXO%20Project%20Document%202022-2026_countersigned.pdf
[10] Durham, J. (2018). Analysis of the unmet needs of UXO survivors living in Laos. Unpublished manuscript.
[11] Indochina Research commission by KOICA. (2021). Needs Assessment for Victims Assistance Activity of the Project to Support the UXO Sector in Lao PDR.
[12] National Regulatory Authority for UXO/Mine Action Sector in Lao PDR, dashboard data through October 30, 2025.

drop out to contribute labor.[13] Child UXO survivors living in remote areas are thus especially disadvantaged, because their remoteness often reflects poverty and less access to health facilities, physical therapy, or financial support, given that access to support is influenced by geography.[14] In addition, children with disabilities face high rates of discrimination.[15] Programs such as the United States Medical Fund for UXO (funded via the U.S. Department of State) and USAID Okard have documented how travel costs, lack of transportation, and absence of local services routinely prevent survivors from receiving timely care.[16] For adults, UXO injuries can result in loss of income due to an inability to farm or engage in manual labor. For children, accidents often mean missed school and long periods of recovery, further compounding their vulnerability. Despite these well-documented hardships, much of the available knowledge remains anecdotal, and there is limited comprehensive data to guide systemic improvements.

This study aimed to respond to these gaps and increase understanding of the behaviors and circumstances leading to UXO accidents and the ongoing needs of survivors and their families. The study engaged directly with survivors of UXO incidents that occurred within the past five years, with an emphasis on including both adult and child perspectives. By generating new evidence, the research seeks to strengthen national and local efforts to improve EORE and victim assistance, with a focus on long-term, sustainable, and survivor-centered approaches.

Problem Statement

Despite years of concerted efforts to clear UXO in Lao PDR, accidents continue to occur, especially in remote and underserved areas, leaving survivors with complex, long-term needs that are often unmet. Previous studies have identified gaps in support, particularly in mental health services, rehabilitation, and livelihoods assistance. However, these studies have been limited in scope and have largely excluded children and youth. Many survivors are unable to access physical therapy or return to work, and children may face prolonged school absences and psychosocial trauma. With no formal social safety net and limited government resources for UXO survivor assistance, there is a lack of comprehensive, up-to-date evidence informed by UXO survivor experience to guide effective response. This study seeks to fill that gap by directly documenting the experiences and needs of UXO survivors, providing critical insights to inform more inclusive, coordinated, and sustainable support systems.

Purpose of the report

The purpose of this report is to present findings from a study on the experiences and needs of UXO survivors in Laos, with the goal of helping government and sector stakeholders design interventions

[13] Guo, Shiqi. (2020). The legacy effect of unexploded bombs on educational attainment in Laos. Journal of Development Economics. 147. 102527. 10.1016/j.jdeveco.2020.102527.
[14] UNDP, 2022.
[15] Scherer, N., Chanthakoummane, K., Homsana, A., Carew, M., Siengsounthone, L., Kuper, H, Soukkhaphone, B., Banks, L. M. (2025). Prevalence, predictors and consequences of reported discrimination against children with disabilities in Lao PDR: a cross-sectional analysis in Xiengkhouang Province. Disability and Health Journal. 101963. 10.1016/j.dhjo.2025.101963.
[16] Unpublished project reports.

that can better target key factors of UXO accidents; design EORE programs that are informed by UXO victims' experiences; and coordinate, deliver, and sustain supports that align with survivor family needs and experiences. The report aims to provide evidence-based recommendations to help government and sector stakeholders inform policies and programs to prevent and respond to UXO accidents.

Research questions

The research questions were designed to explore critical gaps in understanding the causes, consequences, and support systems related to UXO accidents in Laos. They aim to generate evidence that can inform more effective risk reduction, survivor assistance, educational resources, and policy responses.

1. What were the specific circumstances around the accident, and what were the circumstances that led to the accident?
2. What were the victims doing when the accident occurred, and who else was involved?
3. What was the victims' knowledge of key risk education messages, and if they were not applied, why not?
4. What were the trauma and rehabilitation requirements of the victims following the accident, and to what degree were they met and how?
5. What services and support have survivors received?
6. How do local authorities support survivors of UXO?
7. What were the longer-term impacts of the accident in terms of livelihoods for both survivors and families and were they engaged in any livelihood support programs?
8. What supports do UXO victims feel they need to receive to improve their livelihood? e.g., economic support, educational support; agricultural support etc.

Limitations

A primary limitation in Laos is the cultural tendency to avoid critical feedback, especially on sensitive topics such as government support, disability, or trauma, which can affect qualitative responses. To mitigate this, interviews were conducted privately by trained Lao researchers familiar with local customs and supported by JSI staff known to some survivors. Trauma-informed, open-ended, and non-judgmental techniques encouraged openness.

Recall bias was addressed by including only survivors injured in accidents that occurred within the past five years, asking specific questions, and cross-checking with family when needed. Potential translator bias was mitigated by training interviewers to redirect dialogue to participants and verify translations across multiple languages.

Logistical challenges, including flooding, poor roads, and competing responsibilities, affected sampling and interview depth. For example, in Khammouane province, only five of the planned eleven participants were interviewed due to flooding, and while replacements were not possible there, additional interviews were conducted in Savannakhet. The sample was not intended to be proportional by province, and findings were not disaggregated provincially, minimizing the impact of these

deviations. Other adjustments included flexible scheduling, prioritizing key topics, and conducting follow-ups.

Data collection was also delayed six weeks due to administrative processes. As these delays extended the gap between training and implementation, potentially affecting consistency, refresher training was provided to data collectors to ensure quality despite the gap between training and implementation.

Approach

Study design

This study was designed with a mixed methods approach, leveraging the advantages of qualitative, quantitative, and integrated analysis to develop a comprehensive picture of UXO accidents and survivors' experiences.[17] Throughout the study, qualitative findings and quantitative findings are triangulated to strengthen the claims. In some cases, the qualitative data expands upon the story that the quantitative findings show. In other cases, the comparison of the qualitative and quantitative findings illuminate different aspects of findings.

When designing support systems for UXO survivors and exploring the development of preventative measures for UXO accidents, it is crucial to understand survivors' experiences. Qualitative interviews were conducted with adult and child survivors to achieve this purpose. Through a series of open-ended questions, we prompted the survivors to consider specific aspects of their experiences related to their UXO accident and in relation to the research questions. By asking open-ended questions, we are able to gather insight from survivors about their own experiences, allowing for unexpected knowledge to be acquired and providing opportunities for survivors to highlight the most salient steps in their journeys. Like quantitative research, qualitative research utilizes a systematic approach to the data collection and data analysis process, which are both described in the following sections.

Sample and setting

The study's primary population of interest is UXO survivors. This study covered five provinces and 10 districts in Laos. These areas have a high incidence of UXO accidents and represent a strong geographic sampling of the country, with Xiengkhouang in the north, Sekong, Salavan in the south, and Savannakhet and Khammouane in the central part of Laos.

Any UXO survivor who experienced an accident in the previous five years (2020-2024) was eligible for participation, this included both adults and children. For child UXO survivors, we prioritized speaking with those who were aged 11 and above as younger children often have more difficulty discussing a traumatic event and expressing their opinions. We excluded any child survivors from this sample who were not able or not interested in having a conversation with the interviewer, whether due to understanding, language differences, or disinterest in participating. A subset of the survivors interviewed for the quantitative survey were selected for the qualitative interviews.

The study included a total of 50 UXO survivor participants. This sample size represents 24% of all 212 UXO victims[18] (both injured and killed) in all of Laos and 30% of all survivors in the same five-year time period. As such, the study's sample represents a sizable portion of the population of interest,

[17] Creswell, J. W., & Plano Clark, V. L. (2018). Designing and Conducting Mixed Methods Research (3rd ed.). Thousand Oaks, CA: SAGE.
[18] NRA data.

especially given that many accidents involve multiple victims, meaning that the accidents experienced by study participants may represent more than 24% of UXO incidents.

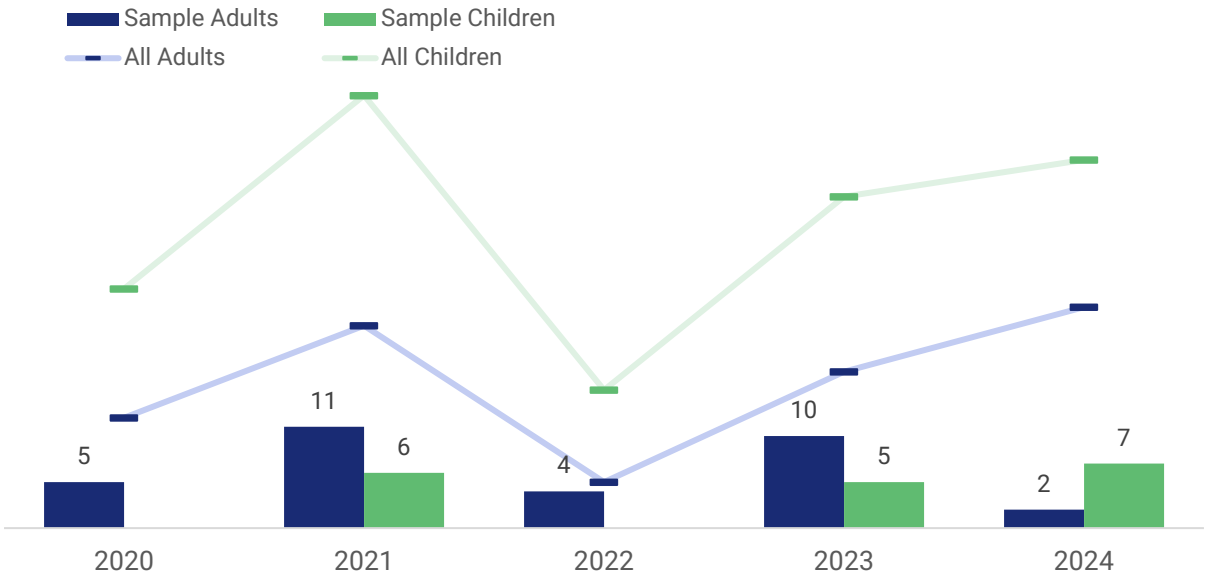
Table 1: Final sample size of UXO survivors by province

Province	Adult Survivors		Child Survivors		Total
	Quantitative	Qualitative	Quantitative	Qualitative	
Xiengkhuang	10	8	8	6	18
Khammouane	2	2	3	3	5
Savannakhet	13	9	5	1	18
Salavan	6	4	2	1	8
Sekong	1	1	0	0	1
Total	32	24	18	11	50

Figure 1 shows the portion of sampled adult and child UXO accidents across different years in the five-year period considered. Among both groups, there are ups and downs across the years. The lower number accidents in 2020 and 2022 among the sample group mirrors the trend for overall numbers of accidents and casualties in Laos, which also saw dips in these two years and higher numbers in 2021, 2023, and 2024. While there appeared to be an increasing trend in accidents and casualties in 2023 and 2024, data for 2025 as of the time of this report suggest another downward reversal with only 8 accidents and 9 injured survivors as of October 30, 2025.[19]

[19] NRA dashboard data.

Figure 1: Number of adult and child survivors sampled, compared to total number of injured survivors in Laos, by year of UXO accident



In addition, to offer a complementary perspective, a small number of interviews were conducted with subnational government stakeholders. A total of nine government officials were interviewed. They represented four of the study's five provinces, and included Provincial Department of Foreign Affairs and District Governor Office staff, as well as village leaders.

Table 2: Government official sample by province and role level

Province	**Number**
Khammouane	3
Salavan	1
Savannakhet	2
Xiengkhouang	3
Role Level	
Provincial	4
District	3
Village	2

Data collection tools

The study used three tools for data collection: two for survivors and one for local government officials. The full tools are included in Annex A.

The two survivor tools—the UXO Survivor Tool and the Caregiver and Child Tool—each of which included a quantitative component administered to all participants, and a qualitative component administered to a subset.

The UXO Survivor Tool's quantitative component collects data on demographics, household characteristics, accident specifics, post-accident care and support, mental health and well-being, daily life impact, and exposure to UXO education. Its qualitative component explores survivors' lived experiences, focusing on changes in routines, roles, relationships, community involvement, support systems, and coping strategies.

The Caregiver and Child Tool's quantitative component is administered to caregivers to capture accurate information about the child's background, accident, post-accident care, household impacts, and daily life. The qualitative component engages children directly through a trauma-informed and child-friendly storytelling method, encouraging reflection on personal experiences, schooling, medical care, UXO education, emotional expressions, and support needs. Caregivers were engaged with this tool to ensure accurate, comprehensive information due to the child's possible age at the time of the accident and to minimize their cognitive and emotional burden.

The tool for local government stakeholders included primarily open-ended questions to gather information on community leaders' perspectives on support for UXO survivors, unmet needs, and strategies they employ to support victims in their communities.

The tools were developed in English, translated into Lao, pilot-tested, and reviewed to ensure accurate language and meaning. NRA stakeholders reviewed the tools for appropriateness, and the tools were approved by MoFA. Translators fluent in local minority languages were available during data collection to support participant understanding.

Data collection

A team of four experienced Lao interviewers from JSI, all with UXO sector or related survey experiences, conducted the data collection. Data collectors received training in quantitative and qualitative methods, ethical procedures, trauma-informed interviewing, child engagement, and use of the two tools. Before fieldwork, the team piloted the tools in Nasou Village, Kasi district, Vientiane province, and revised them for clarity. Data collection occurred in two trips: Xiengkhuang province (late May - early June 2025) and Salavan, Savannahkhet, Khammouane, and Sekong (late July - early August 2025).

Following initial analysis, a small number of additional interviews were conducted with local leaders and selected survivors to help clarify emerging findings and contextualize areas where data were limited. These interviews were not part of the original sampling plan but were added to enhance the

interpretation of results and address specific gaps identified during synthesis. While not formally included in the quantitative analysis, insights from these follow-ups helped inform the discussion of findings.

Data analysis

For the quantitative analysis, data was first thoroughly cleaned, recoded for analysis, and then analyzed in Stata. The study focused primarily on descriptive statistics to provide a picture of participant background, accident circumstances, and survivor experiences. This is due to both the nature of the study design and the size of the sample.

While the study aims to explore pathways between background characteristics, UXO accidents, and survivor experiences of impacts and supports, the research was not designed as an experimental or longitudinal study, which would be needed to isolate causal effects of different factors and control for potential confounders.

Furthermore, the study's small sample size of 50 participants (32 adults and 18 children), the large number of variables explored, and the diverse nature of survivor experiences, do not support the use of inferential statistical methods for analysis.

As such, while we discuss relationships and potential mechanisms based on participant experiences and patterns observed in the data, these should be interpreted as indicative rather than causal. The findings are best understood as exploratory and descriptive, offering insight into survivor experiences and the broader context of disability and support. Future research using larger samples and longitudinal designs would be necessary to rigorously assess causal relationships.

The qualitative analysis followed a thematic analysis approach, including multiple rounds of coding across all survivors' open-ended responses for the purpose of determining relevant themes and patterns in response to the research questions. After translation of the open-ended responses, the analyst coded each response by phrase or line, searching for salient concepts, processes, and descriptions. All initial codes were then reviewed and combined into a focused coding process. The focused coding process was based upon patterns and processes that came from the set of initial codes. Finally, the focused coding was used to determine categories and themes that are presented throughout the report.

To bring to life the richness of the survivor interviews while protecting participants' identities, we refer throughout the report to five named characters—"personas"—who are fictional, composite representations of our survivor sample. The characteristics, experiences, and emotions of each represent key subgroups, trends, and insights from the qualitative findings. A persona "represents a collective identity, the extent to which that is possible, creating a vivid portrayal of an exemplar individual with defined characteristics" (Vanek et al., in press, p. 4). Through the use of personas, we aim to emphasize the importance of understanding UXO survivors' experiences and considering their experiences in forming suggestions for designing further supports. We recognize that there are limitations to this approach; each survivor's experience is unique and not every aspect of each

survivor's experience will be represented. Despite these shortcomings, personas allow us to highlight shared experiences among UXO survivors.

Five personas are included in the report: Bounmi, Keo, Khamdee, Sengchanh, and Somchai. Bounmi is a child survivor. He is 12 years old and participated in the interview approximately one year after the accident. He lives in Xiengkhouang and is of Hmong-Mien ethnicity. He goes to primary school in Lao and speaks primarily Hmong at home. Keo is also a child survivor who lives in Savannakhet. He is 14 years old and suffered a major injury from his accident just one year ago. Khamdee is 37 years old and suffered major injuries from his accident about 4 years ago. He lives in the Xiengkhouang province and is a fluent Lao speaker. Khamdee completed primary school and is married with teenage and adult children. Sengchanh is 23 years old and her accident occurred about two years prior to the interview. She lives in Savannakhet and is of Mon-Khmer ethnicity. She completed primary school and is married with two young children. Finally, Somchai is 27 years old and suffered shrapnel injury in his accident, which occurred about two years prior to the interview. He lives in Salavan with his family, including his children who are in primary school. The demographic characteristics of these five personas represent common trends among the survivors included in this sample. Throughout each section of the report, we will refer to Bounmi, Keo, Khamdee, Sengchanh, and Somchai to share survivors' stories.

This report integrates findings from the qualitative and quantitative instruments.

Ethical considerations

Ethical approval was obtained from JSI's Institutional Review Board (IRB) (approval #24-65), as well as the NRA and Ministry of Foreign Affairs (MOFA), with support letters from all five provinces where data collection occurred. Provincial Department of Foreign Affairs and District Governor Office representatives also joined the data collection team. Given the sensitive nature of UXO-related injuries, disability, and loss of livelihood, written and verbal informed consent was obtained from all participants, with assent and parental consent for minors. Interviews were conducted privately, and local interviewers were trained to manage trauma disclosures and emotional distress. The study adhered to the principles outlined in the Declaration of Helsinki, ensuring respect, confidentiality, and participant safety.

Research Question 1:

What were the specific circumstances around the accident and what were the circumstances that led to the accident?

1. What were the specific circumstances around the accident and what were the circumstances that led to the accident?

In response to this first research question, this section seeks to establish the context of UXO accidents by exploring the underlying sociodemographic circumstances and the villages locations where the incidents occurred. This section presents key findings on the survivors' profiles—including their age, gender, ethnicity, and living conditions—to illustrate how entrenched factors like poverty and rural isolation shape vulnerability. It then details the location and type of daily activities, such as farming and foraging, during which the accidents occurred. These insights are essential for developing targeted and effective UXO risk education and prevention strategies. This research question and findings are closely related to the second research question as victims' activities and companions may also be considered circumstances. Please refer to Section *2. What were the victims doing when the accident occurred and who else was involved?* (page 34) for additional information.

Question 1 Findings:

Sociodemographic circumstances and living conditions of survivors

Understanding UXO survivors' sociodemographic characteristics and living conditions is key to designing effective and equitable support. Age, gender, ethnicity, language, and location influence vulnerability, access to care, and recovery, intersecting with broader factors like poverty, rural isolation, and limited education. Analyzing these factors helps policymakers and service providers identify gaps, tailor interventions, and prioritize those at greatest risk, improving victim assistance and supporting inclusive post-conflict recovery. This section begins by outlining survivors' demographic profiles and household characteristics to ground later discussions in their lived realities. For related supplemental tables, please refer to Annex B.

Among survivors, adults averaged 37 years of age, while children averaged 12 years (at time of data collection, *not* at time of accident). Adult and child survivors were mostly male at 56% and 78%, respectively.

Ethnic composition varied, with Mon-Khmer predominating among adults at 59% and Hmong-Mien at 44% among children, while the majority of both groups identified as animist. These findings highlight the need for culturally sensitive, locally tailored interventions that address both physical injuries and the broader social context of survivors. The sample was very linguistically diverse with the 32 adults in the sample naming a total of 11 different mother tongues, most commonly Lao (22%), Hmong (19%), and Makong (16%). The child sample was slightly less linguistically diverse, with the 18 children

speaking five different languages, with Hmong (44%) and Lao (28%) predominating. Lao fluency was higher among adults (56% fluent) than children (39% fluent).

Table 3: Ethnicity and religion among survivor sample

	Adult Survivors (n=32)		Child Survivors (n=18)	
Ethnic Group				
Lao-Tai	21.9	7	27.8	5
Mon-Khmer	59.4	19	27.8	5
Hmong-Mien	18.8	6	44.4	8
Religion				
Animism	71.9	23	72.2	13
Buddhism	21.9	7	27.8	5
Christianity	6.2	2	-	-

Table 4: Primary language and Lao language fluency levels

	Adult Survivors (n=32)		Child Survivors (n=18)	
Primary Language				
Brou	9.4	3	11.1	2
Griang	3.1	1	-	-
Guan	3.1	1	-	-
Hmong	18.7	6	44.4	8
Khmou	6.3	2	-	-
Lao	21.9	7	27.8	5
Makong	15.6	5	11.1	2
Pacoh	12.5	4	-	-
Phouthay	3.1	1	-	-
Ta-oy	3.1	1	5.6	1
Tri	3.1	1	-	-
Lao Fluency				
None/a little	12.5	4	33.3	6
Some	31.3	10	27.8	5
A lot/fluent	56.2	18	38.9	7

A majority of survivors—both adults and children—had only primary education or less. Among adult survivors, 28% had no formal education, 38% had some or completed primary education, 16% had junior or senior secondary, and 3% had higher education. At the time of data collection, children were mostly in primary education (67%) or junior secondary (28%), and none had reached senior secondary or higher. One child (6%) had no education. (See Annex B, Table B.2. Education and language characteristics of adult and child UXO survivors, page 173.)

Among adult UXO survivors, 75% were married. Most lived with a spouse (72%) and many with children (59% daughters, 53% sons), while few lived alone (3%). Children primarily lived with their parents (father 78%, mother 83%) and often with siblings (brother 44%, sister 39%). Most adults (59%) and children (78%) lived in their birth village, with adults moving mainly for marriage (46%) or family/economic reasons. Over half of adults (54%) and most children (78%) had lived in their current village for more than 10 years. (See Annex B, Table B.3. Household characteristics of adult and child UXO survivors, page 174.)

Almost all adult (94%) and child (89%) households have electricity, though only 56% of each have internet access. Most households have water at home (adults 91%, children 78%), predominantly from protected sources (adults 83%, children 79%), and most have latrines, though 19% of adult and 6% of child households still use open fields. Accessibility during the rainy season is limited for 19% of households with adult survivors and 11% of households with child survivors. Only 16% reported having equipment or tools for breaking down scrap metal at home.[20] (See Annex B, Table B.4. Housing characteristics of adult and child UXO survivors, page 175.)

One survivor and their spouse's description of the inevitability of UXO accidents highlights how geographic location, sociodemographic factors, and poverty underpin risk.

> We no longer feel afraid of unexploded bombs. It has become a normal thing that happens in the village in the province where we live. We have become familiar with the events. As for our own family, we have no choice but to find a place to live, a place to earn a living. We need to farm and garden. If we don't, we won't have anything to eat. Therefore, our own family is at risk of another incident in the future.

Location at the time of accident and leading up to the accident

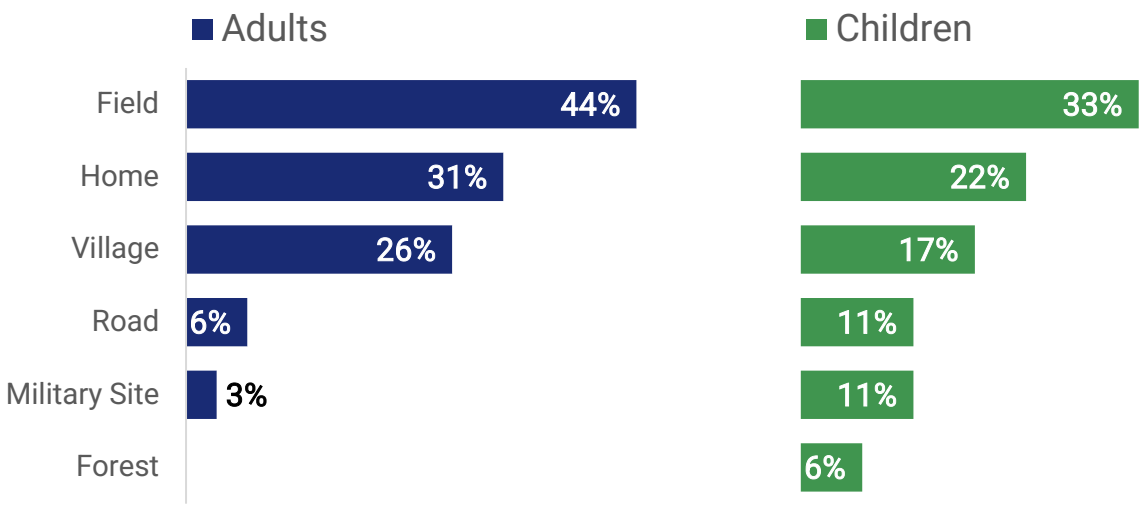
Adult survivors often described their activities prior to the explosion as aspects of their daily tasks, ranging from digging a ditch, working in a field (e.g., mowing, burning land), foraging, or sitting at a fire for warmth or for cooking. For example, Khamdee reported that he was working in the field when the accident occurred: "*on the day of the incident, I was lighting a bonfire in a cassava field not far from my house. After lighting the first bonfire, as I was about to light a new one, the bomb exploded.*"

[20] The presence of scrap metal equipment at home suggests that someone in the household may engage in or have previously engaged in searching for scrap metal to sell, and in these geographic areas scrap metal most frequently comes from UXO. The approved questionnaire (see Annex A) used the phrasing "Do you have equipment or tools for breaking down scrap metal in your house?"

Like adult survivors, child survivors also described their activities leading up to the explosion as including daily tasks such as foraging or feeding animals. For example, Bounmi says, “I was walking to look for my cattle with my friends in the village.” Similarly, another child recounted the activity leading up to the accident as “That day, I went to feed buffaloes in the field.”

Fields were the most common accident site for both adults (44%) and children (33%), reflecting exposure during agricultural or outdoor activities. Homes were the second most frequent location, especially for adults (31%) and children (22%), underscoring risks in residential areas. Village areas showed similar patterns across groups, while children were more often involved in accidents on roads (11%) and military grounds (11%), suggesting broader exposure due to mobility or play.

Figure 2: UXO accidents occurred mostly in fields, at home, or in the village.



(Further details on accident circumstances, including precise activities and UXO triggers, are included under the following section on Research question 2*: What were the victims doing when the accident occurred and who else was involved?* These two research questions are closely related and can be considered together.)

Question 1 Discussion

The findings from this study underscore the multifaceted nature of UXO accidents in Laos, shaped by age, occupation, geography, ethnicity, education and the degree of exposure to risk education. Far from being random, UXO incidents reflect predictable patterns rooted in daily routines, cultural practices, and historical contamination. Understanding these dynamics is crucial for designing prevention and response strategies that are both effective and inclusive.

Geographically, accidents cluster in persistent provincial hotspots where historical contamination overlaps with ongoing land use, which may often be aligned with ethnic and linguistic differences that

shape vulnerability. This reflects the cultural and social dimensions of risk alongside the environmental ones. Ethnic minority groups such as Mon-Khmer and Hmong-Mien are overrepresented among survivors, reflecting both historical contamination of their homelands and persistent barriers to services.

In assessing UXO risk and recovery, it is important to consider how housing and living conditions shape vulnerability. Survivors' access to infrastructure and services not only influences immediate safety but also determines long-term health, education, and economic resilience.

While electricity access is nearly universal, disparities persist in clean water, sanitation, and digital connectivity. Internet access is particularly limited, reinforcing a digital divide that constrains survivors' opportunities for education, employment, and healthcare. For children, restricted digital access threatens educational continuity and heightens dropout risk, as evidenced in regional studies linking digital exclusion to school attrition.[21] [22]

Water and sanitation access present further challenges. Although most survivors' households have some form of water supply, a notable share, especially child survivors, rely on unprotected sources, exposing them to waterborne disease and compounding health vulnerabilities.[23] [24] Sanitation practices are mixed: while pit latrines are common, some households still practice open defecation, with poor sanitation closely linked[25] with increased incidence of diarrheal diseases, particularly among children. Moreover, inadequate sanitation facilities can disproportionately affect women and girls,[26] reducing their sense of safety and dignity.

Housing resilience also affects exposure and recovery. While most homes withstand seasonal rains, a minority remain vulnerable to flooding and mobility disruptions, exacerbating the risks of displacement, reduced productivity, and barriers to emergency care in the context of intensifying climate change.

Livelihood-related factors intersect with these risks. The presence of tools for dismantling scrap metal in the homes of some survivors suggests engagement by someone in the household at some point in informal income-generation, yet this activity carries heightened danger in contaminated environments where UXO contact is likely. (As discussed further in the next section, one child was dismantling a UXO at the time of the study, and two survivors—one adult and one child—in the study sample were injured when others nearby detonated UXO while looking for scrap metal.)

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[21] Van Deursen, A. J., & Van Dijk, J. A. (2019). The first-level digital divide shifts from inequalities in physical access to inequalities in material access. New media & society, 21(2), 354-375. https://journals.sagepub.com/doi/full/10.1177/1461444818797082

[22] Hasamoh, A., Srivirat, S., & Wichaidit, W. (2025). Digital Divide In Online Education During The Covid-19 Pandemic And Educational Outcomes: Findings From A Community-Based Survey In Thailand's Impoverished Deep South. Asian Crime and Society Review, 12(1), 5-5. https://so02.tci-thaijo.org/index.php/IJCLSI/article/view/274842/184024

[23] Hunter, P. R., MacDonald, A. M., & Carter, R. C. (2010). Water supply and health. PLoS medicine, 7(11), e1000361. https://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.1000361

[24] World Health Organization. (2018). Guidelines on sanitation and health. In Guidelines on sanitation and health (pp. 220-220). https://www.who.int/publications/i/item/978924151470

[25] Bartram, J., & Cairncross, S. (2010). Hygiene, sanitation, and water: forgotten foundations of health. PLoS medicine, 7(11), e1000367. https://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.1000367

[26] Sommer, M., Caruso, B. A., Sahin, M., Calderon, T., Cavill, S., Mahon, T., & Phillips-Howard, P. A. (2016). A time for global action: addressing girls' menstrual hygiene management needs in schools. PLoS medicine, 13(2), e1001962. https://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.1001962

The fact that the majority of accidents happened while survivors were in the field, at home, or in the village, highlights that normal, everyday life in contaminated areas can be risky and further underscores the intersection between geography, poverty, livelihoods, and risk. The next section contains further related findings and discussion about the prevalence of routine daily tasks as the circumstances for UXO accidents.

Question 1 Recommendations

- **Consider sociodemographic patterns of disadvantage and poverty for UXO accident prevention, risk reduction, and response; and consider UXO vulnerability in non-UXO-specific poverty alleviation and development efforts.** Poverty and sociodemographic circumstances shape UXO risk, and that fact should influence targeting of both UXO sector interventions (clearance, EORE, etc.) as well as interventions from other sectors, where UXO risk could be considered a factor for beneficiary targeting. For example, improving livelihoods and reducing financial precarity could reduce the need for people to farm or forage for food in high-risk areas.

- **Integrate EORE with clearance and assistance.** The UXO sector should consider ways to link awareness campaigns with ongoing clearance activities and survivor support services to reinforce credibility, reduce risk, and strengthen community trust in UXO risk reduction efforts. Such linkages could also increase efficient use of resources.

Research Question 2:

What were the victims doing when the accident occurred and who else was involved?

2. What were the victims doing when the accident occurred and who else was involved?

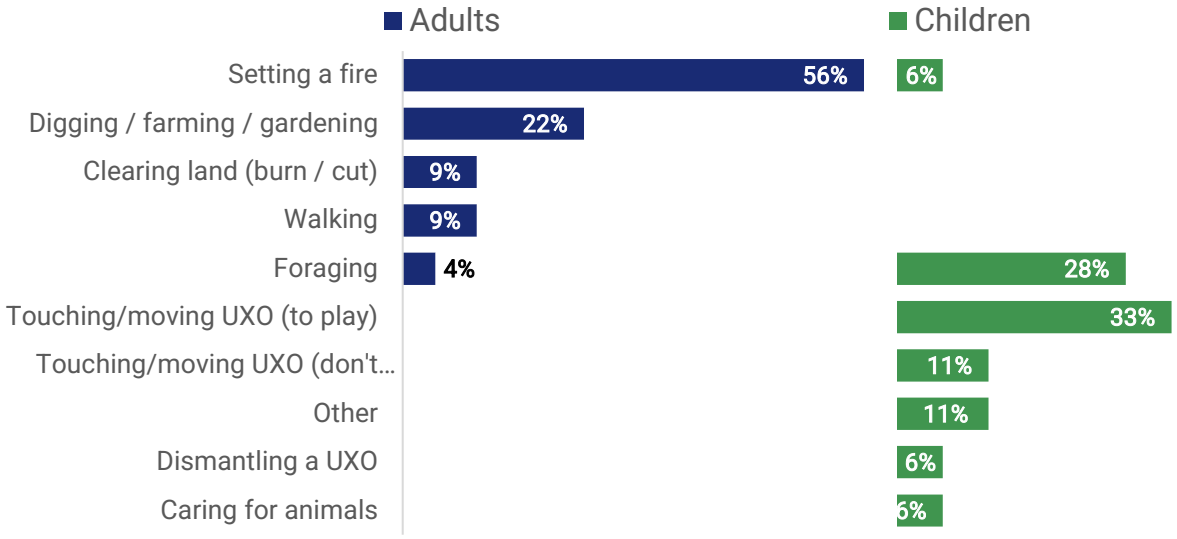
The section explores the activities survivors were engaged in at the time of the accident, the precise triggers for explosion, and survivor's companions at the time. Findings reveal differences in activities at time of accident between age groups, showing that adults are primarily at risk during livelihood activities such as setting fires and agricultural work, while children are most often injured through direct, high-risk interactions like touching, kicking, or playing with the ordnance. Furthermore, this section highlights the social dimension of the accidents, demonstrating that explosions frequently occur when victims are with family or friends and often result in multiple casualties, underscoring the collective trauma and burden these incidents impose on communities.

Question 2 Findings

Activities and triggers differ between adults and children

Figure 3, below, highlights key differences in activities leading up to UXO accidents. For adults, over half (56%) of incidents occurred while setting a fire, making it the most common high-risk activity. Among children, the most common activity was touching or moving a UXO to play (33%), followed by was foraging (28%), with other cases linked to dismantling UXOs, caring for animals, or unspecified actions. These patterns suggest adults are most at risk during fire-related tasks, while children face danger during unsupervised outdoor activities.

Figure 3: Activity survivor was engaged in at the time of UXO explosion



Most UXO accidents occurred while victims were on foot—84% of adults and all children—highlighting the risks during routine movement or play. A smaller share of adults (16%) were sitting, often near a fire or making tools. No cases involved vehicles, underscoring the danger of UXOs in areas where people walk or gather.

Table 5: Survivor movements at the time of UXO detonation

	Adult Survivors (n=32)		Child Survivors (n=18)	
	%	n	%	n
Movement				
On motorbike	0	0	0	0
In car or truck	0	0	0	0
On a tractor	0	0	0	0
On foot	84.4	27	100	18
Sitting	15.6	5	0	0

There are key differences in UXO activation triggers between adults and children. Among adults, most accidents were caused by setting fires (63%) or engaging in agricultural work (22%), while only 9% involved direct contact. In contrast, 67% of child cases resulted from touching, kicking, or stepping on UXOs, with fewer linked to farming (22%) or fire (11%). These patterns suggest adults are more at risk during work-related activities, whereas children are primarily exposed through direct interaction during play or movement. Table 6 presents reported UXO activation triggers of 32 adults and 18 children at the time of the accidents, highlighting key differences in how detonations occurred.

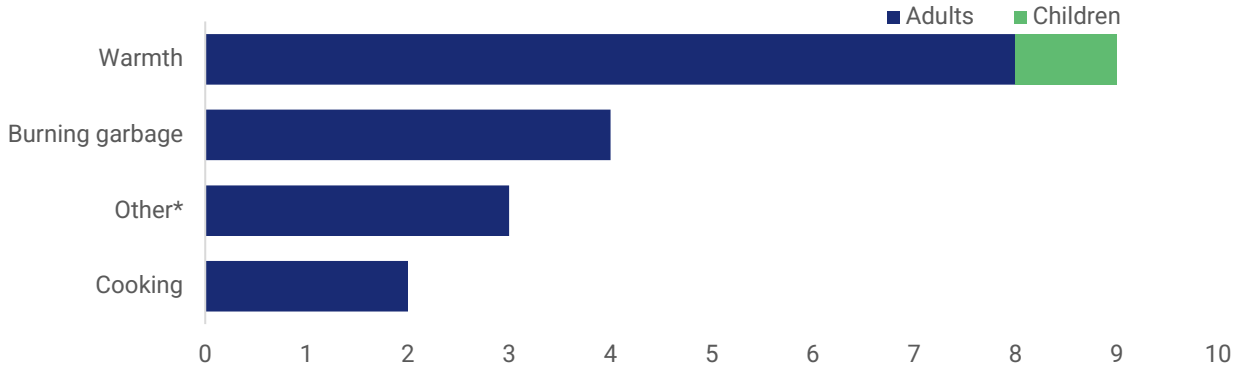
Table 6: UXO activation triggers at the time of UXO detonation

	Adult Survivors (n=32)		Child Survivors (n=18)	
	%	n	%	n
Activation				
Setting a fire	62.5	20	11.1	2
Using a hoe, planting, cutting	21.9	7	22.2	4
Touching, kicking, stepping	9.4	3	66.7	12
Don’t know	6.3	2	0	0
Other	0	0	0	0

Additional details on these activities are available in Annex B.

Among 18 adults who were setting a fire, nearly half (47%) did so for warmth, followed by burning garbage (24%), cooking (12%), or other tasks like heating metal. One child also reported setting a fire for warmth. Only adults reported clearing land, with two by burning (for planting or yard cleaning) and one by cutting grass.

Figure 4: Reasons for setting fire that triggered UXO



Few survivors were farming or gardening at the time of the UXO accident—only four adults and no children. Most were planting cassava, banana, or rice, digging only shallowly (0–5 cm), and using simple hand tools like planting stakes or weeders. (See Table B.7. Details for UXO survivors farming or gardening at the time of the accident, page 178.)

Foraging was reported by one adult and five children. Most children were fishing near rivers, ditches, or forests, while one was collecting cassava to sell. One child said they were dismantling a UXO to sell the parts, and eight children were touching or moving a UXO at the time of detonations.

Among children interviewees, nearly all also mentioned how they or a member of their group picked up the UXO, playing with it or throwing it. In this story, Bounmi explains what happened when his friends went to find his family's cattle:

> I was walking to look for my cattle with my friends in the village. My elder brother accompanied me and there were four of us, including my friends. My friends saw the fragments of the bomb pieces [in] two parts. One part had a detonator. My friend grabbed the detonator and threw it on a stick so that it would explode loudly. As soon as the friend threw it, it then exploded.

When children described their accidents, in many cases, they mentioned that they did not know the danger of doing so. One child's story illustrates this point in which he recalls thinking that the UXO was a toy:

> That day, I went to feed buffaloes in the field. Then I saw a round bomb. I thought it was just a toy, so I put it in my pocket and brought it home to play with. At that time, I did not realize that it was a bomb and was not aware that it was dangerous. When I got home, I started playing with it, and it exploded in my hand.

Overall, many stories about survivors' experiences prior to the UXO accident referred to daily life activities, and in many cases, survivors were with others. Fire was frequently reported for adults and

for children, picking up the UXO and playing with it was most commonly discussed.

There were three cases where detonation was related to collection of scrap metal for sale as the cause of the accident; one child was directly dismantling the UXO and in the two other cases (one adult, one child) the survivors in our sample were nearby but did not actually cause the detonation. In the case of the child, a friend in the group detonated the bomb, and in the adult case, a family member was responsible. The survivor said:

> When the explosion occurred, I was walking to the farm, turned my back on it, and didn't know what they were doing when the bomb exploded. I didn't know how they managed to get the bomb exploded, maybe because they didn't know it was a bomb. I didn't see what [they were] doing, I just knew [they were] collecting scrap metal."

Most survivors were with others at the time of the accident, and accidents often cause multiple casualties.

Frequently, survivors were with family or neighbors during the activities and time of the explosion, and some survivors described their accidents causing multiple casualties, both injuries and deaths.

Adult survivors who were interviewed described who was with them at the time of the accident. One third of adult survivors interviewed (8 of 24) said they were alone at the time of the accident; while slightly more (10 of 24) said they were with one or a few other people (two to five people total, including the survivor); and one quarter (6 of 24) said they were with large groups of people, using either the term "many" or citing numbers such as ten, 11 or 14 people.

There were two examples each of survivors describing large groups of people congregating around a fire and working together to dig drainage ditches. For example, one survivor shared: "*I and my over 10 relatives sat by the fire because the weather is quite cold. Sitting by the fire and talking, we then heard a loud bang*," while another shared "*On the day of the incident/accident, there were 14 people congregating together. We are all relatives, digging to lay water pipes for our homes*."

Adult survivors who were not alone at the time of the accident were typically with relatives (extended family) or immediate family. As Sengchanh describes in this quotation, the bomb exploded when she was at a fire with family: "*I was standing by the fire to keep warm, standing with my baby. My husband and parents-in-law were at another part of the house, far from each other."* Less commonly, adult survivors were with other villagers or friends.

Some survivors made a distinction on proximity, noting that they were with other people, but that those people were some distance away from them. This distinction arose most frequently in the stories of survivors whose accidents occurred while they were working in the field or garden, as people naturally spread out to work different areas of the land. For example, one survivor said "*I and my spouse were planting cassava near the edge of the village. It was near noon and 4-5 people were digging to plant cassava. I was a little far away from my wife, uncle, and aunt.*"

Child survivors interviewed almost universally reported being with friends at the time of the accident, with a few reporting siblings present and one reporting being alone.

Question 2 Discussion

Understanding where UXO accidents occurred, during what activities, and with whom is essential for understanding risk. The data reveal clear distinctions in how children and adults come to be injured by UXO, shaped by their daily activities. Adults, often in their most economically productive years, are predominantly injured during agricultural and livelihood tasks, such as farming, foraging, or land clearing, where routine contact with the land exposes them to hidden ordnance. This pattern underscores the intersection between occupational risk, gender roles, and economic activity, with working-age men particularly vulnerable.

Children, by contrast are typically affected during play or informal tasks. Boys are more frequently injured due to greater mobility and outdoor freedom.[27] Their lack of awareness heightens susceptibility, echoing trends seen in other post-conflict countries such as Cambodia and Vietnam. In contrast to adults, children's accidents often result from direct contact, such as kicking, touching, or stepping on UXOs, which suggests that the UXOs in their accidents are on or close to the surface and that lack of awareness, combined with misperception of UXOs as toys or harmless objects, contributes significantly to their risk.

Recent evidence in Laos identified activities like foraging or lighting fires directly at the ground level as ongoing high-risk behaviors in contaminated areas.[28] The finding that nearly all incidents occurred while victims were on foot further demonstrates the pervasiveness of UXO threats, which intersect with ordinary spaces like fields, paths, homes, and play areas. This mirrors broader global patterns in which UXO risks are deeply embedded in the fabric of everyday life rather than isolated to combat zones.[29]

Question 2 Recommendations

Improve risk mitigation guidance for key accident causes and triggers. EORE messaging may need to more specifically target the most common accident triggers, such as fires and digging with tools. Given that accidents primarily occurred as survivors were engaging in daily tasks that they are unlikely to avoid entirely, EORE and other prevention efforts may need to become far more specific to effectively prevent types of accidents in the course of routine daily tasks that most adults in this sample experienced.

(Please see next section for additional recommendations related to EORE.)

[27] UNICEF (2025) "80 per cent of adolescents can identify explosive ordnance risks but too many expose themselves to dangers." https://www.unicef.org/ukraine/en/press-releases/80-cent-adolescents-can-identify-explosive-ordnance-risks-too-many-expose-themselves

[28] Landmine and Cluster Munition Monitor. Lao PDR profile. https://the-monitor.org/country-profile/lao-pdr/impact?year=2023

[29] Chan, Sambath (2013) "Munitions Risk Education in Cambodia," The Journal of ERW and Mine Action : Vol. 17 : Iss. 1 , Article 10. https://commons.lib.jmu.edu/cisr-journal/vol17/iss1/10/

Research Question 3:

What were the victims’ knowledge of key risk education messages, and if they were not applied, why not?

3. What were the victims' knowledge of key risk education messages, and if they were not applied, why not?

The section explores whether survivors reported knowing anything about UXO prior to their accident, what key messages they reported knowing prior to the accident, and the sources of their information. The findings reveal a critical disparity in prior knowledge of UXOs, with a majority of adults having some knowledge of UXO risks compared to only a small portion of child survivors. This analysis further explores how demographic factors such as Lao fluency, gender, and the source of information might influence EORE reach and effectiveness.

Question 3 Findings

A majority of adults had some awareness of UXO, but only a small portion of children did.

Among survivors, 66% (n=21) of adults reported any prior knowledge of UXOs, but only 28% (n=5) of children had heard about or knew about UXOs. (Survivors were asked "Prior to the accident, had you heard of UXOs or know anything about UXOs?" In the case of child survivors, caregivers were asked the question, with the words "the child" instead of "you.") This suggests children are significantly less likely to be informed about UXO risks, highlighting a critical gap in risk education and the need for more targeted EORE for younger populations.

Qualitative interviews bore out the quantitative findings: child survivors overwhelmingly remarked that they were not aware of UXO prior to their accidents. As Keo shared, "*before the accident, I had never heard of unexploded ordnance elsewhere before, even at school.*"

Demographic patterns influence EORE exposure

Table 7 presents key demographic characteristics of the EORE exposed group compared to the full sample of survivors, allowing for an analysis of both the specific populations reached and the broader context of whether UXO awareness was more prevalent in some subgroups than others.

Among adults, the mean age of survivors with prior UXO awareness was similar to the mean age in the sample overall; however just over half of those exposed to EORE were under the sample mean age of 36.9 years (57.1% vs. 50% in the full sample), suggesting that younger adults were slightly more likely to have been reached by EORE than older adults.

In terms of geographic breakdown among the adult sample, the proportions of survivors from each province in the EORE-exposed group was similar to the provincial breakdown for the overall sample, with Savannakhet and Xiengkhouang being the most represented provinces in both groups.

Among adults, the EORE-exposed group had a higher proportion of females than did the total sample (52.4% vs. 43.8%), with 11 of the 14 women (78.6%) having prior UXO awareness compared to 10 of 18 men (55.6%). Uneven patterns were also seen across language dimensions, as there was a greater share of respondents fluent in Lao in the EORE-exposed group compared to the overall sample (71.4% vs. 56.2%) and smaller portions of those with no or a little Lao and some Lao in the EORE-exposed group (4.8% vs 12.5% for none / a little Lao, and 23.8% vs. 31.3% for some Lao). Expressed differently, 83.3% (15 of 18) of those with fluent Lao had EORE exposure, compared to 50% (5 of 10) of those with only some Lao language, and 25% (1 of 4) of those with no or only a little Lao. Ethnic distribution was comparable, with Mon-Khmer respondents forming the majority in both groups.

Table 7: Key characteristics, among all survivors and only those exposed to EORE

	Adult Survivors - % (n)		Child Survivors - % (n)	
	Prior EORE 66 (n=21)	All 100 (n=32)	Prior EORE 28 (n=5)	All 100 (n=18)
Age*				
Mean (range)	36.7 (18-66)	36.9 (18-66)	12 (9-15)	12.1 (9-15)
Below Mean	57.1 (12)	50.0 (16)	80.0 (4)	66.7 (12)
Mean and Above	42.9 (9)	50.0 (16)	20.0 (1)	33.3 (6)
Province				
Khammouane	9.5 (2)	6.3 (2)	0	16.7 (3)
Salavan	14.3 (3)	18.7 (6)	20.0 (1)	11.1 (2)
Savannakhet	42.86 (9)	40.6 (13)	40.0 (2)	27.8 (5)
Sekong	4.8 (1)	3.1 (1)	N/A**	N/A**
Xiengkhouang	28.6 (6)	31.2 (10)	40.0 (2)	44.4 (8)
Sex				
Female	52.4 (11)	43.8 (14)	20.0 (1)	22.2 (4)
Male	47.6 (10)	56.2 (18)	80.0 (4)	77.8 (14)
Lao Fluency				
None/a little	4.8 (1)	12.5 (4)	20.0 (1)	33.3 (6)
Some	23.8 (5)	31.3 (10)	40.0 (2)	27.8 (5)
A lot/fluent	71.4 (15)	56.2 (18)	40.0 (2)	38.9 (7)

Ethnic Group				
Lao-Tai	23.8 (5)	21.9 (7)	40.0 (2)	27.8 (5)
Mon-Khmer	57.1 (12)	59.4 (19)	20.0 (1)	27.8 (5)
Hmong-Mien	19.1 (4)	18.8 (6)	40.0 (2)	44.4 (8)
*Below mean is inclusive of the mean age **No children were interviewed in Sekong				

Child survivors with prior exposure to Explosive Ordnance Risk Education (n=5) were similar in age to the full sample (n=18), with 80% falling below the mean age of 12.1 years, compared to 66.7% in the full group. The majority were boys (80%), aligning closely with the full sample (77.8%). Children with prior EORE exposure were most commonly from Savannakhet and Xiengkhouang (both at 40%), which were also the most represented provinces overall. Lao fluency levels were fairly comparable, though fewer in the EORE-exposed group reported little or no fluency (20% vs. 33.3%). Ethnically, the exposed group included equal proportions of Lao-Tai and Hmong-Mien children (40% each), mirroring the broader sample where Hmong-Mien children were also the largest group (44.4%). Given the smaller size of the child sample and the even smaller portion—only 5—with EORE exposure, a single individual can have a large impact on the percentage of a subgroup represented, and it is thus challenging to identify concrete trends by subgroup among the sample of children.

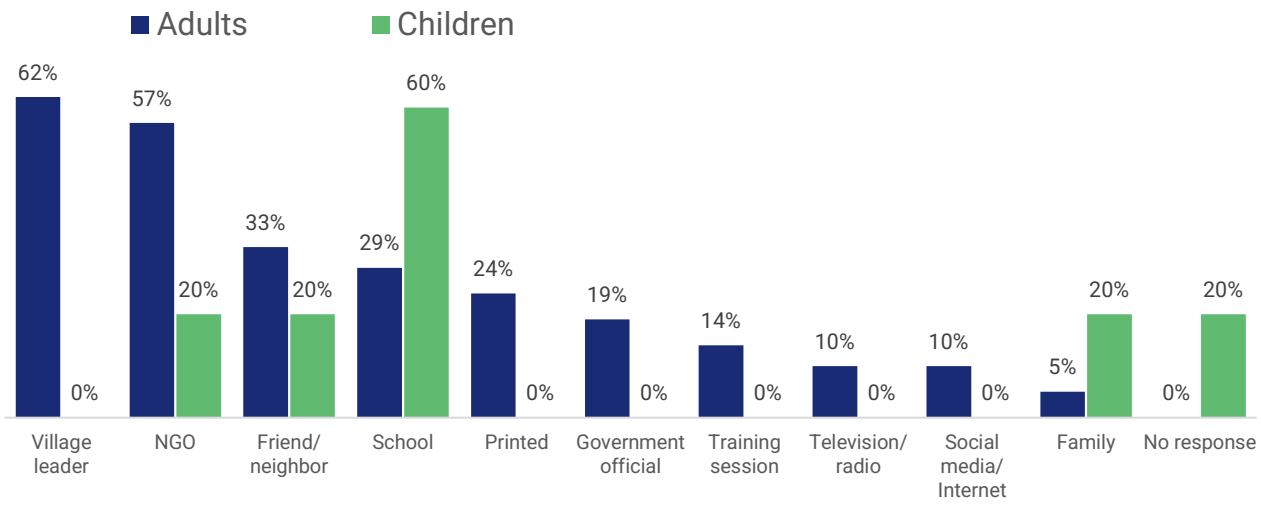
Sources of UXO Awareness: Adults learned from more varied sources, but especially village leaders and NGOs, while children most frequently cited school as the source of UXO awareness.

The sources through which EORE is delivered play a critical role in shaping community understanding and response to UXO threats, making it essential to identify which channels, such as schools, community leaders, media, or family, are most effective in delivering clear, trusted, and culturally appropriate messages to different audiences.

Those survivors who answered “yes” to the question “Prior to the accident, had you / your child heard of UXOs or know anything about UXOs?” were asked from which sources they had heard about UXOs.

Data on EORE sources show clear differences between adults and children (Figure 5). Adults most commonly cited village leaders (62%) and NGOs (57%), while children primarily learned from schools or teachers (60%). The group of EORE-exposed adults (n=21) also cited more sources per individual, with an average of 2.6 sources named per survivor with prior UXO awareness. On the other hand, the children who had heard of UXO before their accidents (n=5) did not hear EORE messaging from as many sources (3 children cited school; NGOs, friend/neighbor, and family were each cited once; and 1 child had no response). In other words, not only did a greater portion of adults have EORE exposure than children did, adults also heard about EORE from a wider variety of sources. Children did not report receiving information from village leaders, media, training, or government officials, underscoring the central role of educational settings and close personal networks in shaping their UXO awareness.

Figure 5: Information sources for EORE prior to accident (among those with UXO awareness)



Survivors' understanding of key safety messages necessary for accident prevention

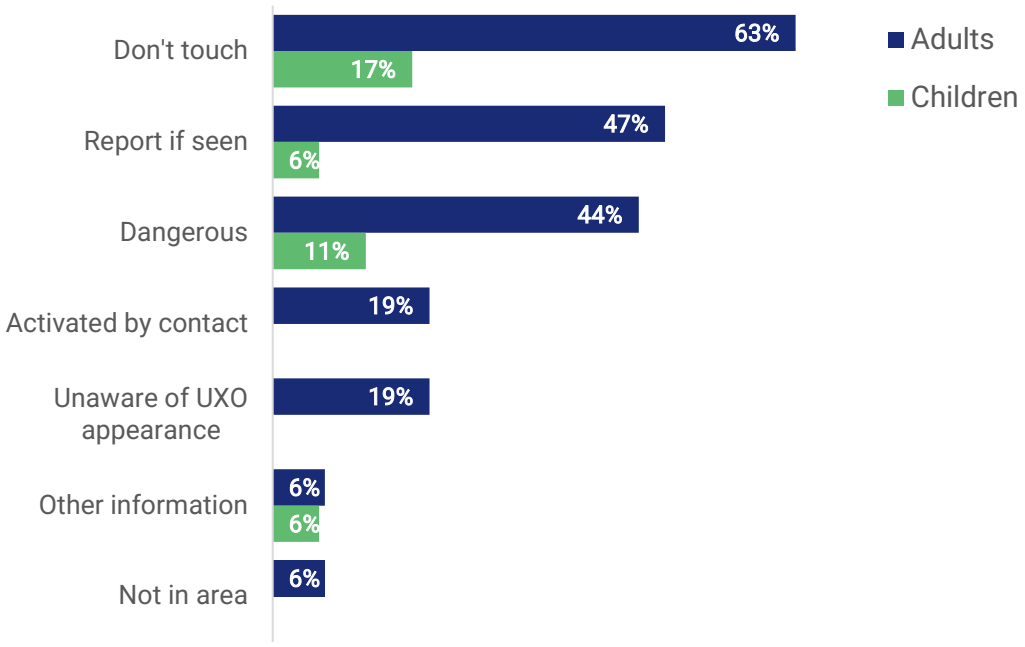
Survivors who reported prior awareness or knowledge of UXOs were also asked to recall what they knew about UXOs before their accident (Figure 6).

Most adult survivors (63%) knew that UXOs should not be touched (compared to 66% with any prior awareness.) Other key messages adults understood were that UXOs should be reported (47%) and that UXOs were dangerous (44%). Fewer recalled more detailed information, such as contact activation (19%), and a small portion (19%) also reported that they had heard of UXOs but did not know what they looked like. One adult survivor (6%) reported having heard that there were no UXOs in their area.

Among the 5 children who had heard of UXOs prior to their accident (28% of sample), 3 children (17%) had reported knowing UXOs should not be touched; 2 children (11%) reported knowing UXOs were dangerous, and the need to report and other information were each cited by 1 child (6%).

Similar to the pattern with adults hearing EORE messages from a wider variety of sources than children, adults also named a larger number of messages. The 21 adults with UXO awareness named an average of 3.1 messages each, while the 5 children with UXO awareness reported knowing just an average of 1.4 messages.

Figure 6: EORE information survivors heard about UXOs prior to accident (percentage of all survivors)



Relevance, Applicability, and Application of EORE messages

The research question asks "What were the victims' knowledge of key risk education messages, *and if they were not applied, why not?"* but our findings suggest that the link between knowledge of key risk education messages and application to behavior may require more nuance.

In interviews, survivors sometimes provided recommendations related to safe behaviors; these data points are suggestive of EORE messaging and prevention strategies that survivors felt they lacked prior to their accident. Survivors' recommendations were often more specific than the main messages they recalled knowing prior to their accidents[30], and provided guidance about the very types of routine daily activities in which most survivors were injured.

For example, one shared advices related to fire safety: "*First, I would tell them to be extra careful: avoid making a fire carelessly. Before making a fire, add more layer/soil to the ground first to prevent the danger of buried bombs."* Similarly, another survivor recalled efforts by the village leader to spread fire-specific preventative strategies following their accident: "*After the accident, [the village head] disseminated information about making a safe fire pit to avoid accidents from UXO to the villagers so that*

[30] The survey questions asked survivors if they had known key messages such as "Don't touch" and those shown in Figure 6. While the survey also provided the option for survivors to answer "other" and provide more detail, it is possible that the survey did not capture the full breadth of important EORE messages (e.g., specific information about fire safety or digging safety). However, given that very few respondents answered affirmatively that they had heard "other information," it is reasonable to conclude that a more extensive list of EORE messages in the survey would not likely have resulted in a greater portion of respondents demonstrating awareness.

they would be more aware and cautious when they make fire pits. When making fire pits, it is necessary to add thicker layer to the soil before making a fire."

Likewise, another survivor shared advice related to gardening and fires:

> I would recommend to the affected person like me to be careful. For instance, when you gardening, you should better use a shovel instead of a hoe because a hoe is heavy and you might be at risk of the UXO. A shovel is lighter, reducing the risk. If you are about to burn garbage, it is recommended that you leave the area immediately. Do not stand nearby or throw garbage in the area.

Notably, there was an *absence* of statements from survivors indicating that they had had the requisite knowledge to avoid UXO accidents, but had chosen to disregard this knowledge. This absence is significant in that it—along with data on the types of routine daily activities survivors were engaged in—strongly suggests that survivors were not intentionally acting recklessly or ignoring EORE messages at the time of their accidents. In the case of two survivors—one adult and one child—someone else nearby did intentionally disturb the UXO for purposes of selling scrap metal, but they were not individually responsible for detonation.

The fact that nearly one in five adults said they had heard of UXO but did not know what UXO looked like is likely a significant factor in why survivors might have had some knowledge but not been able to use that to prevent an accident.

Child Survivors mentioned that they did not know about the danger of UXOs or what UXOs looked like. This unawareness of their danger or physical properties of UXOs aligns with the causes of accidents that so many children picked up, threw, or played with UXOs prior to their accidents. For the very few child survivors who had heard about UXOs in school, they were not able to recall much about the UXOs from that EORE experience. As Bounmi declared, "*I've heard from the teacher when I was in grade 1, telling me not to touch, not to be near, and not to throw it because it would explode. However, when I saw it in person, I forgot what the teacher taught me*." Overall, the awareness of UXOs, including their potential danger and the physical properties, were generally unknown to the children who were interviewed for this study and experienced these accidents.

Question 3 Discussion

Explosive ordnance risk education (EORE) is critical in preventing UXO-related accidents, where they remain a pervasive threat in Laos. Effective EORE helps communities recognize, avoid, and respond safely to UXOs, reducing injuries and deaths, particularly among high-risk groups like children and agricultural workers. It also promotes broader awareness of environmental hazards and encourages safe behaviors in reporting and disposal, strengthening community resilience. Understanding which situational, cognitive, or structural barriers may have shaped an individual's experience with EORE is essential for informing more effective risk education strategies and targeted interventions.

Findings reveal varying levels of exposure to EORE, with differences in the type and source of information received. These patterns point to both strengths and gaps in current efforts, underscoring the need to improve outreach and tailor messaging to better protect at-risk populations.

Variations in survivors' exposure to EORE and understanding of UXOs highlight both successes and critical gaps. The most notable gap was the difference in awareness between adults and children. Adults were far more likely to have had prior knowledge of UXOs, had a wider variety of sources for their information, and knew more key messages about UXOs.

Among adults, rates of prior UXO knowledge were higher among younger survivors, suggesting that more recent initiatives may be improving awareness among a critical age group: adults in their prime working years. The incorporation of EORE in the national curriculum for primary and secondary schools is fairly recent, and could be one reason that EORE-exposed adult survivors skewed younger.

Children's limited awareness of UXOs significantly heightens their vulnerability, making them disproportionately affected by UXOs. While the integration of EORE into the primary and secondary school curricula is a positive step, the fact that this content is typically addressed in a limited amount of time and only once per year makes it easy for students, especially younger ones, to forget and for those who are absent to miss this potentially life-saving information. If school is the primary source of EORE for children, language barriers may be exacerbated, as younger children who are first learning Lao language in school may have difficulty understanding EORE. Finally, it's possible that schools closures and absences related to the COVID-19 pandemic may have limited EORE in schools in the past few years.

Rates of prior knowledge were higher among women than men, suggesting that more effort may be needed to identify why this difference occurs. One reason could be that women, particularly in the village settings, play central roles in family health, child care, and community well-being; as such, they may be more likely to participate in awareness raising programming, including UXO education initiatives. A second factor could be that men are more likely to spend extended periods outside of the village, for work in the fields or forests, or even for seasonal migration. Compared to men, women are often present a greater proportion of time in the village and are therefore more likely to have greater access to awareness education opportunities.

Stark differences in rates of prior UXO exposure were prevalent when the sample was broken down by survivors' Lao fluency levels, with prior exposure increasingly likely as Lao fluency levels increased. This is consistent with other studies that show that dialect and cultural discordance can impede healthcare access, resulting in limited communication and potentially harmful misunderstandings.[31] [32] Limited Lao fluency can constrain access to UXO risk education and health messaging, which are predominantly delivered in the national language. Survivors who lack Lao proficiency are doubly disadvantaged: more likely to be injured and less able to access care or support services. The trends

[31] Zhao, Q., Xu, S., Aziz, N., He, J., & Wang, Y. (2022). Dialect culture and the utilization of public health service by rural migrants: insights from China. Frontiers in Public Health, 10, 985343. https://www.frontiersin.org/journals/public-health/articles/10.3389/fpubh.2022.985343/full

[32] Babalola, A. E., Johnson, V., Oromakinde, A., Azeez, O., Aderinto, N., Onasanya, O., & Akinloye, S. (2025). The role of local languages in effective health service delivery. Discover Public Health, 22(1), 59. https://link.springer.com/article/10.1186/s12982-025-00429-5

by language also suggest a question our findings cannot answer: for survivors who reported no prior awareness of UXOs, was this lack of awareness due to EORE initiatives not r*eaching* them or the victims being reached by EORE but not *understanding* the content?

While the prevalence of oral minority languages complicates dissemination of written materials and reinforces the need for verbal, community-based education through trusted local leaders, the large variation by language also highlights a straightforward opportunity: the effectiveness of EORE initiatives can likely be increased simply by ensuring the language of delivery aligns with the preferred language of the targeted audience.

Ethnicity also shaped exposure: among both adults and children, the Mon-Khmer sub-group within the sample had the smallest proportion of survivors reporting EORE exposure, though differences between groups were less stark for ethnicity than they were for fluency levels.

Differences in information sources also matter: adults tend to rely on community leaders and NGOs, and overall heard about UXOs from a higher number of sources. Children gain knowledge primarily from schools and do not learn from very many different sources, a finding that might suggest reasons for the low overall rate of EORE exposure among children. Aligning future programming with these trusted channels will be essential for improving reach and effectiveness, although there may also be opportunities to increase the number of channels through which children learn about EORE so that messages are continually reinforced by key actors in children's lives—for example, parents *and* teachers *and* village leaders.

Finally, comparing what survivors knew about UXOs with the actions that triggered accidents can also highlight opportunities for refining EORE initiatives. The most commonly cited EORE message among adults with prior awareness was that they should not touch UXOs (95% among those with prior awareness), followed by that should be reported if seen and are dangerous. However, the vast majority of accidents (85%) occurred while adults were either setting a fire or using a hoe, suggesting that the adults neither touched the UXOs directly nor saw them. Given that adult survivors typically reported UXO accidents happening in the course of their daily activities, they may require more activity-specific prevention and safety messaging (see recommendation under Question 2). The fact that UXO accidents occurred even among adults with prior exposure to EORE may not be due to any failure on the part of victims to apply the messages they learned, but rather due to a lack of messages applicable to the particular situations where they were hurt. This insight is also borne out by survivors' interest in sharing critical knowledge such as how to increase safety when setting fires, burning garbage, and digging in the garden. Keeley's (2024) recent study on EORE knowledge, attitudes, and practices looked more closely at EORE than this study was able to and identified a similar issue, noting that among UXO accidents caused by making a fire or digging "likely involve people who are *unaware* of appropriate safe behaviours or do not have the capacity to change behavior. […] This suggests taking a more focused approach to EORE to address people engaged in such behaviors" (p. 61).[33]

In addition, some survivors reported awareness of UXOs but did not know what they looked like, highlighting a need for including visuals in EORE efforts. Effective risk education should include clear

[33] Keeley, R. (2024). Knowledge, Attitudes and Practices Study. UNDP. https://www.undp.org/sites/g/files/zskgke326/files/2024-10/kap_final_19.08.2024.pdf

information on identifying different UXO types and understanding reporting procedures.[34] Without this specific knowledge, adults may fail to recognize the severity of a UXO hazard or understand the importance of timely reporting, potentially leading to increased risk of accidents and fatalities.

The majority of children in our sample were injured while playing and directly touching or kicking a UXO. Just as EORE messaging for adults could target specific high-risk activities, EORE messaging for children should account for the likelihood of their encounters occurring during play.

Our findings on EORE exposure and survivors' prior understanding of UXOs can help refine and better target EORE interventions. However, given that our focus was on *survivors*, our sample by default includes only those people for whom EORE initiatives did not prevent accidents. We cannot assess the general effectiveness of EORE, since we did not look at counterfactual cases—that is, instances where EORE messaging successfully prevented accidents. Similarly, while our findings can offer some hypotheses why survivors' knowledge of EORE may not have been enough in their individual cases, future studies focused specifically on behavior change effects may be useful to further refine key messages, means of communication, and the necessary frequency or dosage. The NRA itself notes a similar need in the SPF III, calling for "a tool to assess behavioral changes in people receiving EORE"[35] and the recently published Keeley (2024) study contributes significantly in this area.

Question 3 Recommendations

Targeting and Refining EORE (recommendations applicable to both children and adults)

- **Use tangible and visual models of UXO, and use active learning scenarios that relate to high-risk activities.** Even among the 21 adults who said they had prior awareness of UXO, 6 said they had heard of UXO but didn't actually know what they looked like. Children mentioned forgetting the messages they had heard and not knowing what UXOs looked like. Especially given that children are apt to be caught up in the excitement of group play or exploration with peers, EORE for children should seek to make UXO and their danger tangible and memorable and should avoid general descriptions communicated *solely* via written or verbal guidance and engage children's other senses. For example, teachers and village leaders can show posters with visuals of UXO and help children consolidate knowledge by having them draw pictures of UXO; or older children could create their own posters and awareness raising materials to share with others. Other examples might showing real examples of safely detonated UXO and designing active learning experiences related to it; having children role play finding a UXO, explaining to a friend that it is not a toy, and reporting it to an adult; or a game in which children hunt for two types of objects, something safe that earns them points and a visual/tactile

[34] UNICEF (2005). An Evaluation of Unicef-Supported Uxo Risk Education Projects In Lao PDR. Geneva: UNICEF. https://evaluationreports.unicef.org/GetDocument?documentID=5625&fileID=30760
[35] National Regulatory Authority (NRA). (2021). Safe Path Forward III

representation of a UXO, which if touched, causes them to lose. All of these examples engage multiple senses and help children not only passively receive information from a textbook or teacher, but also actively use information they have just learned, which is a critical step to ensure children retain what they learn. Keeley (2024) also notes a number of challenges related to visuals in EORE sessions, and provides specific recommendations, such as the use of simplified cartoon figures for people, contextualizing the size of different ordnance, and using 3-D printed models.[36]

- **Make understanding the goal regardless of the language required to achieve it.** Among adults, rates of EORE awareness increased as Lao fluency increased. EORE initiatives should aim to ensure understanding and use local languages whenever appropriate in order to achieve that. Many children in highly contaminated geographic areas do not speak Lao at home. The school curriculum is taught in Lao, which creates another potential way that children may not pick up EORE messaging even from the place most commonly cited as providing it. Since not all teachers speak the same local language as the communities they teach in, schools could consider engaging community members to ensure children fully understand the content in their own language. This issue also highlights the importance of reinforcing EORE through multiple channels.

- **Actively involve survivors as appropriate.** Many survivors expressed a desire to contribute by sharing their stories with others.

- **Engage communities in program design.** Actively involve survivors, teachers, parents, and local leaders in shaping messages and delivery, ensuring that programs reflect cultural norms and local realities.

Targeting and Refining EORE for Children

- **Consider increasing the frequency of school-based EORE, especially in primary years.** Schools were the most commonly cited source of prior EORE awareness among children. However, overall prior EORE awareness among children was low. As noted in the discussion, a single lesson per year is likely inadequate dosage for children to be able to absorb and act on EORE messaging. Stakeholders should consider options expanding on the existing school-based curriculum—especially in high-risk areas—to ensure greater frequency and depth of school-based EORE to ensure children are exposed even if they miss a day of school and exposed frequently enough to consolidate knowledge.

- **Seek ways to reinforce EORE through multiple complementary channels.** Outside of school, no other source of EORE information was cited by more than one child. (NGO, neighbor/villager, and family were each cited by one child.) This suggests a critical gap and opportunity to ensure children get EORE messaging through multiple channels. Increasing the breadth of sources

[36] Keeley, 2024.

cautioning children about UXO could also help mitigate the potential for missing or forgetting school-based messages if these are shared infrequently.

Targeting and Refining EORE for Adults and Communities

- **Ensure that EORE reaches at-risk men of working age:** The data indicate rates of prior knowledge of UXO were higher among women than men. While this study cannot point conclusively to the reason for this different, possibilities include gendered roles in community programming that favor women's participation and patterns of male migration (or simply daytime absence from the home) for work that make them unavailable. Especially given that men account for far more adult casualties than women, future efforts may need to explore barriers to male participation and develop targeted efforts to ensure EORE reaches men.
- **Encourage adults to speak with children about key points.** In line with the recommendation above that EORE targeting children can seek to diversify their sources of information, EORE initiatives for adults should focus not only on how adults can keep themselves safe, but also on their roles as a critical conduit to sharing—and frequently reinforcing—EORE messages with children.
- **Harness social media and mass media to reach audiences.** Laos has witnessed a significant surge in mobile phone ownership and digital connectivity. There are 6.78 million active cellular mobile connections in the country, equivalent to 86.7% of the total population.[37] Leveraging digital platforms for EORE will be a crucial contribution for greater community awareness needs. While information may exist through social media, few victims (adults or children) cited exposure through social media. Simultaneously, digital tools may create new opportunities for UXO survivors and service providers.

[37] Kemp, S. (2025). Digital 2025 Laos. DataReportal. https://datareportal.com/reports/digital-2025-laos

Research Question 4:

What were the trauma and rehabilitation requirements of the victims following the accident, and to what degree were they met and how?

4. What were the trauma and rehabilitation requirements of the victims following the accident, and to what degree were they met and how?

This section examines survivors needs, challenges, and experiences related to physical and mental health impacts and care. The findings shed light on support system, as experienced by survivors, from the moment of the accident through the long-term recovery process. Specifically, the analysis is broken down to cover the following critical areas:

- The immediate medical response is presented through data on the time between accident and receiving care and the level of medical care received. Findings include significant delays and the common use of multiple public health facilities. Qualitative accounts from survivors complement the quantitative data and describe the process of accessing care from the survivor perspective.
- Data on the type of care received present a picture of the medical interventions required following UXO accidents.
- Qualitative accounts of survivors' experiences of immediate symptoms—both physical (e.g., pain, vision loss, tinnitus) and psychological (e.g., shock, fear, sadness)—are documented through qualitative accounts.
- The section then reveals a severe gap in the recovery system by reporting on the minimal number of survivors who received rehabilitation services.
- Evidence of longer-term impacts on physical health and potential for ongoing rehabilitation needs comes from data on survivors' level of difficulty with daily living activities, as well as survivor accounts of unmet longer-term physical health needs.
- Finally, the section examines the multifaceted impacts survivors express related to psychosocial trauma, mental health, and social reintegration after the initial medical emergency.

Question 4 Findings

The findings presented here focus on the immediate aftermath of the UXO incidents, detailing the challenges survivors faced in accessing timely and appropriate medical care. This analysis highlights significant delays in receiving treatment, explores the different levels of public health facilities utilized by adult and child survivors, and documents the immediate physical and psychological trauma—including shock, pain, and lasting fear—experienced by the victims. Crucially, the data underscores a severe and systemic gap in the recovery process, revealing that very few survivors, and no children, reported receiving essential long-term rehabilitation services.

Time to Trauma and Medical Care and Level of Care Immediately Following UXO Accidents

Understanding the immediate medical response and follow-up support is crucial for assessing the impact of UXO incidents and identifying gaps in healthcare access. Among the 32 adults and 18 children, only one from each group did not seek medical care, citing the injury as not serious enough.

Data reveals significant delays in care (Table 8). Among the 31 injured adults, only 6% received care immediately, and 19% within the first 15 minutes. Most adults (29%) received care between 1–3 hours, with some waiting up to three days. Similarly, while 29% of children received care within 15–30 minutes, 53% were treated 1–3 hours later. Notably, only one survivor reported receiving immediate care at the scene, highlighting a critical gap in first aid or emergency response. However, among adults, that individual, in fact, received basic care at the scene, saying "After the explosion accident, the medic from UXO organization came to treat the injuries by cleaning the wounds, applying medicine at the scene." This survivor was the one adult who reported *not* seeking medical care, and gave the reason that no further medical care was necessary since the injuries were not serious.

Most survivors required treatment across multiple levels of the public health system. Over half of adults (52%) were treated at district hospitals, while 48% were seen at provincial hospitals, and 45% began care at public health centers. In contrast, the majority of children (71%) received care at provincial hospitals. No survivors reported receiving care at private facilities, which remain scarce in rural areas.

Table 8: Time to receive medical care and level of medical care received after UXO accident

	Adult Survivors (n=31)		Child Survivors (n=17)	
	%	n	%	n
Time to Receive Care				
Immediately	6.4	2	-	-
Within 15 minutes	19.3	6	5.9	1
Between 15 and 30 minutes	9.7	3	29.4	5
Between 30 and 60 minutes	16.1	5	5.9	1
1-3 hours	29.0	9	52.9	9
More than 3 hours	-	-	-	-
Between 3 and 24 hours	6.4	2	5.9	1
2 to 3 days	9.7	3	-	-
More than 3 days	-	-	-	-
Don't know	3.2	1	-	-
Level of Medical Care*				

Basic first aid at site	-	-	-	-
Health center (public)	45.2	14	5.9	51
District hospital (public)	51.6	16	23.5	4
Provincial hospital (public)	48.4	15	70.6	12
Central hospital (public)	3.2	1	-	-
*Adults were asked to indicate all levels of care, whereas for children, they were asked the primary level of care only; none reported receiving care from a private facility				

Across survivors' stories, they identified key steps in their immediate medical care, including (1) obtaining an initial response from community members, (2) getting transport to initial medical care, (3) receiving medical care and if necessary getting transferred for additional care.

In many instances, survivors called out for help from family or neighbors, or in cases where the survivor was unconscious, others heard the explosion and came to the scene to help. Somchai explains how he called for help, and how this community member supported him in obtaining care: "*When I looked at myself, I was bleeding and fell down. Before I fell, I called for help from them. I was held by someone who put me down slowly. I heard that 'I will take you to the hospital, don't close your eyes.' I looked at myself and I was shocked, but I did not close my eyes*."

In some cases, attracting the attention of others may have taken some time. For example, one survivor said, "*The explosion happened immediately, while I didn't feel anything at that time until about 5 minutes later. I Then I was conscious and then tried to get myself out of the explosion area. I called my brother to help and took me to the hospital."*

In describing how they were transported from the scene of the explosion to their first site of health care, many described family or neighbors taking them in personal vehicles. For adult and child survivors, the time needed for this step varied widely. Some survivors recall family members having the ability to immediately drive them in vehicles like tractors, while others describe more challenges in reaching medical care. In the following statement, Sengchanh recalls her difficult experience getting to the hospital: "*My husband said that I was bleeding profusely, and they carried me on a stretcher and took me home and it took 2 hours to get there because it was on a mountain, and was inaccessible to motorbikes. The incident happened at 9 am, and it took me until 1 pm to arrive at the hospital*."

On the other hand, Khamdee was able to reach the health center much more quickly when "*a villager helped me with a cloth to bandage the leg where the bomb had exploded at because there was a lot of bleeding at the leg, and then I was taken on a tractor to the health center immediately, which took about 20 minutes*." Health centers are likely located closer to survivors' homes while hospitals may be much further. Regardless of the type of care, it is important to note that the length of time until care and type of transportation varied greatly among survivors.

Qualitative interviews with adult survivors offer some insights on reasons for delays in care, but the fact that many survivors were unconscious combined with a variety of different reasons for delays makes it challenging to consolidate individual explanations into conclusive findings. For adults,

reasons for delays in receiving care may include the following: accidents occurring in remote locations, as suggested by Sengchangh's quotation above; survivors being brought home before being taken to a health facility; a need to organize belongings, money, or transportation before going to a health facility; and initial impressions of injury severity. Examples of adult survivors describing some of these factors include the following from different survivors:

> After the incident, a male neighbor put me on the back of his motorcycle and went home to prepare for the hospital. By then, I had no money. I borrowed 5,000,000 kip from a villager with 4% an interest rate per month. My wife went to the lender and borrowed the money and gathered the necessary belongings for use at the hospital. All of this preparedness took almost 3 hours to get to the district hospital.
>
> When the explosion happened, I fainted, but my body did not bleed, so I didn't go to the hospital. After I woke up, I felt pain all over my body. Then I brought a spiritual healer to treat me for 3 days. I spent about 5,000,000 kip, but I didn't recover. Then, I was taken to the hospital for treatment.
>
> What I remember is that my brother helped me by carrying me back home. Then, the village authorities came to visit me and said I should be taken to the hospital immediately.

Two survivors described being in groups of people where there were multiple casualties, and the community members who were uninjured or came to the scene made decisions on where to take people for health care based on their assessment of the severity of injuries. For example, one survivor said, "*Then we were taken to the health center, meanwhile, some whose injury was severe was taken to the provincial hospital*," while another named two different district hospitals that injured people were taken to depending on severity. (It was unclear why one district hospital was judged more appropriate than the other district hospital for the more severely injured person.) These examples, combined with the stories above in which survivors initially went or were taken home, suggest that initial judgements about injury severity and necessity of care may be one factor influencing the process of connecting individuals involved in accidents to care. In interpreting these experiences, it is important to note again that these represent individual examples, and there were not consistent trends across pluralities of adult survivors.

Among children, there was slightly more consistency in potential explanations for delays. When describing events immediately after their accidents, child survivors frequently reported that often their parents were contacted either through their own efforts or through community members, and then parents took them to receive medical care after that. Bounmi recalled this experience of others becoming aware of his accident and obtaining transport to initial medical care: "*At that time, I didn't feel any pain until I started bleeding, then I felt pain and started to get tired. The people in the village knew that and went to tell my father, and he rushed to the scene of the incident and then (I) was taken to hospital.*" In some ways, the need for other community members to contact parents prior to medical care may represent an additional step for children as compared to their adult counterparts.

In addition, child survivors' responses to the accidents may have also led to a longer time until their first medical care was received. As Keo described in his story below, the group of children affected by the accident was not aware that reaching out to an adult and obtaining medical care would be the next

step:

> On the way, we saw a bomb on the side of the road. When we saw it, we knew it was a bomb, but we thought it wouldn't explode. So, we picked it up and threw it to play with our friends . Before it exploded, I threw it to our friends to catch. But our friends failed or were too slow to catch it. At that time, both of us were bleeding from our arms and legs. However, we didn't feel any pain, so we just went to wash the blood in the stream. No matter how much we washed it, the blood wouldn't stop flowing. Luckily, someone passed by and saw us and took us to the hospital.

Among children, a few factors may create delays in getting care: children's unawareness of what to do following an accident and how to obtain health care; the need to reach parents prior to moving children to medical care in many cases; and the fact that most children were taken directly to provincial hospitals as first point of care (which are likely further away from health centers and district hospitals).

At the first site of health care, many received wound cleaning and reported that at this time they were referred to provincial or district hospitals for further medical treatment, especially any wounds involving shrapnel and any potential surgeries such as amputations. In this quotation, Somchai explains how he was transferred to facilitate the removal of shrapnel:

> They took me home and the health center to wash the wound. Lacking modern equipment, I was then advised to go to the provincial hospital for examination. At that time, I felt severe pain and was scared, especially because I was afraid that the shrapnel in my body would not be able to be removed. At the provincial hospital, they were able to remove some of the shrapnel, but there were still some that they could not remove because they said they had to wait for my body to recover and get stronger first.

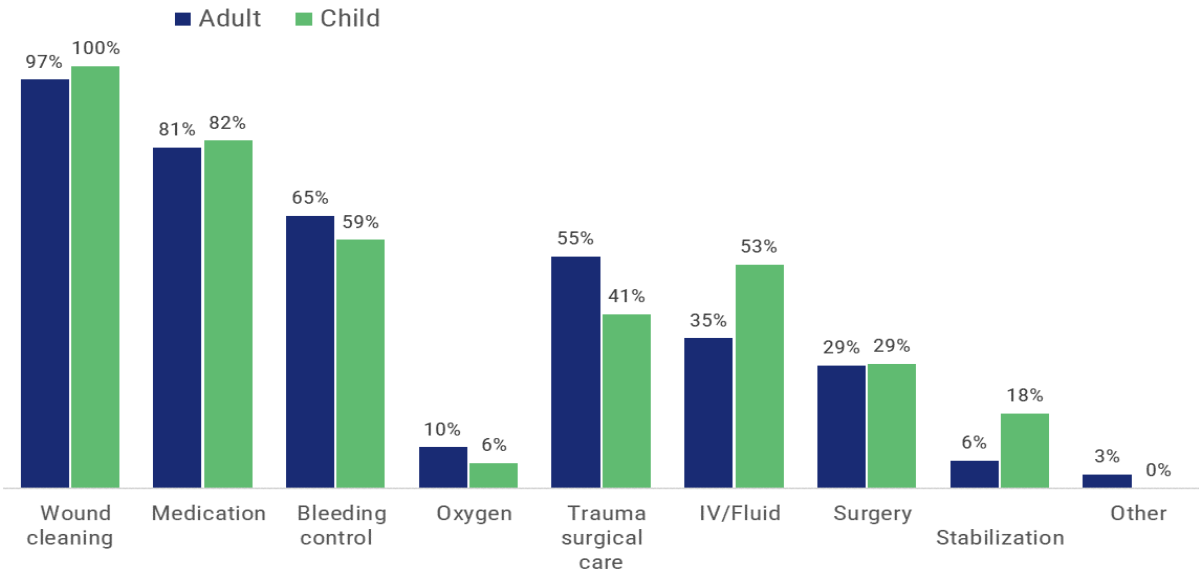
This shrapnel removal process involved several steps for many survivors, including receiving initial wound care from health centers and transport from health centers to provincial or district hospitals.

Type of Care Received Immediately Following UXO Accidents

Injured individuals often required multiple forms of medical intervention following UXO incidents, reflecting the severity and complexity of their injuries. Among adults, nearly all (97%) received wound cleaning, 81% were given medication, and 65% received bleeding control. Over half (55%) required trauma-related surgical care, while 36% received intravenous fluids and 29% underwent surgery. Smaller proportions received oxygen (10%), stabilization (7%), or other care (3%), with no reports of CPR administered.

Similarly, all injured children received wound cleaning, and 82% received medication. More than half were given bleeding control (59%) or IV fluids (53%), while 41% required trauma care and 29% underwent surgery. Stabilization was reported in 18% of child cases, and one child (6%) received oxygen. As with adults, no child received CPR or other unlisted treatments.

Figure 7: Type of medical care received by adults and children



These findings highlight that wound care, medication, and bleeding control were the most common treatments across both groups, while the frequent need for surgical and trauma care underscores the serious and often life-threatening nature of UXO-related injuries.

Survivors Recalled Immediate Symptoms After the Accident

When recalling the stories of their accidents, survivors shared physical and psychological sensations that started immediately after the explosion and changed as they received medical care. Many survivors lost consciousness and began the story of their medical care by stating that they didn't feel anything. As Sengchanh explained, *"the explosion happened immediately, while I didn't feel anything at that time until about 5 minutes later. Then I was conscious and then tried to get myself out of the explosion area."* In addition to this period of shock, loss of consciousness, and lack of feeling, many mentioned immediate vision and hearing issues from the explosion, mentioning tinnitus and blurry vision. Khamdee experienced some of these symptoms, stating that *"after a bomb exploded, I felt ringing in my ears, and I was in the dust, and I could see nothing."*

Following this initial reaction to the explosion, survivors' explanations of their symptoms varied greatly, depending on the severity of the injury. Some mentioned arriving at medical facilities and feeling severe pain.

In addition to describing physical symptoms following the accident, survivors also recalled how they felt emotionally after these intense events. Many survivors mentioned a feeling of shock and being in the darkness about what they had just experienced. Sengchanh remarked that she "*was walking and I*

fainted, and then I saw my husband calling for help twice, and I fainted again. At that moment, I felt completely in the darkness." Others reported an initial sadness and fear about the future. Somchai reported the following statement about his feelings during initial medical treatment:

> After an examination, the doctor found that there was a fragment of a landmine in my thigh that the doctor could not remove. And I was sent to the provincial hospital for treatment and spent 9 days in the hospital. The incident made me worry that I would lose my leg, that I would be disabled, and never be able to walk again.

Survivors described painful feelings and physical sensations as they recalled their stories. Recognizing this experience is critical not only for better understanding survivors' experiences of UXO accidents, but also in understanding the psychological and physical impact of the accidents.

Few survivors received rehabilitation services

Only six adults (19%) reported receiving rehabilitation after their UXO injury; no children reported receiving any rehabilitation services (results not shown). Among the six adults, half began rehabilitation within two weeks, while the other half started between two weeks and six months post-incident. All reported attending only once or twice. Three said their rehabilitation was complete, citing restored mobility, lack of pain, and a return to normal daily activities—though one noted they stopped due to financial constraints.

Of the three adults still in rehabilitation, one attended the Center for Medical Rehabilitation and two received care at provincial hospitals. Services included pain management (1 person), medication (2 people), and eye care (2 people).

Level of Difficulty with Daily Living Activities After the UXO Accident

Assessing survivors' ability to perform daily tasks reveals the long-term impact of UXO injuries beyond physical harm, highlighting challenges to independence, dignity, and economic participation. Difficulties in areas like vision, hearing, mobility, memory, and communication can increase reliance on others, limit access to education or work, and heighten vulnerability to poverty and isolation.

Among adults, most reported no issues with vision (62%) or hearing (72%), though about one in five experienced some difficulty. Children were less affected, with nearly all reporting no issues. Despite these challenges, few used assistive products with most adults and all affected children with vision or hearing difficulties lacked support tools, suggesting gaps in access or availability.

Mobility was less affected: 84% of adults and 94% of children reported no difficulty walking. Of those with mobility issues, assistive device use was limited. Communication impairments were reported only by adults (19%), while all children had no issues. Memory challenges were more common among adults, with over a third reporting some difficulty, compared to just 11% of children.

Overall, while most survivors function independently, a notable minority, particularly among adults, face lasting impairments with limited access to assistive support, underscoring the need for targeted rehabilitation and services.

Examining across the five daily living tasks of seeing, hearing, walking, communicating, remembering among adults, 28% (9) reported a lot of difficulty in at least one of those, and 37.5% (12 reported only no difficulties in any of these tasks. In examining the same daily living tasks among children, none of the children reported a lot of difficulty and only 22% reported some difficulty with one or more of those tasks compared to 78% that reported no difficulty in any of these tasks.

Table 9: Ability to do daily living activities since the UXO accident

	Adult Survivors (n=32)		Child Survivors (n=18)	
	%	n	%	n
Difficulty with vision				
None	20	62.5	16	88.9
Some	6	18.7	2	11.1
A lot	6	18.7	-	-
Assistive product for vision	(n=12)		(n=2)	
None	7	58.3	2	100
Glasses	3	25.0	-	-
Eye prosthetics	1	8.3	-	-
Surgical intervention	-	-	-	-
Other	1	8.3	-	-
Difficulty Hearing				
None	23	71.9	16	88.9
Some	6	18.7	2	11.1
A lot	3	9.4	-	-
Assistive product for hearing	(n=9)		(n=2)	
None*	9	1oo	2	100
Difficulty walking/stairs				
None	27	84.4	17	94.4
Some	5	15.6	1	5.6
A lot	-	-	-	-

Assistive product for walking	(n=5)		(n=1)	
None**	2	40.0	1	100
Other	3	60.0	-	-
Difficulty communicating				
None	26	81.2	18	100
Some	3	9.4	-	-
A lot	3	9.4	-	-
Difficulty remembering				
None	20	62.5	16	88.9
Some	9	28.1	2	11.1
A lot	3	9.4	-	-

*Other hearing assistive products asked about included hearing aid (behind ear), Cochlear implant, hearing amplifier, hearing assistance app, lip reading or sign language, or other; no respondents selected these.
**Other walking assistive products asked about included came, crutches, walker (frame), walking frame with wheels, prosthetic leg or foot, leg brace/orthopedics, manual wheelchair, electric wheelchair, or another person assisting; no respondents selected these.

Level of Difficulty with Hygiene and Self-Care After the UXO Accident

Assessing UXO survivors' ability to perform basic hygiene and self-care tasks offers crucial insight into the impact of injuries on daily independence, dignity, and well-being. Limitations in activities like bathing, dressing, eating, or using the toilet can increase reliance on caregivers, heighten health risks, and reduce social participation.

Most adult survivors reported no difficulty with core self-care tasks: 88% could get on and use the toilet unaided, 84% could wash themselves, and 88% could dress without help. Small shares experienced some or significant difficulty in these areas. Among child survivors, nearly all reported no issues with these tasks, and none reported severe difficulty.

Eating independently was also largely unaffected: 88% of adults and 94% of children reported no difficulty. Adults showed slightly more limitation in cooking, with 75% reporting no difficulty and 9% experiencing a lot. Mobility challenges were low, though 81% of adults and 94% of children could sit on the back of a motorbike without issue; a few adults reported severe or complete inability.

Regarding school participation, 89% of caregivers said the child could attend, while one reported they could not, and another was unsure. Overall, while most survivors retained basic self-care abilities, a small but significant group, especially among adults, faced challenges that may require targeted support.

Table 10: Ability to do daily hygiene care activities since the UXO accident

	Adult Survivors (n=21)		Child Survivors (n=5)	
	%	n	%	n
Getting on toilet alone*				
No difficulty	28	87.5	16	88.9
Some difficulty	1	3.1	2	11.1
A lot of difficulty	3	9.4	-	-
Using the toilet without support*				
No difficulty	29	90.6	16	88.9
Some difficulty	1	3.1	2	11.1
A lot of difficulty	2	6.2	-	-
Washing body*				
No difficulty	27	84.4	17	94.4
Some difficulty	4	12.5	1	5.6
A lot of difficulty	1	3.1	-	-
Dressing self*				
No difficulty	28	87.5	17	94.4
Some difficulty	3	9.4	1	5.6
A lot of difficulty	1	3.1	-	-
Eating food by self*				
No difficulty	28	87.5	17	94.4
Some difficulty	2	6.2	1	5.6
A lot of difficulty	2	6.2	-	-
Manual labor*				
No difficulty	21	65.6	16	88.9
Some difficulty	4	12.5	-	-
A lot of difficulty	6	18.7	1	5.6
Cannot do at all	1	3.1	1	5.6
Sitting on back of motorbike*				
No difficulty	26	81.2	17	94.4
Some difficulty	2	6.2	1	5.6
A lot of difficulty	3	9.4	-	-

Cannot do at all	1	3.1	-	-
Staying alone by self*				
No difficulty	26	81.2	N/A	N/A
Some difficulty	2	6.2	N/A	N/A
A lot of difficulty	4	12.5	N/A	N/A
Making own meals*				
No difficulty	24	75.0	N/A	N/A
Some difficulty	5	15.6	N/A	N/A
A lot of difficulty	3	9.4	N/A	N/A
Participating in school*				
No difficulty	N/A	N/A	16	88.9
Cannot do at all	N/A	N/A	1	5.6
Don't know	N/A	N/A	1	5.6
*The full range of responses included no difficulty, some difficulty, a lot of difficulty, cannot do at all, refused to answer, and don't know. If no respondents indicated one of these responses, it was eliminated in the table for presentation.				

Longer-term physical health needs

While survivors sometimes described initial challenges in accessing care or covering the cost of it (usually due to initial lack of awareness about medical reimbursement), or the need to visit a higher level of care for more specialized treatment, survivors did not otherwise express dissatisfaction or unmet needs related to their immediate medical care.

However, a theme did emerge that survivors with longer lasting physical symptoms described getting medical support in the immediate post-accident period, but then having that support disappear. For example, one survivor shared "*The medical expenses at the time of the accident were not paid by me, [the U.S. Medical Fund] supported it. But after that, I had to pay for all the check-ups and physical therapy myself*." Another survivor noted an ongoing need for pain relief, saying "*In terms of health, my parents take me to have therapeutic massage to relieve pain. I receive a massage once a month or every two months depending on the pain.*"

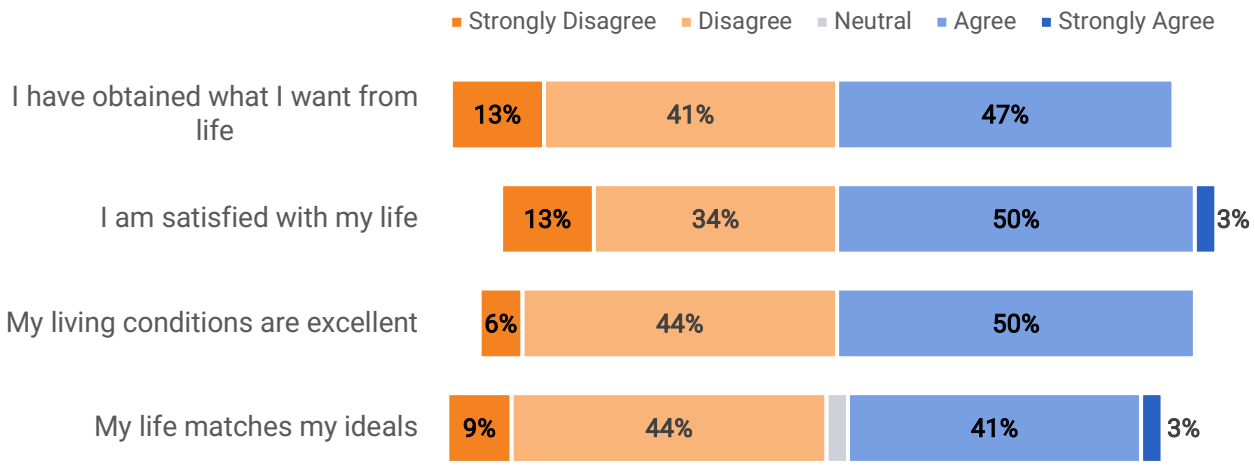
When asked what types of support they desired, some survivors mentioned additional medical needs. For example, one survivor shared, "*If an assistance opportunity allows, I would like to get help with the surgery to remove the shrapnel from my back,*" and another one said, "*I would like to get help with my eyesight problem because when looking at text or looking far away, I can't see well and I sometimes feel a deafening sound for a long while, but not all the time.*"

Psychosocial trauma, mental health, and social reintegration

Well-Being and Mental Health Before and After the UXO Accident

Figure 8 shows adult UXO survivors' responses on subjective well-being across four statements. For "My life matches my ideals," over half (53%) disagreed, while 44% agreed, suggesting many feel their lives fall short of their aspirations. When asked "My living conditions are excellent," responses were split: 50% agreed, 44% disagreed, and no one chose strong agreement or disagreement. For "I am satisfied with my life," half agreed, but 47% expressed dissatisfaction, including 12% who strongly disagreed. Responses to "I have obtained what I want from life" were similarly divided: 47% agreed, while 53% disagreed or strongly disagreed. Overall, the data reflect mixed but often negative perceptions of well-being and life satisfaction. Child survivors were not asked these questions.

Figure 8: Well-being of adult survivors since the UXO accident



Fear and Anxiety After the Accident As Barriers to Reintegration

Adult and child survivors alike referred to fear and feeling scared after the accident. In many cases, survivors even discussed how this affected their ability to participate fully in their everyday activities, including work, community activities, and school. As Sengchanh explained, "*if I go to work in the garden, I'm afraid that another bomb will explode. I'm so cautious that I don't want to work in the garden at all. I haven't worked in the garden since then.*" Others echoed this sentiment, explaining that they no longer visited fields or the forest where they used to work or gather food. For some survivors, this fear following the accident also prevented them from participating in additional community activities. As Somchai shared, *"after the explosion, everything has changed. I could no longer travel far because I felt anxious and easily frightened, I could not be in noisy places, and I don't like being in crowded places."*

Child survivors shared similar accounts of fear and feeling scared following the accident. As Bounmi explained, *"before the accident, I was never afraid. I was not afraid of anything wherever I went. But now, I am afraid all the time, especially where (the) bombs exploded."* In particular, children talked about their avoidance of playing outside due to this fear. Keo explained that "*after the accident, I feel 'scared to*

death', and don't dare to go outside and play around at the places I think are dangerous." Though avoiding dangerous areas is crucial for accident prevention, the level of fear and anxiety that children feel in certain areas may have a tremendous impact on their mental health and psychosocial well-being. Overall, descriptions of feeling scared and fear ranged from initial concern immediately following the accident through survivors' descriptions of their present-day experiences.

Encouragement and Contribution to Community are Key for Survivors' Well-Being

Survivors often discussed the value of receiving encouragement from family and community members, and expressed their desires to contribute to their families and communities in spite of any limitations that the accident may have caused.

Many survivors noted the emotional encouragement that they received from families, relatives, friends, and community members. Highlighting the importance of this encouragement, survivors noted when this emotional encouragement was lacking in their experience. As Somchai expressed, "*People in the community also showed their concern by visiting me when I was unwell, and asking about my health. This was an important encouragement for me.*" In this statement, Somchai explains not only how his community showed support, but also that this key for his reintegration.

When survivors were asked what they would say if they met another survivor, they often mentioned this emotional encouragement. As Somchai explained in this quotation, emotional encouragement would be something that they could offer another survivor:

> Suppose I met a bomb survivor, I would talk to them, express my sympathy to the, and encourage them to fight just like I did as one of the victims. That's all I can say. I have no money or anything to give them. But I provide emotional encouragement to the victims.

In addition to the encouragement discussed above, survivors often mentioned how they desired to and/or were able to contribute to their community despite any physical limitations from the accident. Khamdee expresses this desire and action to contribute to their community in spite of limitations:

> Despite the hardships, I always participate in community activities. I attend village meetings when notified and also help with communal village work. Also, after finishing weeding my own fields, I will go and help my friends who need help. When there are festivals or events in the village, everyone helps each other.

In one instance, this contribution also referred directly to sharing their story about the UXO accident. Bounmi's quotation explains how he shared his story at school:

> The teacher at school gave me the opportunity to share experiences on the effects of the UXO accident, telling stories and feelings. There were about 70-80 participants at school in groups listening to my story. The story shared at that time was that when the accident had happened, I didn't feel any pain, until I heard my younger brother call my name and said, 'the bomb exploded.' Suddenly, I felt scared. I was afraid that I might not survive and wouldn't be able to see my parents. After sharing the story, I advised everyone who attended the event, "If you are going to dig any piece of land, you want to check soil or land first to see if there are any bombs. I don't want this accident to happen to anyone else.

Though this type of event was not a frequently discussed type of contribution, this quotation highlights a unique opportunity for UXO survivors to contribute significantly to their communities and consideration for future EORE efforts.

Question 4 Discussion

Immediate medical needs and response

From our conversations with survivors, our team learned about their experiences with health care services, including initial and ongoing medical treatment, rehabilitation, and mental health services. One of the most pressing challenges is the delay in accessing medical treatment. Survivors often wait well beyond the "golden hour," [38] especially in rural areas where health infrastructure is sparse and transport difficult; such delays exacerbate injury severity and increase the risk of long-term disability, a trend mirrored in other post-conflict and low-resource contexts. Similar challenges are documented in other low-resource or post-conflict contexts, where delayed access to acute care correlates with higher complications and chronic disabilities.[39] [40]

Adults frequently rely on multiple levels of the public health system before receiving appropriate care, while children often went directly to provincial hospitals (rather than first to health centers or district hospitals), suggesting either a lack of pediatric trauma capacity or parental perceptions that higher-level hospitals are better equipped. The absence of immediate, community-based first aid remains a critical gap, particularly given that most accidents occur during routine, local activities on foot.

One possibility for expanded support may lie in tapping into networks of trained trauma medics that accompany UXO operators engaged in clearance and removal. The case of one survivor who received immediate care from a UXO operator trauma medic suggests that these have the potential to fill a gap; however, scaling or systematizing this type of response could be challenged by community awareness and the fact that clearance teams (and their medics) do not remain in a particular area forever. Further research, consultations, and mapping of UXO operator medics are needed to explore the potential of this approach in the Lao context. Another option could be to explore first-response training and portable emergency kits at the village level in high-risk areas; while large-scale and in-depth training would likely be cost prohibitive proportional to the number of UXO accidents, some simple training on the most critical basics could help reduce preventable morbidity.

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[38] In trauma care, "golden hour" refers to the first 60 minutes after a severe injury or medical emergency. https://www.who.int/about/accountability/results/who-results-report-2022-mtr/rapid-reaction-aiming-for-the-golden-hour-of-health-emergency-response

[39] Werner K, Kak M, Herbst CH, Lin TK. The role of community health worker-based care in post-conflict settings: a systematic review. Health Policy Plan. 2023 Feb 13;38(2):261-274. doi: 10.1093/heapol/czac072. PMID: 36124928; PMCID: PMC9923383. https://pmc.ncbi.nlm.nih.gov/articles/PMC9923383/

[40] Omam, LA., Jarman, E., O'Laughlin, K.N. et al. Primary healthcare delivery models in African conflict-affected settings: a systematic review. Confl Health 17, 34 (2023). https://doi.org/10.1186/s13031-023-00533-https://conflictandhealth.biomedcentral.com/articles/10.1186/s13031-023-00533-w

Rehabilitation needs and support

Rehabilitation services, ranging from physical therapy and prosthetics to psychosocial support, remain severely limited in reach and accessibility. Only a small fraction of survivors reported receiving such care, despite clear evidence of its importance for functional recovery and independence, consistent with other reports.[41] [42] Financial and geographic barriers, coupled with the concentration of services in urban centers such as COPE clinics, leave the majority of survivors without adequate support. These findings echo existing literature:[43] UXO survivors often experience prolonged psychosocial distress and pain, yet receive little in the way of holistic rehabilitation beyond basic prosthetics and physical therapy.

Survivors' ability to engage in everyday activities underscores the breadth of UXO's impact beyond income. Most survivors retain independence in self-care, but a notable minority, mainly adults, experience mobility, sensory, memory, or communication limitations, which heighten reliance on family members and constrain participation in work, education, and community life. Limited access to assistive devices exacerbates these challenges. Children generally experience fewer impairments, but even minor difficulties can affect school performance and developmental outcomes. These difficulties increase reliance on family members, heighten vulnerability to health risks, and reduce participation in education, work, and community life. The limited use of assistive products points to systemic gaps in rehabilitation and support services, leaving many survivors to cope without adequate tools to restore independence.

The lack of holistic rehabilitation, including mental health services, compounds the burden, as survivors often endure chronic pain, stigma, and psychosocial distress with little formal assistance. Evidence from post-conflict contexts suggests women often face greater psychosocial burdens, with higher rates of post-traumatic stress and depression, requiring gender-sensitive support strategies.[44] [45] Expanding rehabilitation through decentralized services and integrating it into national health strategies remain urgent priorities.[46]

Cultural norms also shape recovery. The predominance of Animist beliefs and strong community cohesion in rural areas influence how survivors interpret injury and seek support. Social support

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[41] Landmine & Cluster Munition Monitor (2014). Cluster Munition Monitor 2014: Casualties & Victim Assistance. https://archives2.the-monitor.org/en-gb/reports/2014/cluster-munition-monitor-2014/casualties-victim-assistance
[42] Landmine & Cluster Munition Monitor (2022). Cluster Munition Monitor 2022: The Impact. https://archives2.the-monitor.org/en-gb/reports/2022/cluster-munition-monitor-2022/the-impact.aspx
[43] Wyper, R. B. (2012). An exploratory study of the perceived impact of health problems of landmine/UXO victims versus another disability group. Health and Quality of Life Outcomes, 10(1), 121. https://link.springer.com/article/10.1186/1477-7525-10-121
[44] Fel S, Jurek K, Lenart-Kłoś K. Relationship between Socio-Demographic Factors and Posttraumatic Stress Disorder: A Cross Sectional Study among Civilian Participants' Hostilities in Ukraine. Int J Environ Res Public Health. 2022 Feb 26;19(5):2720. doi: 10.3390/ijerph19052720. PMID: 35270413; PMCID: PMC8910590. https://pubmed.ncbi.nlm.nih.gov/35270413/
[45] Ainamani, H.E., Elbert, T., Olema, D.K. et al. Gender differences in response to war-related trauma and posttraumatic stress disorder – a study among the Congolese refugees in Uganda. BMC Psychiatry 20, 17 (2020). https://doi.org/10.1186/s12888-019-2420-0 https://bmcpsychiatry.biomedcentral.com/articles/10.1186/s12888-019-2420-0
[46] Asian Mine Action (2025). Turning Pain Into Power: A Path Forward for Unexploded Ordnance Survivors in Lao PDR https://aseanmineaction.org/turning-pain-into-power-a-path-forward-for-unexploded-ordnance-survivors-in-lao-pdr/

networks can mitigate trauma, yet ethnic minority groups may face stigma or mistrust when engaging with formal services. Social determinants such as ethnicity and socially disadvantaged groups are also more vulnerable to prolonged psychological distress.[47] Programs that respect cultural practices and leverage community solidarity are therefore vital for improving psychosocial outcomes.

Question 4 Recommendations

- **Increase awareness of the importance of getting victims to care quickly.** In some cases, remoteness at the time of accident may make delays in care unavoidable (as in the case of the survivor who was carried for two hours); however, there were also cases where delays may have been caused by bringing victims home first, arranging transport, and gathering funds for treatment. One option would be to adding key messages to EORE awareness raising for appropriate response, for example, that anyone involved in a UXO accident should immediately get medical attention and assessment even if injuries appear minor.

- **Explore options to reduce delays in connecting survivors to medical response:** Results show critical delays in victims reaching timely treatment for injuries. The variety of factors contributing to delays and inconclusive data on common causes suggest that this issue requires further examination and may warrant a multi-pronged approach. For example, options may include leveraging UXO operator trauma medics or providing very basic emergency kits to village leaders in high-risk areas.

- **Decentralize Rehabilitation Services**: Expand rehabilitation services, including physical therapy, prosthetics, and psychosocial support, by extending support, particularly for needed follow-up, from urban centers to districts to overcome financial and geographic barriers. Traveling services or mobile clinics may help better reach geographically scattered survivors for follow-up care.

- **Integrate Mental Health and Psychosocial Support with Rehabilitation Services**: Ensure rehabilitation includes holistic care, particularly mental health services, to address chronic pain, psychosocial distress, and stigma. **Implement gender-sensitive support strategies** to address the greater psychosocial burdens often faced by women.

- **Attend to survivors' social and belonging needs:**

    - **Design programs that respect cultural practices** (like Animist beliefs) and leverage strong family cohesion and community solidarity to improve psychosocial outcomes.

    - **Build on family-centric support:** Build on the protective effects of multi-generational and intact family units by officially supporting and including family members—who often take on caregiving and income-earning roles—in recovery and support plans. Ensure interventions are context-specific and sustainable.

[47] Ford JD, Grasso DJ, Elhai JD, Courtois CA. Social, cultural, and other diversity issues in the traumatic stress field. Posttraumatic Stress Disorder. 2015:503–46. doi: 10.1016/B978-0-12-801288-8.00011-X. Epub 2015 Aug 7. PMCID: PMC7149881. https://pmc.ncbi.nlm.nih.gov/articles/PMC7149881/

- **Embed survivor support within community settings.** Through schools, peer support, cooperatives, capitalize on residential stability to deliver continuous, locally grounded care.

Research Question 5:

Have victims been able to receive a proof of disability from the Government? What disability supports are victims aware that they are entitled to?

5. Have victims been able to receive a proof of disability from the Government? What disability supports are victims aware that they are entitled to?

The findings in this section reveal a significant gap in awareness and access, as no survivors reported being aware of disability benefits or receiving proof of disability or related supports. This gap is mirrored in the responses from local government officials, who demonstrated limited or unclear knowledge regarding the process for obtaining official proof of disability or associated benefits.

Question 5 Findings

In interview responses related to sources of support, no survivor mentioned receiving support related to disability policies, nor did any mention an expectation of benefits they were entitled to as a result of disability status. This gap indicates that survivors may not be benefiting from disability certification and associated supports, either due to lack of awareness, limited access, inconsistent implementation, or a combination of all of those factors. (Note that not all survivors in the sample were persons with disabilities; some recovered from their UXO accidents with no lasting impairments or limitations.)

Similarly, interviews with Government officials indicated that they have either no knowledge or only limited and unclear knowledge about the proof of disability process, and very few could reference the process by which persons with disability can obtain a Lao Disabled Persons Association (LDPA) membership or associated benefits.

Officials' understanding of disability rights and benefits for people with disabilities varied. Officials were asked about their knowledge of the process for obtaining proof of disability, whether UXO survivors had it, and the types of services and supports available to people with documented disabilities. Most officials believed that there was no process for obtaining proof of disability, said they were unaware of any process, or simply said they didn't know. For example, one said "*As far as I know, the government doesn't have proof of disability yet. This work is under Ministry of Labor and Social Welfare (MoLSW), so I don't know much about it.*"

Two officials referenced the Lao Disabled People's Association (LDPA), the membership cards it provides, and associated benefits; however, both included caveats in their responses that provision of cards and benefits is not widespread. For example, one official said:

> We don't have any proof from the government yet, only membership of the Lao Disabled People's Association (LDPA). This card can verify that you have a disability. However, access

> to special benefits may still be limited [and] in some local areas, access to service or rights guaranteed by disability law may still be lacking.

Between those who said there was no process and those who could explain the LDPA mechanism, a few officials indicated in different ways an intermediate level of understanding on disability: for example, in response to an earlier question (before the interviewer raised the topic of disability), one official noted that among the government's responsibilities related to UXO was raising awareness on the rights of persons with disabilities, while a few others noted they were aware of or tracked numbers of persons with disabilities in their area.

Question 5 Discussion

The Government of Lao PDR has anchored its commitment to persons with disabilities in its development goals and international obligations, including the Convention on the Rights of Persons with Disabilities (CRPD). The MoLSW plays a central supervisory and coordinating role in managing policies, procedures, and benefits for persons with disabilities. It has been instrumental in developing broader national strategies, such as the National Action Plan on Persons with Disabilities, which covers key areas like social protection, employment, and vocational training. Supporting UXO victims with disabilities contributes to this priority, which is broader than victim assistance. For those UXO survivors with disabilities, the Law on Persons with Disabilities (Law No. 146 of 2018) entitles them to a number of benefits and supports.

However, there are noted gaps in the rights set forth in the law, awareness of these rights, and the access to resources and support laid out in the law.[48] Our findings underscore these gaps; in particular, the confusion and limited understanding of processes and supports for people with disabilities highlights an area for improvement.

Question 5 Recommendations

- **Increase awareness of disability policies, processes, and benefits among village, district, and provincial authorities**, who are the key coordinators of support for UXO survivors. Both survivors and government officials highlighted the key role that local authorities play in coordinating survivor support (see Question 7), but the limited awareness among government officials suggests a critical gap. While some government officials were aware of the process for obtaining disability cards via the LDPA, many were unaware or expressed some confusion about policy and process.

- **Communicate updates to processes clearly:** As the government is in the process of revising procedures related to disability certification, it will be critical to ensure that updates to policies

[48] Committee on the Rights of Persons with Disabilities. Concluding observations on the initial report of the Lao People's Democratic Republic. Geneva, Switzerland: Office of the United Nations High Commissioner for Human Rights (OHCHR), 2022;

and procedures are communicated to avoid further hampering survivors with disabilities' access to benefits.

- **Clarify roles, responsibilities, and coordination mechanisms for supporting UXO survivors with disabilities** to obtain proof of disability, understand benefits, and access benefits they are entitled to. The different agencies and organizations involved in providing and coordinating support for UXO survivors with disabilities—from the NRA coordinating victim assistance, to the MoLSW leading on policies and benefits for persons with disabilities, to the LDPA providing membership—may require clearer explanation and coordination so that each entity and official involved can play their part to effectively and efficiently support survivors with disabilities. For UXO survivors with disabilities, the NRA may need to take on a stronger coordinating role in the short-term period following the accident to ensure that survivors with new disabilities get connected to the LDPA and MoLSW, who can then manage ongoing access to and provision of benefits.

- **Access:** Ensuring physical, informational, and social accessibility for persons with disabilities and UXO survivors remains a challenge across various sectors, including education, employment, and community life.

- **Support teachers to strengthen inclusive education for children with disabilities:** in addition to training to provide school-based EORE, teachers likely need capacity building to better provide inclusive education and support for child UXO victims, for both instruction and reintegration into classrooms and school activities.

Research Question 6:

What were the longer-term impacts of the accident in terms of livelihoods for both survivors and family and were they engaged in any structured livelihood support programmes?

6. What were the longer-term impacts of the accident in terms of livelihoods for both survivors and family and were they engaged in any structured livelihood support programmes?

In response to this question, the analysis uses both qualitative accounts and quantitative data to document the profound and lasting socio-economic toll of UXO incidents. The findings detail how injuries erode economic stability, forcing survivors to shift to "light work" and causing a loss of income that pushes households into lower income brackets and increased debt. Only one survivor was able to access structured livelihood support. In the context of this gap in livelihoods support, this section highlights the essential role of family members, who take on new burdens as primary income earners and caregivers.

Question 6 Findings

Decreasing Economic Stability for Survivors Who Focus on Light Work

The accidents affected economic stability for survivors and their families, but survivors and their families also adapted in a variety of ways. For many survivors, the accidents led to changes in how their families generated income and how much income they earned. Survivors who faced physical limitations after the accident often described that they “can’t make money” like they did prior to the accident. This shift to a focus on light work often was paired with spouses or other family members taking on new roles as income earners or sole income earners. Khamdee explained this change for his family, and how his wife’s life changed as a result:

> After the incident, my family life has changed a lot. I couldn't work as much as I used to, so I didn't have enough rice/food to eat and had to buy more. Also, I didn't earn as much money as I used to. Because of this, my wife had to work harder to help earn an income because I couldn't do the hard work I used to do.

Survivors often described the physical limitations that affected their ability to earn income and participate in other activities as an inability to do heavy or hard work and a need to focus on light work. Often doing light work was framed as a result of physical injuries and symptoms from the accident such as a loss of mobility, exhaustion, and reduction or loss of hearing or vision. Somchai explained this change in income generation based on needing to do light work.

> My life is not the same anymore. Currently I no longer go to the market to earn money like I used to because I get tired easily. Now, I only do light work in the village that I'm hired to do work nearby, such as planting rice. Before, my monthly income was about two million kip, but now it's not certain. Some months I earn about 400,000-500,000 kip, some months I earn only 300,000-400,000 kip from selling frogs, crickets in the village.

Though many survivors expressed concern about the decrease in their families' incomes, it is important to note that for survivors who did not experience significant physical limitations from their accidents, they instead described themselves as "living a normal life." In several cases, survivors reported that their ability to earn income was immediately affected by the accident but returned to a similar state upon recovery. As Sengchanh noted, "*when I was newly injured, I couldn't work hard, do farming, gardening, or do some housework, such as collecting firewood and fetching water. My husband helped me do all of these tasks. After recovering from my injuries, I am able to work normally*." Through this quotation, Sengchanh explains how she couldn't do hard work but was then able to return to those activities after recovering.

Figure 9 shows how household spending shifted after UXO injuries, reflecting the economic impact of such incidents. For adults, food remained the top expense, rising slightly (81% to 84%), while education spending dropped sharply (47% to 25%). Clothing and livestock costs declined, but agriculture spending increased (25% to 41%), possibly reflecting livelihood adaptation. Housing and "other" expenses also rose slightly, suggesting new needs post-injury. Among child survivors, food (89%) and education (50%) spending held steady, but agriculture and housing costs fell, while "other" spending rose, likely due to medical or rehabilitation-related costs. Overall, UXO injuries shift spending, especially for adults, from long-term priorities like education to immediate needs and recovery.

The data show mostly stable household asset ownership before and after UXO incidents, with some shifts. Among adults (n=32), mobile phone and motorbike ownership remained high and unchanged at 84% and 81%, respectively, highlighting their essential role. Livestock ownership rose slightly from 69% to 75%, possibly suggesting a shift toward local, home-based income generation. Meanwhile, bicycle ownership fell from 28% to 19%, and radio ownership dropped sharply from 16% to 6%, indicating less emphasis on lower-value, non-essential assets post-incident.

Among child survivors, motorbike and mobile phone ownership remained very high, with motorbike access steady at 94% and mobile phone ownership rising slightly from 89% to 94%. Refrigerator ownership increased from 56% to 72%, suggesting some households may have invested in food storage as a recovery strategy. Ownership of tractors and livestock remained stable, while televisions declined slightly from 33% to 28%. These patterns indicate that households tend to maintain or invest in high-value, functional assets, while deprioritizing less essential items after injury.

Figure 9: Items spent money on before and after UXO accident

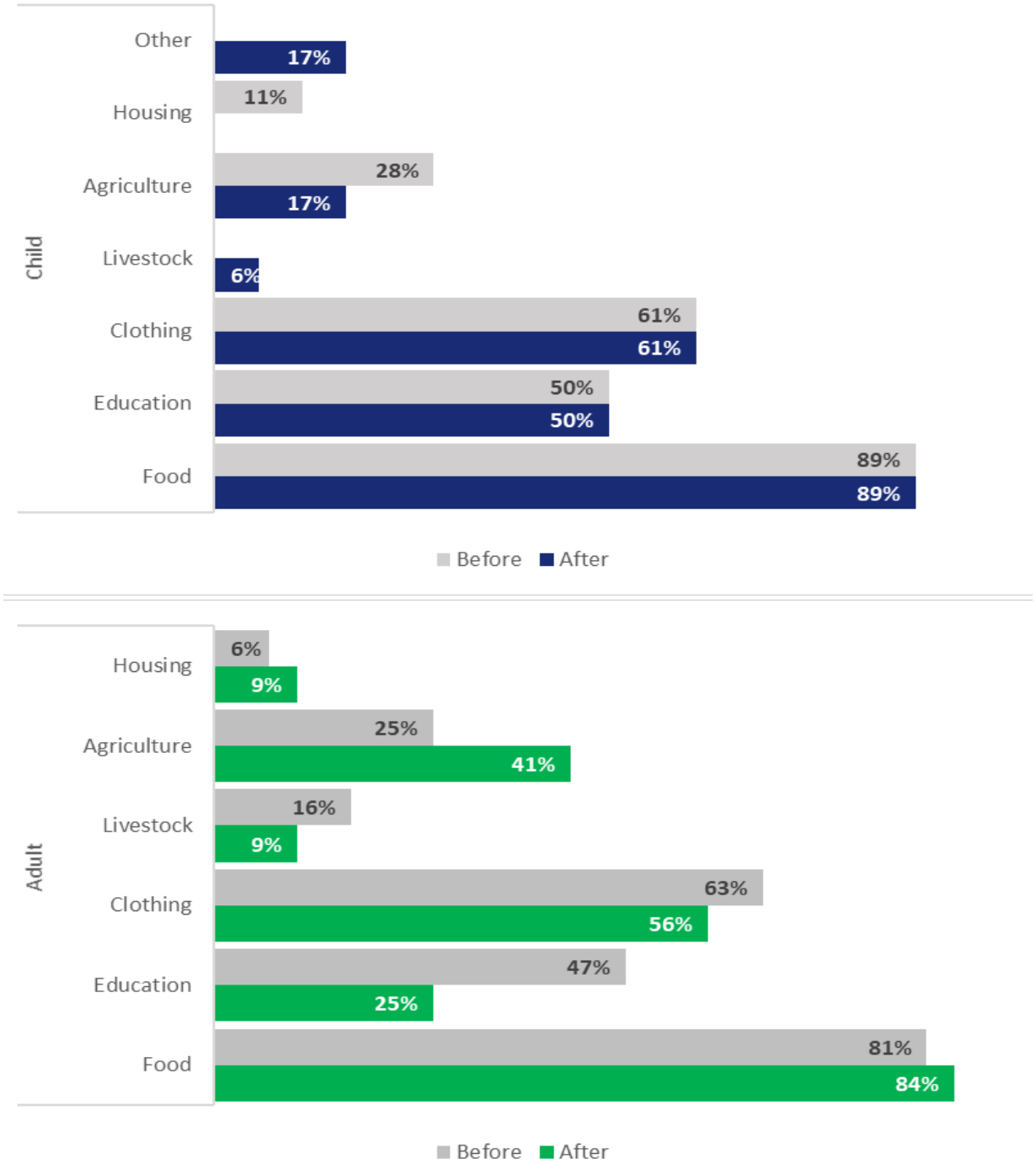


Figure 10: Items owned by survivor households before and after UXO accident

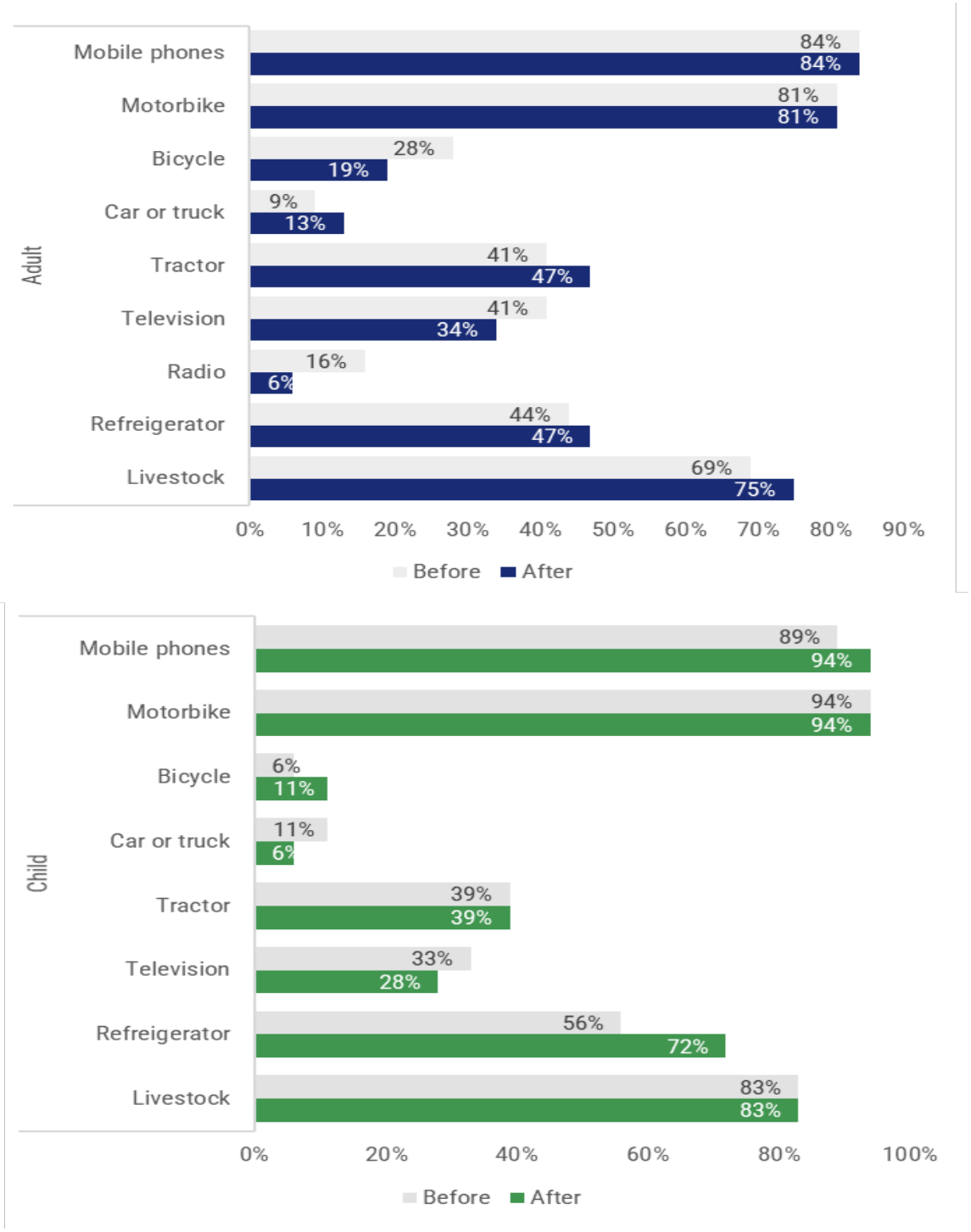


Table 11 shows shifts in main income sources for adult survivors and their household members following UXO incidents. Among survivors or caretakers, self-farming was the most common income source before the accident (44%) but dropped to 34% after, likely due to reduced physical capacity. Unemployment rose sharply from 6% to 31%, reflecting major livelihood loss. Small business activity

and student status disappeared entirely, while subsistence living rose slightly from 12% to 16%. For other household members, self-farming remained dominant, declining slightly from 72% to 66%. Subsistence living increased from 28% to 34%, suggesting a shift toward low-resource survival strategies. Student status dropped from 25% to 16%, possibly indicating children leaving school to support the household. These changes underscore the wide-reaching economic impact of UXO incidents beyond the immediate survivor.

Table 11: Main sources of income in household before and after UXO accident for adult survivors

Main Income Source	Before Accident		After Accident	
	n	%	n	%
Survivor				
Farming (self)	14	43.7	11	34.4
Farming (company)	1	3.1	2	6.2
Fishing	0	0	0	0
Small business	3	9.4	0	0
Government staff	0	0	0	0
Private company	1	3.1	0	0
Subsistence living	4	12.5	5	15.6
Student	3	9.4	0	0
Unemployed	2	6.2	10	31.2
Other	4	12.5	4	12.5
Others in Household				
Farming (self)	23	71.9	21	65.6
Farming (company)	2	6.3	1	3.1
Fishing	0	0	0	0
Small business	0	0	0	0
Government staff	1	3.1	2	6.3
Private company	3	9.4	2	6.3
Subsistence living	9	28.1	11	34.4
Student	8	25.0	5	15.6
Unemployed	7	21.9	6	18.8
Other	6	18.8	5	15.6

Table 12 presents income sources for primary caretakers and other household members of child UXO survivors before and after the incident. Among caretakers, self-farming remained the most common source, rising slightly from 39% to 44%. Government employment and subsistence living held steady at 17% each, with no reports of unemployment or student status at either time. One caretaker reported "other" income before the incident, which was not reported after. For other household members, income sources were also stable. Self-farming and subsistence living each accounted for 33% both before and after, while unemployment rose slightly from 22% to 28%. Student status, government work, and small business remained minimal or absent. Overall, the data suggest limited shifts in household income, though slight increases in unemployment may point to growing economic strain.

Table 12: Main sources of income in household before and after UXO accident for child survivors

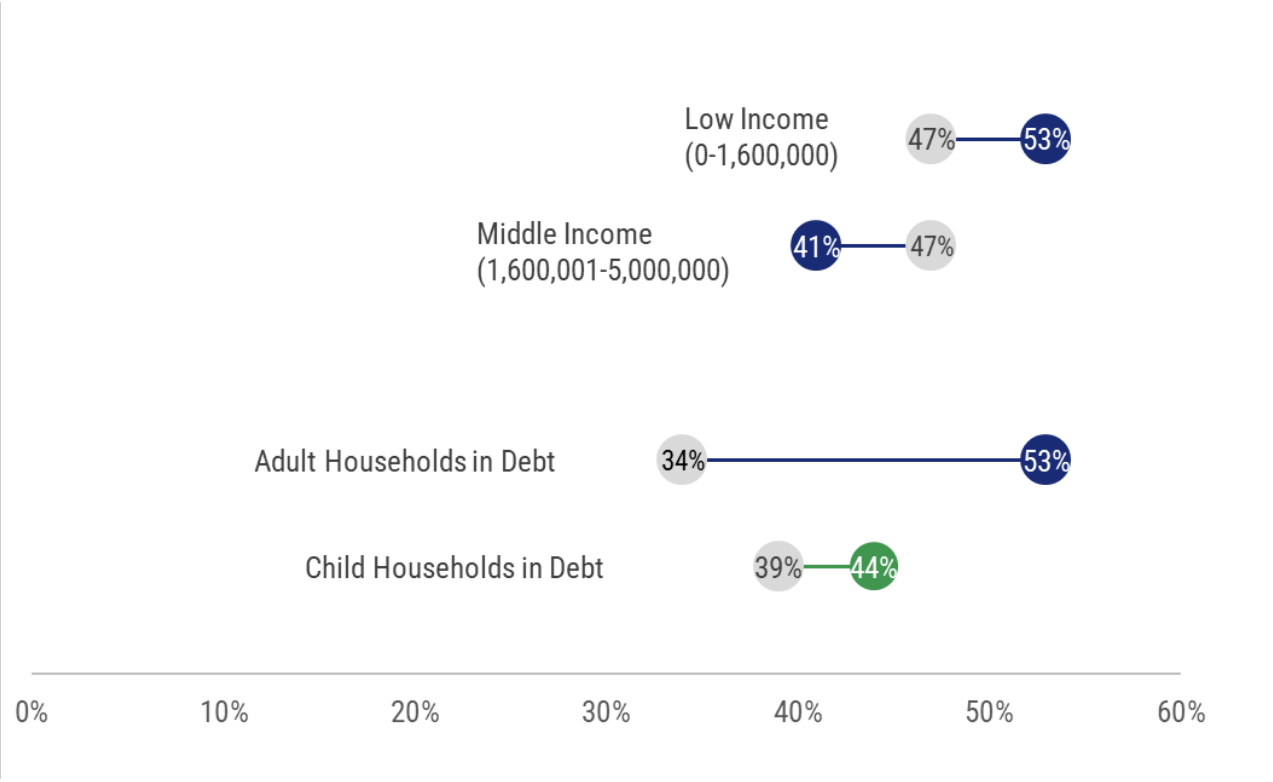
Main Income Source	Before Accident		After Accident	
	n	%	n	%
Primary Caretaker				
Farming (self)	7	38.9	8	44.4
Farming (company)	2	11.1	2	11.1
Fishing	0	0	0	0
Small business	1	5.6	1	5.6
Government staff	3	16.7	3	16.7
Private company	1	5.6	1	5.6
Subsistence living	3	16.7	3	16.7
Student	0	0	0	0
Unemployed	0	0	0	0
Other	1	5.6	0	0
Others in Household				
Farming (self)	6	33.3	6	33.3
Farming (company)	1	5.6	1	5.6
Fishing	0	0	0	0
Small business	0	0	0	0
Government staff	0	0	0	0
Private company	1	5.6	1	5.6
Subsistence living	6	33.3	6	33.3
Student	1	5.6	1	5.6
Unemployed	4	22.2	5	27.8
Other	0	0	0	0

Income, Debt, and Loss Conditions Before and After the UXO Accident

Figure 11 presents estimated monthly income for adult survivor households only, before and after the UXO incident. The data show a modest shift toward lower income brackets following the accident. Households earning 0–1,600,000 LAK increased from 47% to 53%, while those in the 1,600,001–5,000,000 LAK range declined from 47% to 41%. The share earning 5,000,001–15,000,000 LAK remained unchanged at 6%, and no households reported earning above 15,000,000 LAK at either time. These changes suggest a slight overall decline in income following the incident.

Debt increased in both adult and child survivor households after the UXO incident. Among adult households, debt rose from 34% to 53%, while child households saw a smaller increase from 39% to 44%.

*Figure 11: Monthly income and household debt **before** and **after** the UXO accident*



The data show changes in household debt among both adult and child survivor households following the UXO accident. Among adult households, the number of respondents reporting debt increased from n=11 before the accident to n=17 after.

The amount of debt increased after the UXO incident, with notable shifts in amount and distribution. Among adult households, debt not only became more common but also shifted toward higher brackets. The most common post-incident debt was 2,000,000–<5,000,000 LAK (35.3%), with new cases emerging in the 5,000,000–<10,000,000 LAK and 10,000,000+ LAK ranges, which were levels not reported before.

In child survivor households, debt rose slightly but shifted toward smaller amounts. Most post-incident debt (62.5%) fell in the 180,000–<500,000 LAK range, while higher debt levels previously reported disappeared.

Overall, debt became more widespread after the incident, with adult households more likely to accumulate larger debts, while child survivor households saw a shift to lower debt levels.

Table 13: Debt amount before and after UXO accident for adult and child households

	Before Accident		After Accident	
	n	%	n	%
Adult Debt Amount (LAK)	(n=11)		(n=17)	
<180,000	-	-		
180,000- <500,000	3	27.3	4	23.5
500,000-<1,000,000	3	27.3	2	11.8
1,000,000-<2,000,000	2	18.2	3	17.6
2,000,000-<5,000,000	3	27.3	6	35.3
5,000,000-<10,000,000	-	-	1	5.9
>10,000,000	-	-	1	5.9
Child Debt Amount (LAK)	(n=7)		(n=8)	
<180,000	1	14.3	-	-
180,000- <500,000	2	28.6	5	62.5
500,000-<1,000,000	-	-	1	12.5
1,000,000-<2,000,000	-	-	1	12.5
2,000,000-<5,000,000	3	42.9	-	-
5,000,000-<10,000,000	1	14.3	1	12.5
>10,000,000	-	-	-	-

Family members offered crucial support for UXO survivors and bear the burden of adapting livelihood strategies.

Survivors overwhelmingly identified family members as key facilitators of their recovery and reintegration. Families encourage survivors, support family income generation, undertake bigger roles in supporting household maintenance, and assist with survivors' healing and health care. Bounmi explained how his family encouraged him and supported his treatment, stating that *after the accident, my family members and siblings provided support. They helped with my treatment, visited me, and encouraged me to stay strong by saying, e.g., "You will get well soon."*

When survivors were limited in their ability to make the same money as prior to the accident, family members assumed responsibility for generating income regardless of whether they were the previous breadwinner or not. Khamdee expresses how this change appeared for his family: "*after the accident, the roles of my family members change. My children and wife have become the key persons (breadwinners) because I can no longer do what I used to do.*"

Similar to family members' support for income generation for the family, families also assumed more responsibilities at home. Sengchanh shares this sentiment about her family here: "*the family takes care of me better than before. They don't allow me to do much work/housework*." For some survivors, this need for additional housework to be covered by family members ended after they initially recovered from the accident. However, for others with more long-lasting symptoms, this became a new distribution of household tasks.

In addition to shifting their household and work responsibilities, in cases where survivors obtained severe injuries, family members also assisted survivors in taking care of their daily hygiene and supporting their medical treatment. As Sengchanh recalled, when "*I woke up, I could not do anything. My husband had to do everything for me, such as taking me to the bathroom, washing my face, bathing, cooking and dressing me for one month.*" Somchai highlighted how his wife supported his medical care, explaining that "*she looks after my health. She often asks if I want to eat anything special, and asks me about my symptoms or if I want to go to see the doctor*."

In Sengchanh, Somchai, and Khamdee's stories shared in this section, we highlight how survivors were able to rely on their families for various types of support. Depending on the survivors' needs, family members assisted in making sure that they followed their medical treatment, assumed responsibilities for new household or work tasks, and provided important encouragement to survivors in their recovery.

Only one adult survivor reported receiving livelihood support.

Both the quantitative survey and the qualitative interviews asked survivors (or their caregivers) what types of support they had received and from which different sources.

Only one adult respondent reported receiving livelihood support; the same respondent reported (under "other") that they received livestock from Quality of Life Association (QLA). None of the respondents reported receiving small business support. Two other survivors interviewed mentioned that there had been livelihood or skill training programs that came to their village, but that these were not specifically for or targeting UXO survivors. Neither survivor attended, but the spouse of one did.

When asked what types of support they needed, survivors consistently shared things related to improving their livelihoods or capacity to generate income to be financially secure and provide for their families. (See additional findings, discussion, and recommendations under Question 8.)

Other types and sources of support

Survivors were asked if they had received support from government, from NGOs, and from the village committee, and if so what type of support they had received, such as financial support, food, livelihood

training, medicine, small business support, transport support, or other types of assistance. Analysis of both qualitative and quantitative data revealed that there are inconsistencies in how survivors recall types of support and attribute the sources of their support, and that their attribution may not always align with how sector stakeholders differentiate support sources. In interviews, survivors often stated they couldn't remember or didn't know who had provided support. In particular, it may be challenging for survivors to untangle relationships when support is provided by NGOs with government representatives present or as part of programs aligned with government policies but administered by NGOs. For this reason, we focus on the types of supports received and the overall levels of support received rather than differences in the sources of support. Overall, slightly more than two thirds of both adult and child survivors reported receiving support. Among both groups, fewer than half of survivors (44%) reported receiving support from more than one source.

Among adult survivors, 69% (22) had received support from at least one of the three sources (government, NGOs, or village committees), and 31% (10) did not report receiving any support. However, some of those 10 who in the survey responded they had not received support indicated on other survey questions or in interviews, or both, that they *had, in fact received support,* so the number not receiving support may be skewed due to confusion about the questions. Among the 22 survivors who reported receiving support, 14 reported receiving support from one source, and 8 reported receiving support from two sources. No survivor reported receiving support from all three sources–government, NGOs, and village committee.

The survey did not give survivors an opportunity to share reasons why they may not have received support. However, there are a few possible explanations, and it is likely that there were a mix of different explanations at play for different cases. In one case, the accident was caused by another person looking for scrap metal—a behavior that can be an exclusion factor for provision of medical care coverage. Other data also suggests that among this group of 8-10 survivors, injuries were less severe than among the other portion of the sample. For example, seven received only more basic medical interventions—wound cleaning, bleeding control, or medication, or a combination of these—and only 3 (30%) went to provincial hospital, compared to 51% of those who did report receiving support. One was the survivor mentioned elsewhere who received attention at the accident site from a trauma medic and then required no further medical care.

The child and caregiver tool asked caregivers whether the child or the household had received support from each of the three sources—government, NGOs, or village committee—and if so, what kinds. Among the 18 child survivor households in the sample, 72% (13) reported receiving support from at least one source, and 28% (5) reported receiving no support from any source. Among the 13 households that reported receiving support, 8 reported receiving it from only one source; 4 reported receiving it from two sources; 1 reported receiving it from all three sources.

Table 14: Survivors receiving support and number of sources for support (out of Government, NGO, and Village Committee)

	Adults		Children	
	n	%	n	%
Any support	22	69%	13	72%
No support	10	31%	5	28%
1 source	14	44%	8	44%
2 sources	8	25%	4	22%
3 sources	0	0%	1	6%

Table 15: Number and portion of survivors receiving support, and types of support

	Adults (n=32)			Child Survivor Households (n=18)		
	Number	% of all adults (32)	% of those receiving support (22)	Number	% of all child households (18)	% of those receiving support (13)
Any support	**22**	**69%**	**100%**	**13**	**72%**	**100%**
Financial support	14	44%	64%	10	56%	77%
Medicine	12	38%	55%	5	28%	38%
Transport	9	28%	41%	1	6%	8%
Food	5	16%	23%	1	6%	8%
Other	6	19%	27%	0	0%	0%
Documentation and referrals	3	9%	14%	2	11%	15%
Livelihood support	1	3%	5%	0	0%	0%
Small business support	0	0%	0%	0	0%	0%

Note: adult survivors were able to name more than one type of support per source, while child survivor households could name only one type of support for each source they named.

The most commonly reported type of support received by both adult survivors and child survivor households was financial support, with medicine reported as the second most common in both groups. Due to slight differences in the way data were recorded, adult survivors were able to name more than one type of support per source, while child survivor households could name only one type of support for each source they named. Among adults, other common types of support included transport support, food and other types.

In both groups, a few respondents noted that village committees had supported them with documentation and referrals. These were originally coded as "other" but are reported separately in Table 15 below given the consistency that emerged from the answers. However, the number reporting this support may be an undercount, given that it was not specifically asked about and most other sources of support (e.g. for medical care, financial support) require referrals.

Among "other" types of support, 4 respondents reported monetary amounts; one of these was specifically mentioned as being for "spiritual support".

Community responses to survivors varied greatly, shaping survivors' community reintegration.

Community members often provided support to survivors after their accidents, though the types and levels of support varied. Survivors reported that community members visited them after their accidents, providing words of encouragement, showing their concern, and making small donations to the survivors' families such as fruit. Khamdee discussed this encouragement that he received from his community after the accident, claiming that "*my friends in the community also expressed their concern by asking for updates and asking about what had happened to me. Their good words made me feel happy and encouraged. They told me not to give up because they believed that everything would get better and return to normal.*"

In reference to visits from community members, several survivors indicated that their relatives were more likely to provide this type of support. Somchai describes this in the following statement: "*some people came to visit and ask about my symptoms. However, most of the visitors were only relatives in the village*." Overall, survivors discussed community and relatives visits paired with encouragement and showing of concerns as forms of support after their accident, reiterating the importance of social support for community reintegration following accidents.

It is important to note that some survivors experienced negative reactions from their community members. Sengchanh reported this in the following statement about response to her accident: "*But some of them [community members] would say that I was a burden to my husband and children, saying: 'It's better to die, and it's more comfortable.' I think they just simply said things that hurt me.* In this statement, Sengchanh remarked on words from community members as having the opposite impact of Khamdee's, in fact noting how words from community members were not encouraging.

When it comes to social support, child survivors talked about how their friendships did or did not change following the accident. Child survivors most frequently discussed either having fewer friends after their accidents or not experiencing a change in their relationships with their peers. In many cases, their friendships after the accident were influenced by the disabilities from the accident. As some child survivors stated, "*there is no difference between before and after because I didn't have any major injuries. I went to school every day and played with my friends as usual*." On the other hand, Keo experienced a more major injury, which influenced his friendships: "*I go to school regularly. At school, things are normal. Before, we were good friends and spent good time together. But after the explosion, my friends often tease me and make me feel uncomfortable. I don't like the ways they tease me so much*." In this case, the discrimination experienced by the survivor led to negative feelings toward those friendships.

Overall, adult and child survivors' reintegration into their communities was facilitated or hindered by community responses. When community members showed interest in survivors' well-being, this social support was often positively received by survivors. The opposite is also true; when survivors experienced discrimination or perceived negative attitudes and a lack of social support from their peers, they also indicated a more negative experience.

Accidents Shaping Children's Capacity to Learn and to Play

Adult survivors frequently discussed the impact of their accident on their ability to work and contribute to their household chores and community activities. In contrast and perhaps unsurprisingly, child survivors most often mentioned the impact on their ability to learn and to socialize with friends. Though the majority but not all did discuss their return to school following the accident, many child survivors indicated that their ability to learn had changed as a result of the accident. They mentioned difficulty in writing due to physical disabilities and difficulty in remembering and understanding quickly due to effects from the accident, and that these difficulties influenced their academic performance. Keo directly described this change in learning prior to and after the accident, noticing his friends' perceptions of his abilities: "*my study is not as good as before. I seem to be more forgetful, and think more slowly. Before, my friends asked me for lesson advice, but now they rarely do.*" In this way, child survivors often perceived their ability to learn to have worsened as a result of the accident, and experienced more difficulty in completing their schoolwork.

In addition to their experiences with a change in capacity to learn, child survivors also discussed the impact on their capability to play and socialize with their peers. Despite some survivors who did not suffer major injuries indicating that they were able to continue playing as normal, others did not. Bounmi expressed his ability to play as they did prior to the accident, stating that "*before the bombing, I could play soccer and other sports like a normal person, but now I can't*." Bounmi then went on to describe this limited participation in more detail,

> There are some activities that I cannot join due to my physical limitations, such as leg problems which prevent me from playing sports or some sport activities, such as soccer and running. However, I can play other kinds of sports instead, such as basketball.

Bounmi recognizes that there are still ways for him to participate, but this limitation is noteworthy to this survivor, given its inclusion in their response.

Question 6 Discussion

UXO accidents often trigger a downward shift in household economic stability. Survivors with lasting impairments often shift from heavy labor to light work, such as small-scale agriculture or local tasks, generating lower and more inconsistent incomes. Families adapt by redistributing labor, with spouses, particularly women, assuming primary income roles. These roles typically generate inconsistent and lower incomes, often leaving families unable to meet prior standards of living.

Spending patterns illustrate how accidents reshape household priorities. There is a shift toward immediate needs like food, housing, and agriculture, often at the expense of long-term investments such as education. Asset ownership generally prioritizes functional, high-value items (motorbikes, mobile phones, livestock), while lower-value items decline, reflecting pragmatic coping strategies. These trade-offs demonstrate how households adapt to injury by meeting urgent needs at the expense of future opportunities, perpetuating cycles of poverty and reduced human capital.

Debt represents another key marker of vulnerability. Following accidents, debt levels rose for both adult and child survivor households, with adult households taking on larger sums than before. For many, borrowing became a necessary coping mechanism to bridge reduced income and increased expenses. While this reflects household determination to endure shocks, it also risks deepening long-term financial insecurity.

Over the past five years—the period from which the data for this report is drawn—Laos has faced a confluence of challenges and transformations that help contextualize the survivors' economic experiences. Between 2020 and 2025, the country grappled with the repercussions of the COVID-19 pandemic, fluctuations in inflation, and significant advancements in digital connectivity, all of which shaped household economic conditions, access to services, and opportunities for financial inclusion. Understanding these broader contextual factors is critical for interpreting the patterns and trends observed in the data. Inflationary pressures further complicated the economic landscape, in part instigated by a surge in inflation due to global supply shocks and the pandemic's impact on domestic markets. In 2022, inflation surged to 22.95% from 3.75% in 2021, peaking in 2023 at 31.23% before declining to 23.13% in 2024.[49] Estimates as of August 2025 put the current inflation rate at 5.0%.[50] These recent trajectories strained household budgets and affected the purchasing power of the population. In this context, survivors' experiences of worsening economic situations may be in line with broader trends. At the same time, the macroeconomic environment may have further exacerbated and compounded the accident-related financial shocks families experienced.

Question 6 Recommendations

- **Assess needs and potential avenues to offer targeted financial assistance and debt relief.** Some households impacted by UXO accidents may be especially prone to post-accident debt, whether related to confusion about reimbursable medical expenses, loss of income, or other

[49] World Bank, Inflation, consumer prices for the Lao People's Democratic Republic [FPCPITOTLZGLAO], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/FPCPITOTLZGLAO?
[50] Trading Economics, n.d. Laos Inflation Rate. https://tradingeconomics.com/laos/inflation-cpi

costs. Debt can increase long-term economic vulnerability, inhibit survivors' ability to invest in alternative livelihood options if needed, and also other risks, such as that of medical complications due to poorer nutrition or hygiene, or subsequent UXO accidents from farming or foraging in high-risk areas.

- **Assess opportunities for targeted and tailored livelihood, training, and economic development support.** Survivors and government officials alike (see Question 7, below) consistently noted the need for support to help UXO survivors develop income generating skills. However, survivor needs are variable and appropriate interventions will need to be tailored to local context and individual survivors. Given that a one-size-fits-all approach is unlikely to be effective, stakeholders should explore a variety of ways for connecting survivors to supports. This could include, for example, scholarships to travel to training programs, "mobile" training programs offered in different provinces or locations on a rotating basis, or individualized apprenticeships in the same region. Developing a "menu" of options for accessing different types of support could help stakeholders identify opportunities, pilot approaches, and build on what works for different needs in different contexts.
- **Consider avenues to connect survivors or provide preferential access to existing programs.** Government officials noted that some livelihood and economic development programs targeted poor families but not necessarily UXO survivors. Given that UXO survivors are not a monolithic cohort, but rather a relatively small, geographically scattered population with diverse needs arising along different time periods, it is unlikely that a single approach or program can efficiently target large numbers of survivors with appropriate trainings or supports simultaneously. As such, it may be more efficient to ensure that UXO survivors are better linked with existing programming, perhaps by adding UXO accident survivorship or the loss of a family member to targeting criteria (for example, in addition to poverty).

Research Question 7:

What are the strategies of the local authorities for providing for survivors of UXO?

7. What are the strategies of the local authorities for providing for survivors of UXO?

This section synthesizes the experiences of survivors with the perspectives of subnational government officials at the village, district, and provincial levels. The findings confirm the critical, hands-on role of village authorities, who act as essential coordinators for immediate response, community donations, and referrals to external assistance. However, the analysis also reveals that support is characterized by a reliance on centralized decision-making and is inconsistent with factors such as local government budgets, the presence of active NGO programs in the area, centralized decisions impacting variability.

Question 7 Findings

Survivors cite village authorities as playing a key role in coordinating support

Village authorities played an important role in survivors' access to medical care and financial assistance. For example, several survivors reported receiving donations collected from the community by the village head. Khamdee highlighted this process in the following statement: *"The community also supported me. The village authorities collected a donation of 10,000 kip per household for relief, but I didn't know how much in total my family received from the villagers because at that time I was very sick."* In addition, village authorities coordinated survivors' access to support systems. Khamdee continued to state that "*after the explosion, the village authorities helped coordinate with the project to receive assistance.*" In fact, survivors frequently recommended that other survivors speak with village authorities to ensure their access to assistance. As one survivor noted, "*I will advise them to go to the UXO organization or UXO project to request for help. They will coordinate the assistance for you*." In short, in many cases, village authorities acted as system coordinators, connecting survivors to assistance and, by doing so, facilitating their community reintegration.

Government officials' reports of their role echoed survivors' accounts but highlighted centralized decision-making

Subnational government officials (a mix of provincial, district, and village) were also interviewed about the support for UXO accident survivors.

Government respondents also emphasized the role of village leaders in helping survivors complete necessary documentation and acting as a coordinator or facilitator for support, echoing the experience of survivors noted above. In addition, the vast majority cited their key role in reporting accidents as well.

However, a key nuance that emerged consistently in the government officials' accounts was that they deferred to higher levels of government for decisions on support and support provision. Village leaders reported that district levels would guide follow up; district officials reported that provincial officials would follow up, and provincial officials reported that they defer to the central government. For example, one provincial official shared "*Normally , when an accident occurs, I advise the District to prepare both the accident report and assistant request letter at the same time, and then I forward them to the province. I don't have the list of organizations to help them find support. I only report directly to the Central level.*" A few officials mentioned being able to contact a particular organization or the health sector, but still every single official's response about how they provide support mentioned a reliance on decisions made at a higher level. For example, a district official explained:

> We have health facilities contact to help them find medical care at the district level. If I meet another community leader who wants to support UXO survivors in their community. I will advise them to prepare the letter to certify the accident and keep a medical receipt for the reimbursement with JSI [through the U.S. Medical Fund]. Regarding any other types of assistance, I am not aware if they are available, but I will advise them to send the request letter to the district, then I will help them forward the letter to the central NRA for their consideration if they have any support source. However, in the past I haven't seen any.

Government officials were also asked about what supports were available to survivors, either from the government or from NGOs. In terms of support provided to survivors by the government, responses varied. Some officials noted that they had no budget to provide support to survivors, while others said that "sometimes" or "if we have budget available" they may provide financial support. Where resources are scarce, officials did note that they visit and provide encouragement to survivors; as discussed in a later section, survivors' accounts highlight the importance of visits and encouragement. For example, one official shared "As for the government, we will visit all cases, and sometimes if we have the budget available we will have rice and clothes or some amount of money to give to the family." A few mentioned other entities that may provide supports, for example one cited the Lao Women's Union, and another cited SwissContact programming implemented in partnership with the government to provide vocational training, though it was noted that this did not specifically target UXO survivors but rather focused on poor families.

For support provided by NGOs, about half of government officials reported multiple types of support from multiple NGOs, while the other half reported that only the support provided by NGOs was the medical fund.[51] Those who noted multiple sources of support mentioned QLA (animals and livestock raising), Terra Renaissance (beekeeping), COPE (prosthetics), USAID Okard project (animal raising, financial support, rehabilitation),[52] and Mines Advisory Group (transportation to hospital and food at hospital).

Across a number of topics, including NGO supports, government supports, and the role of government, respondents' answers painted a picture of inconsistent and variable provision of support dependent

[51] The United States Medical Fund for UXO is funded by the United States Department of State and administered by JSI in Laos. Note that while JSI administers the fund, some respondents who reported this support noted that they could not remember which NGO it was from.
[52] This project ended early in February 2025.

upon factors such as geographic location, which NGO programs were operating in a given area at a given time, government budgets, and decisions made by higher-level authorities.

Question 7 Discussion

The SPF III outlines a policy goal to ensure *all* UXO survivors are well-supported, with sub-objectives under this goal covering a broad array of services, including immediate response (sub-objective 3.1); medical care, physical rehabilitation, and psycho-social care (sub-objective 3.2); and education, vocational training, and employment opportunities for survivors and victims' families (sub-objective 3.3). This ambitious goal reflects the government's commendable and strong commitment to supporting survivors and victims' families; however this commitment and ambition may not be matched by the resources necessary to fully achieve the SPF III's vision. As the document's reflection on the previous plan notes, "The budget, personnel, vehicles, equipment, and technology development to address the UXO in Lao PDR are still limited and challenging."[53] Similarly, the plan notes the need for financial support from development partners and international organizations for the current plan period. The ASEAN Regional Mine Action Center's report from the Victims Assistance National Consultation also notes a number of challenges facing the country's pursuit of comprehensive victim assistance services, including "'limited funding and resources;" "limited capacity of staff and service providers, particularly in specialized areas such as rehabilitation, psychosocial support, and inclusive education;" "lack of awareness about available victim assistance services and application processes; and "gaps in the provision of comprehensive support, particularly in vocational training, economic reintegration, and psychosocial support."[54] Given the reality of limited resources, the path to improving survivor supports will necessarily involve navigating a middle ground between aspirations and feasibility and require challenging decisions about the optimal allocation of scarce resources.

Provincial, district, and local government authorities play a critical role in coordinating support for UXO victims and their families—a point recognized by government interviewees themselves and survivors. As the authorities in closest proximity to survivors, their needs, and potentially available services and supports, these stakeholders must be the linchpin of effective, coordinated, and relevant victim assistance.

Question 7 Recommendations

- **Empower local coordination and connectors:** There are opportunities to leverage community-level actors, like village committees, as effective referral points and connectors within the broader support networks. However, local officials reported that they defer coordination and support provision to higher levels of government. While this centralization may provide some benefits for standard coordination, there may be opportunities where empowering local actors

[53] National Regulatory Authority (NRA). (2021). Safe Path Forward III, p. 12.
[54] Asian Regional Mine Action Center (2023). Report on the National Consultative Meeting Lao PDR https://aseanmineaction.org/wp-content/uploads/2025/09/ARMAC_LAO_PDR_Victim_Assistance_National_Consultative_Meeting_Report.pdf

to collaborate directly to support survivors could allow for more efficient support provision, since local stakeholders know their context and survivor needs particularly well.

- **Establish Integrated Approaches:** The current service landscape suffers from uneven coordination and fragmentation, despite the involvement of government, NGOs, and community actors. Implement the call for more integrated approaches and policies—facilitated by the NRA—that consistently combine physical, psychological, and socio-economic support across government and NGO/CSO efforts.

Research Question 8:

What supports do UXO victims feel they need to receive to improve their livelihood?

8. What supports do UXO victims feel they need to receive to improve their livelihood?

The final section of the addresses the eighth research question, focusing on the specific, self-identified needs of survivors. This qualitative data is crucial for future program design, highlighting a strong desire for practical, long-term support in three key areas: economic and livelihood support (such as vocational training and seed funding for business), access to education, and ongoing rehabilitation and medical care. The goal of this section is to provide a clear, survivor-centered roadmap for strengthening coordinated victim assistance efforts.

Question 8 Findings

Adult survivors desire support to improve livelihoods and quality of life

To identify survivors' unmet needs, adult interviewees were asked "If you could receive additional support from the community and the government in the future, what would help you?" Survivors' responses generally fell into two overlapping areas: support to help them generate their own income and support to improve their quality of life.

Adult survivors' suggestions for support related to income generation included things like such as jobs or training for themself or family members; livestock to earn a living; and financial support to cover business startup costs or farming supplies. For example, a few illustrative survivor quotations include the following:

> If there is any policy or support by the government or other parties, I would like to ask for funding to buy animals to raise and sell, so I can make money for daily life as it's hard to me do other ways of earnings. I would like some help remove the shrapnel fragments from my body because I always feel numb. During the rainy season, I need to have massage for a pain relief.
>
> I want the project to provide financial assistance to me to raise livestock, such as cows and pigs. It helps generate income for the family.
>
> If possible, I would like to receive a capital to start a small business (trading), such as opening a food stall in front of my house. The main limitation right now is capital shortage.
>
> I want the project to support me in finding a job. I want to work in the UXO project so I can generate income for my family.
>
> I would like to receive vocational training, especially a skill training tailored to my current health condition. I have an idea to open a grocery and cosmetics shop at home.

Survivors' ideas for support that aligned with the theme of improving quality of life included suggestions such as new housing, vehicles adapted to their physical capabilities, further medical treatment (often referring to removal of shrapnel; see also the section "Longer-term physical health needs" under Question 4), and UXO clearance on land around their home and community.

Child survivors share their dreams

Child survivors who were interviewed were asked about their hopes and dreams for the future, as a child-friendly and trauma-informed way to understand what supports might need to be in place for them to lead happy, healthy, and productive lives. Children expressed a desire to continue their studies and shared dreams of different types of jobs including car mechanic, police officer, soldier, and doctor.

One child survivor, who mentioned that injuries from the accident prevented them from engaging in work outside with their family, said *"My dream is to be a competent student, and want to be an employee with a salary. I do not prefer a job that uses labor like farming or gardening."*

Given children's expressions of ongoing physical and psychological symptoms, and their desires to engage productively in education and then employment, children's needs mirror adult survivors' needs for support that will improve quality of life (e.g., symptom management; accessibility support) and long-term livelihoods.

Government officials advocate for more support for survivors

Government officials were also asked about what kinds of supports UXO survivors in their areas needed. Most officials responded with suggestions that covered a variety of interventions. Government officials' suggestions of the supports needed by survivors echoed survivors' own suggestions in terms of supports to help them generate income (for example start-up funds, vocational training). Support to improve life was emphasized to a lesser degree and took a slightly different form from survivors' expression, albeit with some commonalities: officials mentioned medical treatment for shrapnel, and financial support to compensate for losses while victims are recovering. Of particular note, quite a few government officials explicitly named the need for mental health and psychosocial support among victims, indicating a common awareness of this need and the requisite support. This is in contrast to survivors themselves, who did not mention this type of support directly but spoke about fear.

Multiple government officials also emphasized the need to tailor support to individual needs as well as the specific local context. For example, one said

> We need to observe their life and their community to ensure what we support them is very useful and sustainable. For example; if you give them an animal but then the animal dies because they don't know how to take care, or if you support financially to open a small shop or training about tailoring but they live in very remote areas so who will buy their product. If you provide them vocational training, you need to help them find the market.

Similarly, one official suggested conducting a survey to identify needs, while another suggested that the government needed budget to conduct regular follow-up visits with survivors to check in on their

needs. Another official suggested a mobile clinic to visit rural areas and provide follow-up care to survivors, noting the reluctance of villagers to travel for follow-up care or support.

Government officials also mentioned the importance of ensuring continuity of education for children. As examples, they cited both children of adult victims killed in UXO accidents as well as a child who sustained a more severe accident and amputation and dropped out of school after being bullied.

Finally, going beyond the direct support needs of victims and their families, officials also advocated for UXO clearance and EORE in their areas. One official shared:

> There should be widespread dissemination of information about EORE. Because in the past very few organizations or relevant sectors visit our village to provide this information, and I myself have never participated in such activity. EORE should focus on how to report the UXO, the impact of UXO and how to stay safe from the accident.

Question 8 Discussion

Understanding the daily lives of survivors before and after a UXO incident reveals the long-term social and economic toll of explosive remnants of war. Many survivors previously relied on subsistence farming, informal labor, and modest household spending focused on food, education, and agriculture. These already fragile routines are often upended by injury, as physical disability and trauma reduce earning capacity, shift survivors from contributors and dependents, and strain family dynamics. As a result, household spending patterns change, community participation declines, and overall well-being deteriorates. UXO incidents thus cause not only immediate harm but also lasting disruptions to livelihoods and self-sufficiency. While some survivors recover and return to pre-accident livelihoods, many face enduring limitations that alter household roles, reduce income, and constrain community participation.

Survivors' life satisfaction is often mixed, reflecting frustration at reduced abilities and lost opportunities. Family and community support play a crucial protective role: emotional encouragement mitigates trauma, while absence of support can worsen feelings of stigma or burden. Conversely, the absence of such support left some survivors feeling stigmatized or burdensome, underscoring how social attitudes can exacerbate trauma. Many survivors remain actively engaged in communal work and even in EORE outreach, using their experiences to strengthen community awareness and prevention.

The presence of multi-generational and intact family units proved critical to survivor resilience by providing vital support, distributing caregiving and income responsibilities. Children typically remain in stable family environments, which supports psychological recovery. Residential stability within long-standing communities further strengthens these protective dynamics, enhancing continuity of care and facilitating in-person delivery of rehabilitation, education, and psychosocial services. Such continuity provides a foundation for community-based interventions, long-term follow-up, and integration of rehabilitation and psychosocial support into everyday village life.

There may also be longer-term impacts of UXO on educational trajectories. Supporting this, economic analysis shows that UXO contamination in Laos reduces educational attainment[55] by limiting farming efficiency; children are often pulled from school to assist with labor-intensive agricultural work in unsafe environments. This underscores how UXO not only poses an immediate physical threat but also contributes to a cycle of educational disruption and poverty.

UXO accidents have wide-ranging, long-term impacts that extend beyond physical injury, affecting household economies, functional independence, and psychosocial well-being. Survivors and families adapt through labor redistribution, spending shifts, and community engagement, but vulnerabilities remain, particularly where rehabilitation, assistive devices, or long-term support are lacking. Programs that integrate livelihood support, debt relief, rehabilitation, and psychosocial care—while leveraging family and community networks—are essential to help survivors rebuild lives with resilience and dignity.

This study gathered data and insights from survivors whose accidents were within the past five years and who often described time after the accident as consisting of an immediate intensive recovery period followed by a settling into a "new normal" with adjustments made to daily life as needed. Our research covers this immediate and medium time horizon (less than five years post-accident), but doesn't allow us to draw conclusions about survivors' experiences over a longer term horizon. It's possible that survivors' experiences and needs change over time, and possible that impacts accumulate and compound.

Question 8 Recommendations

- **Support survivors to access vocational training, livelihoods development, and employment opportunities:** Survivors overwhelmingly desired ways to support themselves and their family through productive means rather than simply wishing for a handout. (See related recommendations under Question 6)

- **Consider educational support to ensure continuity of learning for children impacted by UXO**. This could include offering supplemental learning, flexible schedules, and targeted interventions for those affected by household economic shifts. For example, if parents are killed or lose livelihoods as a result of UXO accidents, additional support may be needed to ensure that children can remain in school. This challenge may require further exploration and individualized approaches, as it is not clear whether children's enrollment and attendance is negatively impacted by the cost of education or the family's need for the child to engage in work (for example, to put food on the table), and different causes may require different solutions.

- **Consider case-management-style approaches.** Many survivors reported a positive experience with village leaders playing the role of facilitator and connector to help them access services. While not a formal case management process, this noted bright spot in survivors' experience points to the potential of establishing a systematic process for documenting survivor needs,

[55] Guo, S. (2020). The legacy effect of unexploded bombs on educational attainment in Laos. Journal of Development Economics, 147, 102527. https://www.sciencedirect.com/science/article/abs/pii/S0304387820301024

connecting them to relevant supports, and ensuring regular, periodic follow-up to support long-term needs. Government officials also highlighted the need to tailor supports to survivors' individual and community context (for example, ensuring that livelihood options matched both a survivor's physical capabilities and local market opportunity). Both the wide-ranging and lasting impacts (over the period of less than five years) and the likelihood of ongoing needs beyond this timeframe indicate a need for regular touchpoints with survivors to check in about current and evolving needs. This would also enable the potential to connect survivors of past accidents with new relevant supports that may become available over time.

Conclusion

This research analyzed the experiences of roughly one quarter of all UXO accident survivors from a five-year period, 2020-2024. Crucially, the study included the perspectives of both adult and child survivors, recognizing the unique risks, challenges, and long-term impacts faced by each demographic.

Our methodology was designed to integrate and triangulate both qualitative and quantitative data streams. In doing so, we have aimed to strengthen the evidence for trends and patterns while doing justice to the nuances and variability inherent in a collection of individual experiences. Both our quantitative and qualitative findings have sought to keep survivors' experiences at the center. This mindset—and more importantly, survivor voices themselves—is not merely an ethical consideration, but a practical imperative. Survivor voices must be an essential foundation for evidence-based efforts to strengthen survivor support and refine accident prevention strategies.

This study was exploratory in nature and uncovered many possible directions for future research. Action research and implementation research can be integrated into existing programs, which can facilitate iterative improvements while providing opportunities for efficiency.

References

Ainamani, H.E., Elbert, T., Olema, D.K. et al. (2020). Gender differences in response to war-related trauma and posttraumatic stress disorder – a study among the Congolese refugees in Uganda. BMC Psychiatry 20, 17. https://doi.org/10.1186/s12888-019-2420-0

Almarwani, S. M., Hijazi, L. O., Alamer, M. A., Alnwaiser, J. M., Aldakheel, R. A., Alsheikh, K., ... & Alghnam, S. (2020). The association between family cohesion and disability following blunt trauma: findings from a level-I trauma center in Saudi Arabia. Injury Epidemiology, 7(1), 40. https://link.springer.com/article/10.1186/s40621-020-00271-0

Asian Mine Action (2025). Turning Pain Into Power: A Path Forward for Unexploded Ordnance Survivors in Lao PDR. https://aseanmineaction.org/turning-pain-into-power-a-path-forward-for-unexploded-ordnance-survivors-in-lao-pdr/

Asian Regional Mine Action Center (2023). Report on the National Consultative Meeting Lao PDR. https://aseanmineaction.org/wp-content/uploads/2025/09/ARMAC_LAO_PDR_Victim_Assistance_National_Consultative_Meeting_Report.pdf

Babalola, A. E., Johnson, V., Oromakinde, A., Azeez, O., Aderinto, N., Onasanya, O., & Akinloye, S. (2025). The role of local languages in effective health service delivery. Discover Public Health, 22(1), 59. https://link.springer.com/article/10.1186/s12982-025-00429-5

Bartram, J., & Cairncross, S. (2010). Hygiene, sanitation, and water: forgotten foundations of health. PLoS Medicine, 7(11), e1000367. https://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.1000367

Birmes, P., Raynaud, J. P., Daubisse, L., Brunet, A., Arbus, C., Klein, R., ... & Schmitt, L. (2009). Children's enduring PTSD symptoms are related to their family's adaptability and cohesion. Community Mental Health Journal, 45(4), 290-299. https://link.springer.com/article/10.1007/s10597-008-9166-3

Brieant, A., & Burt, K. B. (2025). The protective role of community cohesion across rural and urban contexts: implications for youth mental health. Child and Adolescent Mental Health, 30(2), 140-148. https://acamh.onlinelibrary.wiley.com/doi/full/10.1111/camh.12764

Chan, Sambath (2013). Munitions Risk Education in Cambodia. The Journal of ERW and Mine Action, 17(1), Article 10. https://commons.lib.jmu.edu/cisr-journal/vol17/iss1/10/

Creswell, J. W., & Plano Clark, V. L. (2018). Designing and Conducting Mixed Methods Research (3rd ed.). Thousand Oaks, CA: SAGE.

Durham, J. (2018). Analysis of the unmet needs of UXO survivors living in Laos. Unpublished manuscript.

Fel S, Jurek K, Lenart-Kłoś K. (2022). Relationship between Socio-Demographic Factors and Posttraumatic Stress Disorder: A Cross Sectional Study among Civilian Participants' Hostilities in Ukraine. International Journal of Environmental Research and Public Health, 19(5), 2720. doi: 10.3390/ijerph19052720.

Ford JD, Grasso DJ, Elhai JD, Courtois CA. (2015). Social, cultural, and other diversity issues in the traumatic stress field. Posttraumatic Stress Disorder, 503–46. doi: 10.1016/B978-0-12-801288-8.00011-X.

Guo, S. (2020). The legacy effect of unexploded bombs on educational attainment in Laos. Journal of Development Economics, 147, 102527. https://www.sciencedirect.com/science/article/abs/pii/S0304387820301024

Hasamoh, A., Srivirat, S., & Wichaidit, W. (2025). Digital Divide In Online Education During The Covid-19 Pandemic And Educational Outcomes: Findings From A Community-Based Survey In Thailand's Impoverished Deep South. Asian Crime and Society Review, 12(1), 5-5. https://so02.tci-thaijo.org/index.php/IJCLSI/article/view/274842/184024

Hunter, P. R., MacDonald, A. M., & Carter, R. C. (2010). Water supply and health. PLoS Medicine, 7(11), e1000361. https://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.1000361

Indochina Research commission by KOICA. (2021). Needs Assessment for Victims Assistance Activity of the Project to Support the UXO Sector in Lao PDR.

Keeley, R. (2024). Knowledge, Attitudes and Practices Study. UNDP. https://www.undp.org/sites/g/files/zskgke326/files/2024-10/kap_final_19.08.2024.pdf

Kemp, S. (2025). Digital 2025 Laos. DataReportal. https://datareportal.com/reports/digital-2025-laos

Landmine & Cluster Munition Monitor (2014). Cluster Munition Monitor 2014: Casualties & Victim Assistance. https://archives2.the-monitor.org/en-gb/reports/2014/cluster-munition-monitor-2014/casualties-victim-assistance

Landmine & Cluster Munition Monitor (2022). Cluster Munition Monitor 2022: The Impact. https://archives2.the-monitor.org/en-gb/reports/2022/cluster-munition-monitor-2022/the-impact.aspx

Landmine and Cluster Munition Monitor. Lao PDR profile. https://the-monitor.org/country-profile/lao-pdr/impact?year=2023

Mathouchanh, P. (2025). 15-Year Journey: Lao PDR Story under the Convention on Cluster Munitions (2010-2025). National Regulatory Authority for UXO/Mine Action in Lao PDR (NRA) and United Nations Development Programme (UNDP) in Lao PDR. https://nra.gov.la/resources/WorkingGroup/15-Year%20Journey%20report.pdf

National Regulatory Authority (NRA). (2021). Safe Path Forward III: Lao PDR's National Strategic Plan for the UXO Sector 2021–2030. Vientiane. https://nra.gov.la/resources/Strategy/SPF%20III%20Eng%20version%20on%2019.1.2023.pdf

National Regulatory Authority for UXO/Mine Action Sector in Lao PDR (2022). 2022 UXO Sector Annual Report (ENG). https://nra.gov.la/resources/AnnualReports/English/2022%20UXO%20SECTOR%20ANNUAL%20REPORT%20(ENG).pdf

National Regulatory Authority for UXO/Mine Action Sector in Lao PDR (2023). UXO Sector Annual Report 2023. http://www.nra.gov.la/resources/AnnualReports/English/UXO%20Sector%20Annual%20Report%202023_ENG.pdf

Omam, LA., Jarman, E., O'Laughlin, K.N. et al. (2023). Primary healthcare delivery models in African conflict-affected settings: a systematic review. Confl Health 17, 34. https://doi.org/10.1186/s13031-023-00533-w

Scherer, N., Chanthakoummane, K., Homsana, A., Carew, M., Siengsounthone, L., Kuper, H, Soukkhaphone, B., Banks, L. M. (2025). Prevalence, predictors and consequences of reported discrimination against children with disabilities in Lao PDR: a cross-sectional analysis in Xiengkhouang Province. Disability and Health Journal. 101963. 10.1016/j.dhjo.2025.101963.

Sommer, M., Caruso, B. A., Sahin, M., Calderon, T., Cavill, S., Mahon, T., & Phillips-Howard, P. A. (2016). A time for global action: addressing girls' menstrual hygiene management needs in schools. PLoS Medicine, 13(2), e1001962. https://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.1001962

Southivong B, Ichikawa M, Nakahara S, Southivong C. (2013). A cross-sectional community study of post-traumatic stress disorder and social support in Lao People's Democratic Republic. Bulletin of the World Health Organization, 91(10), 765-72. doi: 10.2471/BLT.12.115311.

Trading Economics, n.d. Laos Inflation Rate. https://tradingeconomics.com/laos/inflation-cpi

UNDP (2022). Project Document: Supporting Effectiveness and Efficiency in the UXO Sector contribute to the achievement of SDG 18 and Safe Path Forward III (SPF III). https://www.undp.org/sites/g/files/zskgke326/files/2022-10/UXO%20Project%20Document%202022-2026_countersigned.pdf

UNICEF (2005). An Evaluation of Unicef-Supported Uxo Risk Education Projects In Lao PDR. Geneva: UNICEF. https://evaluationreports.unicef.org/GetDocument?documentID=5625&fileID=30760

UNICEF (2025). "80 per cent of adolescents can identify explosive ordnance risks but too many expose themselves to dangers." https://www.unicef.org/ukraine/en/press-releases/80-cent-adolescents-can-identify-explosive-ordnance-risks-too-many-expose-themselves

Van Deursen, A. J., & Van Dijk, J. A. (2019). The first-level digital divide shifts from inequalities in physical access to inequalities in material access. New Media & Society, 21(2), 354-375. https://journals.sagepub.com/doi/full/10.1177/1461444818797082

Werner K, Kak M, Herbst CH, Lin TK. (2023). The role of community health worker-based care in post-conflict settings: a systematic review. Health Policy and Planning, 38(2), 261-274. doi: 10.1093/heapol/czac072.

World Bank, Inflation, consumer prices for the Lao People's Democratic Republic [FPCPITOTLZGLAO], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/FPCPITOTLZGLAO

World Health Organization. (2018). Guidelines on sanitation and health. In Guidelines on sanitation and health (pp. 220-220). https://www.who.int/publications/i/item/978924151470

Wyper, R. B. (2012). An exploratory study of the perceived impact of health problems of landmine/UXO victims versus another disability group. Health and Quality of Life Outcomes, 10(1), 121. https://link.springer.com/article/10.1186/1477-7525-10-121

Ye, Y., Li, Y., Jin, S., Huang, J., Ma, R., Wang, X., & Zhou, X. (2023). Family function and post-traumatic stress disorder in children and adolescents: a meta-analysis. Trauma, Violence, & Abuse, 24(5), 3151-3169. https://journals.sagepub.com/doi/abs/10.1177/15248380221126182

Zhao, Q., Xu, S., Aziz, N., He, J., & Wang, Y. (2022). Dialect culture and the utilization of public health service by rural migrants: insights from China. Frontiers in Public Health, 10, 985343. https://www.frontiersin.org/journals/public-health/articles/10.3389/fpubh.2022.985343/ful

Annex

Annex A: Data Collection Tools

UXO Survivor Questionnaire

UXO SURVIVOR INTERVIEWER TOOL

No.	Question	Responses	Skip
	NOTES TO INTERVIEWERS		
Thank the respondents for agreeing to participate in the interview. Let them know that you will start by explaining how and why we are doing the interview. Warm-Up Reminders: ● Communicate to participants that they are not responsible for appeasing researchers. ● Share goal of the research and plans to report data ● Review Consent Form ● Share plans for confidentiality ● Ask for pseudonyms ● Share trigger warnings prior to sensitive topics ● Let interviewees know that they can always: (a. Skip interview questions, b. Ask questions, c. Exit or pause at any time)			
901	Did you review the consent form and receive agreement from the respondent to continue with the interview?	No ..... 0 Yes 1	
999	Name of Interviewer	Name .....1 Name .....2 Name .....3 Name .....4 Name 5	

No.	Question	Responses	Skip
MODULE 1: QUANTITATIVE			
SECTION 1: INTERVIEW INFORMATION			
Note to interviewer: Record information about where the interview is taking place. You do not need to ask this information of the respondent as this is part of the sample selection but ask the respondent if you are unsure.			
101	Interview code		
102	Date of interview	Add a date dial (day, month, year)	
103	Province SELECT ONE.	Savannakhet ..... 1 Khammouan ..... 2 Sekong ..... 3 Salavan..... 4 Xiengkhouang ..... 5 Vientiane..... 6 Other (specify) 99	
104	District SELECT ONE.	<u>Khammuan</u> Bualapha ..... 1 Thakheak ..... 2 <u>Savannakhet</u> Sepon..... 3 Ardsaphangthong ..... 4 Nong ..... 5 <u>Sekong</u> Kaluem..... 6 <u>Salavan</u> Salavan..... 7 Ta-oiy ..... 8 <u>Xiengkhuang</u> Peak ..... 9 Phoukoud..... 10 <u>Vientiane</u> Kasi ..... 11 Other (specify) 99	
105	Village	<u>Bualapha</u>	

No.	Question	Responses	Skip
	SELECT ONE.	Maivanggueak.....1 Pakphanaang ..... 2 Hinlap..... 3 Ka-ee..... 4 Nongkapad..... 5 Sobpeng..... 6 Thongkham.....7 **Thakheak** Nasaard..... 8 **Sepon** Kalengkang..... 9 Mai Thadeng..... 10 Alai..... 11 Mueangsean.....12 **Ardsaphangthong** Najarn ..... 13 Saphangkeo ..... 14 **Nong** Hinsavang.....15 Alaoyai ..... 16 **Kaluem** Thongkhean ..... 17 Along..... 18 **Salavan** Phak-Ka ..... 19 Naphontarn ..... 20 **Ta-oiy** Toungkong.....21 Padu..... 22 Kapay ..... 23 **Peak** Namkha..... 24 Phousan ..... 25 Nakhampheng ..... 26 Nasala ..... 27 Vieng.....28 Khangkhai.....29 Phousan..... 30 **Phoukoud** Yai ..... 31 Phiengdy ..... 32 Xiengded..... 33 **Kasi**	

No.	Question	Responses	Skip
		Nasou..... 34 Other (specify) 99	
106	Record GPS coordinates	Latitude Longitude Altitude Accuracy	
107	People present at the interview. SELECT ALL THAT APPLY.	Interviewer ..... 1 Notetaker..... 2 Translator ..... 3 Caregiver(s)..... 4 Other family members..... 5 Friend(s)/Neighbor(s) ..... 6 Other (specify) 99	
108	Language interview was conducted?	Lao ..... 1 Phouthay..... 2 Tai ..... 3 Lue ..... 4 Ngoaun ..... 5 Yang ..... 6 Xaek ..... 7 Thaineua ..... 8 Khmou ..... 9 Pray..... 10 Xingmoun..... 11 Phong..... 12 Thaen..... 13 Oedou ..... 14 Bid..... 15 Lamed ..... 16 Samtao..... 17 Katang..... 18 Makong..... 19 Tri..... 20 Yrou ..... 21 Triang..... 22 Ta-oy..... 23	

No.	Question	Responses	Skip
		Yae ..... 24 Brao ..... 25 Katu..... 26 Harak ..... 27 Oy ..... 28 Griang ..... 29 Cheng..... 30 Sadang ..... 31 Xuay ..... 32 Nhaheun ..... 33 Lavy..... 34 Pacoh ..... 35 Khmer ..... 36 Toum..... 37 Guan ..... 38 Moy..... 39 Kree ..... 40 Brou ..... 41 Akha..... 42 Pounoy..... 43 Lahou ..... 44 Syla ..... 45 Hayi..... 46 Lolo ..... 47 Hor ..... 48 Hmong ..... 49 Ewmien ..... 50 Other (specify) 99	
109	Is this respondent selected for the qualitative module?	No ..... 0 Yes 1	If selected, will link to Module 2
SECTION 2: DEMOGRAPHIC INFORMATION			
Interviewer Says: First, I would like to learn a little more about you.			
201	How old are you ? (Completed years only)	(open)	
202	Indicate gender	Male ..... 1 Female 2	

No.	Question	Responses	Skip
203	What is your relationship status? SELECT ONE.	Single ..... 1 Married ..... 2 Divorced ..... 3 Widowed ..... 4 Other (specify) 99	
204	What is the primary ethnic group to which you identify? SELECT ONE.	Lao .....1 Phouthay .....2 Tai.....3 Lue..... .....4 Ngoaun .....5 Yang .....6 Xaek.....7 Thaineua .....8 Khmou .....9 Pray.....10 Xingmoun.....11 Phong .....12 Thaen .....13 Oedou.....14 Bid .....15 Lamed .....16 Samtao .....17 Katang .....18 Makong.....19 Tri.....20 Yrou .....21 Triang.....22 Ta-oy.....23 Yae .....24 Brao .....25 Katu .....26 Harak.....27 Oy.....28 Griang .....29 Cheng .....30 Sadang .....31 Xuay.....32 Nhaheun .....33 Lavy.....34 Pacoh 35	

No.	Question	Responses	Skip
		Khmer .....36 Toum.....37 Guan.....38 Moy.....39 Kree .....Bro u .....41 Akha .....42 Pounoy .....43 Lahou .....44 Syla.....45 Hayi.....46 Lolo .....47 Hor .....48 Hmong .....49 Ewmien.....50 No Response.....97 Don't Know.....98 Other (specify).....99	
205	What languages do you speak? SELECT ALL THAT APPLY.	Lao ..... 1 Phouthay..... 2 Tai ..... 3 Lue ..... 4 Ngoaun ..... 5 Yang ..... 6 Xaek ..... 7 Thaineua ..... 8 Khmou ..... 9 Pray..... 10 Xingmoun..... 11 Phong..... 12 Thaen..... 13 Oedou ..... 14 Bid..... 15 Lamed ..... 16 Samtao ....17 Katang..... 18 Makong..... 19 Tri..... 20 Yrou ..... 21 Triang..... 22	

No.	Question	Responses	Skip
		Ta-oy ..... 23 Yae ..... 24 Brao ..... 25 Katu ..... 26 Harak ..... 27 Oy ..... 28 Griang ..... 29 Cheng ..... 30 Sadang ..... 31 Xuay ..... 32 Nhaheun ..... 33 Lavy ..... 34 Pacoh ..... 35 Khmer ..... 36 Toum ..... 37 Guan ..... 38 Moy ..... 39 Kree ..... 40 Brou ..... 41 Akha ..... 42 Pounoy ..... 43 Lahou ..... 44 Syla ..... 45 Hayi ..... 46 Lolo ..... 47 Hor ..... 48 Hmong ..... 49 Ewmien ..... 50 No Response ..... 97 Don't Know ..... 98 Other (specify) 99	
206	Among those, what is the primary language you speak at home? SELECT ONE.	Lao ..... 1 Phouthay ..... 2 Tai ..... 3 Lue ..... 4 Ngoaun ..... 5 Yang ..... 6 Xaek ..... 7 Thaineua ..... 8 Khmou 9	

No.	Question	Responses	Skip
		Pray ..... 10 Xingmoun ..... 11 Phong ..... 12 Thaen ..... 13 Oedou ..... 14 Bid ..... 15 Lamed ..... 16 Samtao .....17 Katang ..... 18 Makong ..... 19 Tri ..... 20 Yrou ..... 21 Triang ..... 22 Ta-oy ..... 23 Yae ..... 24 Brao ..... 25 Katu ..... 26 Harak ..... 27 Oy ..... 28 Griang ..... 29 Cheng ..... 30 Sadang ..... 31 Xuay ..... 32 Nhaheun ..... 33 Lavy ..... 34 Pacoh ..... 35 Khmer ..... 36 Toum ..... 37 Guan ..... 38 Moy ..... 39 Kree ..... 40 Brou ..... 41 Akha ..... 42 Pounoy ..... 43 Lahou ..... 44 Syla ..... 45 Hayi ..... 46 Lolo ..... 47 Hor ..... 48 Hmong ..... 49 Ewmien ..... 50 No Response ..... 97 Don't Know 98	

No.	Question	Responses	Skip
		Other (specify) 99	
207	How well do you understand Lao? SELECT ONE.	None/a little..... 1 Some..... 2 A lot/fluent 3	
208	What is your religion? SELECT ONE.	None ..... 0 Buddhism..... 1 Animism..... 2 Christianity (protestant/catholic)..... 3 Other (specify) 99	
209	What is your highest level of education completed? SELECT ONE.	None ..... 0 Primary but not completed.....1 Completed Primary..... 2 Junior secondary but not completed . 3 Completed Junior secondary.....4 Senior secondary but not completed 5 Completed Senior secondary.....6 Higher ..... 7 Bachelor.....8 Master.....9	
209	Who do you live with? SELECT ALL THAT APPLY.	Nobody (live alone)..... 1 Father (biological/in-law)..... 2 Mother (biological (in-law) ..... 3 Spouse ..... 4 Brother ..... 5 Sister..... 6 Daughter..... 7 Son..... 8 Other female relative..... 9 Other male relative..... 10 Other female non-relative ..... 11 Other male non-relative ..... 12 Other (specify) 99	
210	Is your current place of residence different from where you were born? SELECT ONE.	No ..... 0 Yes 1	If NO, SKIP to Q301

No.	Question	Responses	Skip
210a	What was your reason for moving? SELECT ALL THAT APPLY.	Conflict or violence ..... 1 Marriage ..... 2 Family reasons ..... 3 Access to medical care..... 4 Economic reasons..... 5 Displacement due to UXO incident.... 6 Other (specify) 99	
210b	How long have you lived in this village?	Less than 1 year ..... 0 2-5 years ..... 1 6-10 years ..... 2 More than 10 years 3	
SECTION 3: HOUSEHOLD INFORMATION			
Interviewer Says: Now I would like to learn a bit about your household.			
301	Does this dwelling have electricity? SELECT ONE.	No ..... 0 Yes, with own meter ..... 1 Yes, with shared meter ..... 2 Yes, with own generator ..... 3 Yes, with solar cell..... .....4 Yes, with batteries.....5	
302	Do you have internet access in your house (via Smartphone or other access)? SELECT ONE.	No ..... 0 Yes 1	
303	Do you have access to water at your house? SELECT ONE.	No ..... 0 Yes 1	If NO, SKIP to Q304
303a	What is this household's main source of drinking water	Piped water in/outside ..... 1 Protected well/borehole..... 2 Unprotected well/borehole ..... 3 River/stream/dam/lake..... 4 Bottle/can water..... 5 Other (specify) 99	
304	What is the type of toilet facility mainly used by the household?	No facility/bush/field ..... 0 Flush/pour flush..... 1 Pit latrine ventilated ..... 2 Pit latrine other..... 3	

No.	Question	Responses	Skip
	SELECT ONE.	Composting toilet ..... 4 Bucket ..... 5 Hanging toilet ..... 6 Other (specify) 99	
305	Is your house accessible by vehicle during the rainy season? SELECT ONE.	No ..... 0 Yes 1	
306	Do you have equipment or tools for breaking down scrap metal in your house? SELECT ONE.	No ..... 0 Yes 1	
Interviewer Says: I would also like to ask some questions about your employment, assets and debts from before the accident and after the accident. I want to better understand how the accident may have affected you and your household and what changes you may have experienced. You do not have to answer every question. If you want to take a pause or skip a question, you can tell me at any time.			
307a	When you think about the time **BEFORE** the accident, what did you spend most of your money on? UP TO THREE ALLOWED.	Food ..... 1 Education ..... 2 Clothing ..... 3 Livestock ..... 4 Agriculture needs ..... 5 Housing ..... 6 Other (specify) 99	
307b	When you think about the time **AFTER** the accident, what did you spend most of your money on? UP TO THREE ALLOWED.	Food ..... 1 Education ..... 2 Clothing ..... 3 Livestock ..... 4 Agriculture needs ..... 5 Housing ..... 6 Other (specify) 99	
I would like to know about how many of the following items you owned before the accident and if you still own the items after the accident. I am going to read a list of items to you and I would like you to think back to before the accident and tell me if your household owned these items.			
308b	**BEFORE** the accident, did your household have any of the following items?	Mobile phones ..... 1 Motorbike ..... 2 Bicycle ..... 3 Car or truck 4	

No.	Question	Responses	Skip
	READ LIST. SELECT ALL THAT APPLY.	Tractor.....5 Television..... 6 Radio..... 7 Refrigerator ..... 8 Livestock (such as cattle, pigs, chickens, etc.)..... 9	
308b	Now can you tell me if your household still owns any of these items **AFTER** the accident? READ LIST. SELECT ALL THAT APPLY.	Mobile phones..... 1 Motorbike..... 2 Bicycle..... 3 Car or truck..... 4 Tractor.....5 Television..... 6 Radio..... 7 Refrigerator ..... 8 Livestock (such as cattle, pigs, chickens, etc.)..... 9	
309a	**BEFORE** the accident, what was your main source of income or employment? SELECT ONE. *Farming – rice, banana, cassava, palm, corn, pineapple, raising animals* *Small business – house store, seamstress, hairdresser, etc.* *Government staff – teacher, army, police, medical* *Private company – UXO staff, INGO, factory* *Subsistence living – no real crops, but have a small garden, hunt and gather in forests, streams*	Farmer (work for self)..... 1 Farm Worker (for a company) ..... 2 Fisherman..... 3 Small business..... 4 Government staff..... 5 Private company or organization ..... 6 Subsistence living..... 7 Student ..... 8 None/Unemployed ..... 9 Other (specify) 99	

No.	Question	Responses	Skip
	Student – attend school or non-formal education		
309b	**AFTER** the accident, what is your current main source of income or employment? SELECT ONE. *Farming – rice, banana, cassava, palm, corn, pineapple, raising animals* *Small business – house store, seamstress, hairdresser, etc.* *Government staff – teacher, army, police, medical* *Private company – UXO staff, INGO, factory* *Subsistence living – no real crops, but have a small garden, hunt and gather in forests, streams* *Student – attend school or non-formal education*	Farmer (work for self) ..... 1 Farm Worker (for a company) ..... 2 Fisherman ..... 3 Small business ..... 4 Government staff ..... 5 Private company or organization ..... 6 Subsistence living ..... 7 Student ..... 8 None/Unemployed ..... 9 Other (specify) 99	
310a	Now I would like you to think about other people in your household in the time **BEFORE** the accident. What was their main source of income for other people who live in your household? SELECT ALL THAT APPLY.	Farmer (work for self) ..... 1 Farm Worker (for a company) ..... 2 Fisherman ..... 3 Small business ..... 4 Government staff ..... 5 Private company or organization ..... 6 Subsistence living ..... 7 Student ..... 8 None/Unemployed ..... 9 Other (specify) 99	
311b	Now I would like you to think about other people in your	Farmer (work for self) ..... 1 Farm Worker (for a company) 2	

No.	Question	Responses	Skip
	household in your household currently. What is their main source of income for other people who live in your household now? SELECT ALL THAT APPLY.	Fisherman ..... 3 Small business..... 4 Government staff..... 5 Private company or organization ..... 6 Subsistence living..... 7 Student ..... 8 None/Unemployed ..... 9 Other (specify) 99	
Interviewer Says: How are you doing? Do you need to take a pause?			
312a	Could you tell me your best estimate of your monthly income (from your main source of employment; not for the whole household) **BEFORE** the accident? SELECT ONE.	0-1,600,000 kip..... 1 1,600,001 – 5,000,000 kip ..... 2 5,000,001 – 15,000,000 kip ..... 3 More than 15,000,000-kip..... 4	
312b	Could you tell me your best estimate of your monthly income (from your main source of employment; not for the whole household) now **AFTER** the accident? SELECT ONE.	0-1,600,000 kip..... 1 1,600,001 – 5,000,000 kip ..... 2 5,000,001 – 15,000,000 kip ..... 3 More than 15,000,000-kip..... 4	
313a	Did you have any debt **BEFORE** the accident? By this I mean money you owe a bank or a loan from another person that needs to be repaid. SELECT ONE.	No ..... 0 Yes 1	If NO, SKIP to Q314a
313b	What is your best estimate of the total amount of debt you had **BEFORE** the accident? SELECT ONE.	<180,000 LAK/month..... 1 1,80,000 - <500,000 LAK/month..... 2 500,000-<1 mil LAK/month..... 3 1 mil-<2 mil LAK/month..... 4 2 mil-<5 mil LAK/month..... 5 5 mil-<10 mil LAK/month..... 6 10 mil or more LAK/month ..... 7 Don't know/refused..... 98	

No.	Question	Responses	Skip
314a	In this time **AFTER** the accident, do you have any debt?	No ..... 0 Yes 1	If NO, SKIP to Q401
314b	What is your best estimate of the total amount of debt you had **AFTER** the accident? (Interviewer: READ response options_ SELECT ONE.	<180,000 LAK/month..... 1 1,80,000 - <500,000 LAK/month..... 2 500,000-<1 mil LAK/month..... 3 1 mil-<2 mil LAK/month ..... 4 2 mil-<5 mil LAK/month ..... 5 5 mil-<10 mil LAK/month ..... 6 10 mil or more LAK/month ..... 7 Don't know/refused..... 98	
315	When you think about the time before the accident and after the accident, did you lose any assets since the accident? This could be physical assets like a house or land, or could refer to a position in the community. SELECT ALL THAT APPLY.	No .....0 Land .....1 Home .....2 Livestock .....3 Other physical assets/belongings .....4 Position in the community.....5 Don't know .....98 Other (specify)..... 99	
SECTION 4: ACCIDENT INFORMATION			
Interviewer Says: I would like to ask some questions about your accident. Some of these questions may be sensitive or difficult to answer, so if you need a break or do not want to respond to a question, just let me know. It is no problem. We understand that you may remember some things better than others. We are only asking you to share what you remember to the best of your ability.			
401	What was the date of your accident? If do not remember the day use 99; if do not remember the month use 99; if do not remember the year use 9999	Add date dial (month, day, year)	
402	Where did the accident happen?	Field ..... 1 Road..... 2 Home ..... 3 At Work..... 4 Village 5	

No.	Question	Responses	Skip
		Other (specify) 99	
403	How did the bomb get activated (if you know)? SELECT ONE.	By ax ..... 1 By hoe ..... 2 By saw ..... 3 By knife ..... 4 By fire ..... 5 By touching (kicking, stepping on it, throwing something on it) ..... 6 Do not know ..... 98 Other (specify) 99	
404	At the time of the accident, how were you moving?	On a motorbike ..... 1 In a car or truck ..... 2 On a tractor ..... 3 On foot ..... 4 Other (specify) 99	
405	What were you doing before the explosion? SELECT ONE.	Gardening (plot within ½ km from house) ..... 1 Farming (plot more than ½ km from house ..... 2 Setting a fire ..... 3 Clearing land by burning ..... 4 Clearing land by cutting ..... 5 Foraging ..... 6 Recreation/sports ..... 7 Dismantling a UXO ..... 8 Taking care of animals ..... 9 Touching, moving a UXO ..... 10 Other (specify) 99	SKIP TO: 406a-406c 406a-406c 407a 408a 409a 410a-410b 411a 412a-412b 501 501 501
ASK only if selected 1 (gardening) or selected 2 (farming) in Q403. Then SKIP to Q501.			
406a	What kind of crop?	Potato 1	

No.	Question	Responses	Skip
	MULTIPLE??	Cassava ..... 2 Banana ..... 3 Sugar cane ..... 4 Rice ..... 5 Corn ..... 6 Other (specify) 99	
406b	How deep were you digging or planting? SELECT ONE.	0-5 cm ..... 1 6-10 cm ..... 2 11-15 cm ..... 3 16-25 cm ..... 4 26-50 cm ..... 5 Deeper than 50 cm ..... 6 Don't know ..... 98 Other (specify) 99	
406c	What kind of tool were you using? SELECT ONE.	Hoe ..... 1 Shovel ..... 2 Axe ..... 3 Tractor ..... 4 Other (specify) 99	
ASK only if selected 3 (setting a fire) in Q403. Then SKIP to Q501.			
407a	For what reason were you making a fire? SELECT ONE.	For warmth ..... 1 For cooking ..... 2 For burning garbage ..... 3 Other (specify) 99	
ASK only if selected 4 (clearing land by burning) in Q403. Then SKIP to Q501.			
408a	For what reason were you clearing the land for burning? SELECT ONE.	For planting ..... 1 For building ..... 2 Other (specify) 99	
ASK only if selected 5 (clearing land by cutting) in Q403. Then SKIP to Q501.			
409a	For what reason were you clearing the land by cutting? SELECT ONE.	Cutting wood (big tree) ..... 1 Cutting small grass ..... 2 cutting jungle ..... 3 Other (specify) 99	

No.	Question	Responses	Skip
ASK only if selected 6 (foraging) in Q403. Then SKIP to Q501.			
410a	For what reason were you foraging? SELECT ONE.	Looking for food.....1 Fishing.....2 Hunting .....3 Setting traps .....4 Looking for bamboo shoots .....5 Other (specify) 99	
410b	Where were you foraging? SELECT ONE.	In the forest .....1 In the fields .....2 Near a river or lake .....3 Other (specify) 99	
ASK only if selected 7 (recreation/sports) in Q403. Then SKIP to Q501.			
411a	What type of recreation were you doing?	Sports.....1 Exercise.....2 Other (specify) 99	
ASK only if selected 8 (dismantling a UXO) in Q403. Then SKIP to Q501.			
Remember that your answers are confidential. We will not include any names with any report so nobody will know how you respond.			
412a	Were you dismantling a UXO when the accident happened?	No .....0 Yes .....1 Do not know/refused..... 98	If NO/DK, SKIP to Q501
412b	What was the purpose of dismantling a UXO? SELECT ONE.	Extra income to sell .....1 To make it into something.....2 Clearance operation .....3 Other (specify) 99	
SECTION 5: MEDICAL CARE AFTER THE ACCIDENT			
Now I would like to ask about your medical care following the accident. Some of these questions may be sensitive or difficult to answer, so if you need a break or do not want to respond to a question, just			

No.	Question	Responses	Skip
let me know. It is no problem. We understand that you may remember some things better than others. We are only asking you to share what you remember to the best of your ability.			
501	After the accident, did you go to a medical facility (such as a health center or a hospital) or receive any medical care? SELECT ONE.	No .....0 Yes 1	If YES, SKIP to Q502a
501a	If NO, for what reason did you not go to a medical facility? SELECT ALL THAT APPLY.	The injury did not seem serious.....1 No health facility nearby.....2 No transportation available .....3 Could not afford the cost.....4 Afraid of doctors or hospitals .....5 Did not know where to go .....6 Family or community advised against seeking care.....7 Traditional or home remedies were tried first .....8 Received needed help at home .....9 Was unconscious or unable to move 10 Facility was closed or too far .....11 Discrimination or fear of mistreatment by facility staff.....12 Other (specify) 99	SKIP to Q503
502a	How long did it take to receive your first medical care? This could include medics that came to the site of the accident to give you medical care or the time it took between the accident and arriving at a medical facility.	Immediately.....1 Within 15 mins.....2 >15 mins and <30 mins.....3 >30 mins and <60 mins.....4 1-3 hours .....5 More than 3 hours.....6 >3 hours and <24 hours.....7 2-3 days .....8 More than 3 days.....9 Don't know .....98 Other (specify) 99	
502b	What level of medical care did you receive?	Basic first aid care at site.....1 Health center (public) .....2 District hospital (public).....3 Provincial hospital (public).....4	

No.	Question	Responses	Skip
		Central hospital (public).....5 Private clinic.....6 Private hospital.....7 Other (specify).....99	
502c	What type of care did you receive that you can remember? SELECT ALL THAT APPLY. *Stabilization refers to medical providers monitoring to make sure conditions do not get worse, checking vital signs.*	Wound cleaning.....1 CPR.....2 Oxygen.....3 Bleeding control.....4 IV/Fluid control.....5 Medication.....6 Stabilization (monitoring conditions, checking vital signs).....7 Surgery.....8 Trauma surgical care (stitches, closing wounds).....9 Other (specify).....99	
503	After the accident, did you receive rehabilitation?	No.....0 Yes.....1	If no skip to Q508
504	How long after the accident did you receive rehabilitation support?	<2 weeks.....1 ≥2 weeks and < 6 months.....2 ≥6 months and <12 months.....3 ≥12 months.....4	
505	How often did you receive rehabilitation support?	1-2 times.....1 3-5 times.....2 5-10 times.....3 More than 10 times.....4 Ongoing.....5	
506	Is the rehabilitation complete or do you still need more rehabilitation support?	Completed.....1 Need more rehab support 2	If NEED MORE, SKIP to Q507a
506a	Why do you not need further rehabilitation?	I can move around independently....1 No longer need medical treatment or physical therapy.....2 I can work or earn income again.....3	ANY ANSWER,

No.	Question	Responses	Skip
	SELECT ALL THAT APPLY.	I received a prosthetic or mobility aid that meets my needs .....4 I have adjusted to living with my injury .....5 I have no more pain or health issues related to the injury.....6 I am no longer dependent on others for daily tasks .....7 I returned to my normal routine.....8 My community accepts and supports me .....9 No money to return for more care or treatment .....10 No help getting to or from appointments .....11 I don't feel like I need any more help .....12 Other (specify) 99	SKIP to Q508
507a	Where did/do you receive the rehab support?	Center of Medical Rehabilitation.....1 Health center (public) .....2 District hospital (public).....3 Provincial hospital (public).....4 Central hospital (public).....5 Private clinic.....6 Private hospital .....7 Other (specify) 99	
507b	What rehab services did/do you receive. MULTIPLE RESPONSES ALLOWED. SELECT ALL THAT APPLY.	Massage.....1 Pain management.....2 Physical therapy.....3 Medicine.....4 Prosthetic and Orthotic (P&O).....5 Assistive device.....6 Support for mobility (stretching, exercises, etc.) .....7 Other (specify) 99	
508	What type, if any, support do/did you receive?	None .....0 Medical .....1 Assistive devices 2	

No.	Question	Responses	Skip
		Mental health .....3 Other (specify) 99	
509	Do you receive any type of support from the government, such as the MOH, MOLSW, or NRA?	No .....0 Yes 1	If NO, SKIP to Q510
509a	If yes, what type of support do you receive? MULTIPLE OPTIONS POSSIBLE. CAN SELECT MORE THAN ONE.	Financial.....1 Food.....2 Livelihood training .....3 Medicine.....4 Small business support .....5 Transport support.....6 Other (specify) 99	
510	Do you receive any type of support from NGOs, the NPA, or other foundations?	No .....0 Yes 1	If NO, SKIP to Q511
510a	If yes, what type of support do you receive? MULTIPLE OPTIONS POSSIBLE. CAN SELECT MORE THAN ONE.	Financial.....1 Food.....2 Livelihood training .....3 Medicine.....4 Small business support .....5 Transport support.....6 Other (specify) 99	
511	Do you receive any type of support from the village committee?	No .....0 Yes 1	If NO, SKIP to Q601
511a	If yes, what type of support do you receive? MULTIPLE OPTIONS POSSIBLE. CAN SELECT MORE THAN ONE.	Financial.....1 Food.....2 Livelihood training .....3 Medicine.....4 Small business support .....5 Transport support.....6 Other (specify) 99	
SECTION 6: WELL-BEING			
Now I am now going to ask you a question about mental health. The definition of mental health is a state of mental well-being that enables people to cope with the stresses of life, realize their abilities,			

No.	Question	Responses	Skip
learn well and work well, and contribute to their community. This section is about how you feel and how you experience different emotions and different aspects of your life. If these questions become too hard to discuss, we can stop and take a break at any time. Also, if you don't want to answer, you can say "I don't want to talk about this" or "I don't want to answer this". For each question, you will hear a statement. Then, you will decide if you strongly disagree, disagree, agree, or strongly agree with that statement about your experience.			
601	Generally speaking, my life closely corresponds to my ideals.	Strongly disagree ..... 1 Disagree ..... 2 Agree .....3 Strongly Agree 4	
602	My living conditions are excellent.	Strongly disagree ..... 1 Disagree ..... 2 Agree .....3 Strongly Agree 4	
603	I am satisfied with my life.	Strongly disagree ..... 1 Disagree ..... 2 Agree .....3 Strongly Agree 4	
604	So far, I have obtained the main things I wanted from life.	Strongly disagree ..... 1 Disagree ..... 2 Agree .....3 Strongly Agree 4	
SECTION 7: BASIC ACTIVITIES OF DAILY LIVING (ADL) FUNCTIONING			
Now I would like to ask you some questions about your ability to do some daily living activities. Some of the questions will ask about your level of difficulty. By difficulty, I mean effort, pain, slowness, or needing to adapt or change how you do something. I will ask you if you have no difficulty, some difficulty, a lot of difficulty, or if it is something you cannot do at all. I may ask some follow-up questions about each condition.			
701	Do you have any difficulty seeing since the accident? Tell me if you have no difficulty, some, a lot, or if you cannot see at all.	No, no difficulty .....1 Some difficulty.....2 A lot of difficulty .....3 Cannot do at all/unable to do.....4 Refused to answer .....97 Don't know 98	If NO, SKIP to Q702
701a	What assistive product do you use to manage your seeing difficulty?	None .....0 Glasses.....1 Eye prosthetics 2	

No.	Question	Responses	Skip
		Surgical intervention.....3 Other (specify) 99	
702	Do you have any difficulty hearing since the accident? Tell me if you have no difficulty, some, a lot, or if you cannot see at all.	No, no difficulty .....1 Some difficulty.....2 A lot of difficulty .....3 Cannot do at all.....4 Refused to answer .....97 Don't know 98	If NO, SKIP to Q703
702a	What assistive product do you use to manage your hearing difficulty?	None .....0 Hearing aid (behind or in ear).....1 Cochlear implant.....3 Hearing amplifier .....4 Hearing assistance app (on Smart phone or tablet).....5 Lip reading or sign language as main communication method .....6 Other (specify) 99	
703	Do you have any difficulty walking or going up or down stairs since the accident? Tell me if you have no difficulty, some, a lot, or if you cannot see at all.	No, no difficulty .....1 Some difficulty.....2 A lot of difficulty .....3 Cannot do at all.....4 Refused to answer .....97 Don't know 98	If NO, SKIP to Q704
703a	Tell me if you need something like a device to support walking or going up or down stairs?	None .....0 Cane.....1 Crutches.....2 Walker (frame).....3 Walking frame with wheels .....4 Prosthetic leg or foot.....5 Leg brace or orthopedic support .....6 Wheelchair (manual) .....7 Wheelchair (electric) .....8 Walking assistance from another person 9	

No.	Question	Responses	Skip
		Other (specify) 99	
704	Do you have any difficulty communicating? For example, understanding or being understood when you use your usual (customary) language. Tell me if you have no difficulty, some, a lot, or if you cannot see at all.	No, no difficulty .....1 Some difficulty .....2 A lot of difficulty .....3 Cannot do at all.....4 Refused to answer .....97 Don't know 98	
705	Do you have any difficulty remembering or concentrating since the accident? Tell me if you have no difficulty, some, a lot, or if you cannot see at all.	No, no difficulty .....1 Some difficulty .....2 A lot of difficulty .....3 Cannot do at all.....4 Refused to answer .....97 Don't know 98	
Now I will ask you some questions about the level of difficulty you may have to take care of your own hygiene as well as some of the basic daily living tasks. There is no right or wrong answer. Please share what you feel comfortable with.			
706	Do you have any difficulty getting on the toilet alone since the accident? Tell me if you have no difficulty, some, a lot, or if you cannot see at all.	No, no difficulty .....1 Some difficulty .....2 A lot of difficulty .....3 Cannot do at all.....4 Refused to answer .....97 Don't know 98	
707	Do you have any difficulty using the toilet without support since the accident? Tell me if you have no difficulty, some, a lot, or if you cannot see at all.	No, no difficulty .....1 Some difficulty .....2 A lot of difficulty .....3 Cannot do at all.....4 Refused to answer .....97 Don't know 98	
708	Do you have any difficulty washing your whole body alone since the accident? Tell me if you have no difficulty,	No, no difficulty .....1 Some difficulty .....2 A lot of difficulty .....3 Cannot do at all.....4	

No.	Question	Responses	Skip
	some, a lot, or if you cannot see at all.	Refused to answer .....97 Don't know 98	
709	Do you have any difficulty dressing yourself since the accident? Tell me if you have no difficulty, some, a lot, or if you cannot see at all.	No, no difficulty .....1 Some difficulty .....2 A lot of difficulty .....3 Cannot do at all.....4 Refused to answer .....97 Don't know 98	
710	Do you have any difficulty staying alone by yourself for a few days since the accident? Tell me if you have no difficulty, some, a lot, or if you cannot see at all.	No, no difficulty .....1 Some difficulty .....2 A lot of difficulty .....3 Cannot do at all.....4 Refused to answer .....97 Don't know 98	
711	Do you have any difficulty making your own meals since the accident? Tell me if you have no difficulty, some, a lot, or if you cannot see at all.	No, no difficulty .....1 Some difficulty .....2 A lot of difficulty .....3 Cannot do at all.....4 Refused to answer .....97 Don't know 98	
712	Do you have any difficulty eating food by yourself since the accident? Tell me if you have no difficulty, some, a lot, or if you cannot see at all.	No, no difficulty .....1 Some difficulty .....2 A lot of difficulty .....3 Cannot do at all.....4 Refused to answer .....97 Don't know 98	
713	Do you have any difficulty doing basic manual labor by yourself, such as gardening or drawing, since the accident?	No, no difficulty .....1 Some difficulty .....2 A lot of difficulty .....3 Cannot do at all.....4	

No.	Question	Responses	Skip
	Tell me if you have no difficulty, some, a lot, or if you cannot see at all.	Refused to answer .....97 Don't know 98	
714	Do you have any difficulty sitting on the back of a motorbike since the accident? Tell me if you have no difficulty, some, a lot, or if you cannot see at all.	No, no difficulty .....1 Some difficulty .....2 A lot of difficulty .....3 Cannot do at all.....4 Refused to answer .....97 Don't know 98	
SECTION 8: UXO EDUCATION EXPOSURE			
Finally, I want to ask you a few questions about any Explosive Ordinance Risk Education (EORE) you may have been exposed to prior to your accident.			
801	Prior to the accident, had you heard of UXOs or know anything about UXOs?	No .....0 Yes 1	If No, SKIP to Q802
801a	What did you know about UXOs prior to your accident? SELECT ALL THAT APPLY.	Heard of them, but not what they looked like .....1 That they are dangerous.....2 Not to touch/approach them .....3 To report a UXO if I saw one.....4 That they were not in this area (my area where I live) .....5 That they were only dangerous to children.....6 That they only exploded if hit or tampered with .....7 Other (specify) 99	
801b	From where or from whom did you learn about or hear this information?	School/teacher .....1 Village chief/community leader.....2 Family member.....3 Friend/neighbor.....4 NGO or humanitarian organization....5 Government official.....6 Health worker.....7 Television or radio .....8 Social media or internet.....9	

No.	Question	Responses	Skip
		Posters, leaflets, or signs .....10 Training or awareness session .....11 Do not remember .....98 Other (specify) 99	
802	Record their WhatsApp number if available. Use "99" if they do not have one.	(Open; digits)	
END OF QUANTITATIVE INTERVIEW			

Let the respondent know that we have reached the end of the quantitative portion of the interview. If they have been selected to continue to the qualitative questions (Q109=YES), take a brief break before beginning the next section.

If the interview is ending, make sure to do that following:

- Share a contact document that has hotlines or numbers for support for rehab, medical care, or mental health services.
- Share the next steps:
    - Tell the respondent we will contact them through WhatsApp if we have any follow-up questions or clarifications that come up during the translation or data cleaning.
    - If they say yes, we will send them copes of the information and provide them time to review and delete parts that they would like to be excluded or add clarification to what they said.
    - We will share plans to report the data and will provide an option of sharing relevant findings with their community.

No.	Question	Responses	Skip
	MODULE 2: QUALITATIVE		
	Thank the respondent for taking additional time to answer these questions. Remind the respondent that just like the previous questionnaire, their responses to these questions will remain anonymous and confidential. We will not share their responses with anyone outside of the research team. Remind them that some of the questions may be sensitive or remind them of difficult memories. They are free to skip a question, pause, or stop the interview at any time. They can also take any breaks needed if they want a rest from some of the questions.		
	DAILY LIFE AFTER THE ACCIDENT		
	Interviewer Says: I would like to better understand your life and circumstances, learn more about your daily life and that of your family after your accident occurred, and how it is different after the accident.		
	We would like to know more about your daily life. If I followed you through a typical day after the accident, what would I see you doing? (Probe: when do you start your day, what do you typically do in the morning, what's next, etc.)		
	What about your family members – what do they typically do each day since the accident? For example, what does a typical day for your spouse look like? What does a typically day for your children look like?		
	Now we would like to know a bit more about what community activities you are involved with, if any, since the accident. For example, we know some UXO survivors help other families with their harvest or volunteer for special events in their community. Can you tell me about what activities you are involved with in your community? What challenges do you face in these activities, if any?		
	Now I would like to learn about some of the help you receive on a daily basis since the accident. Can you tell me a bit about how others – family members, friends – help you on a typical day? For example, we know some UXO survivors have difficulty walking, so a family member helps them. We also know that some UXO survivors have difficulty making their		

No.	Question	Responses	Skip
	own meals, so caregivers help them. Can you tell me about any experiences you have had like that or other experiences?		
	Can you tell me about any support you receive from any source? This could include people or organizations providing money or food, giving rides or providing transportation, helping with household chores, helping with your food harvest, providing medicine, supporting livelihood training, or giving livelihood support. (Probe: village committee; government agency like the MOH, MOLSW, or NRA; NGO, NPA, or other foundations).		
UXO ACCIDENT			
Now I would like to hear more about the situation that happened at the time of your accident. UXO survivors in the past have talked about what they remember from right after the accident, at the hospital, or in the days after the accident. If these questions become too hard to discuss, we can stop and take a break at any time. Also, if you don't want to answer, you can say, " I don't want to talk about this" or "I don't want to answer this.			
	What happened immediately following the accident? Where were you? Who was there? How did you feel?		
	What is a memory you have of or after the accident?		
	Where were you?		
	Who was there with you?		

No.	Question	Responses	Skip
	How did you feel/ what do you think?		
PERCEIVED CHANGES SINCE THE ACCIDENT			
For this set of questions, we want to learn more about how your life and situation have changed since the accident. Remember, if these questions become too hard to discuss, we can stop and take a break at any time. Also, if you don't want to answer, you can say, " I don't want to talk about this" or "I don't want to answer this.			
	When you think about your daily life now as compared to before the accident, what do you believe is the same? What is different? Probe on financial situation and if they have spent money of different things since the accident.		
	How about your family's lives – what is the same? What is different?		
	How did your family respond after the accident? What did family members say to you?		
	How did the community respond after your accident? What did community members say to you?		
	How about your financial situation – what is the same? What has changed? Have you spent money on different things? Describe.		

No.	Question	Responses	Skip
	Have community members helped you? If so, how? For example, people may have brought you food, carried water, helped with house chores, supported your transportation, loaned you money, or helped with harvest.		
	Has the government helped you? If so, how? (For example, you may receive skills training like massage school, technical school, caring for animals, or small business training		
	If you could receive additional support from the community and the government in the future, what would help you?		
	Suppose that you meet another UXO survivor who just survived a recent accident. What advice would you give them? What support would you suggest they seek from their families? From their communities? From their government?		
	Is there anything we missed that you would like to share with us?		
END OF QUANTITATIVE INTERVIEW			
Let the respondent know that we have reached the end of the qualitative portion of the interview. Thank them for their time and remind them of the confidentiality of their answers assure them that they can contact the research team for any additional questions and remind them of the hotline contact sheet in the event they need support.			

UXO Child Survivor and Caregiver Questionnaire

UXO CHILD CAREGIVER INTERVIEW TOOL

No.	Question	Responses	Skip
	NOTES TO INTERVIEWERS		
Thank the respondents for agreeing to participate in the interview. Let them know that you will start by explaining how and why we are doing the interview. **Warm-Up Reminders:** • **Communicate to participants that they are not responsible for appeasing researchers.** • **Share goal of the research and plans to report data** • **Review Consent Form with the adult and assent for the child** • **Share plans for confidentiality** • **Ask for pseudonyms** • **Share trigger warnings prior to sensitive topics** • **Let interviewees know that they can always: (a. Skip interview questions, b. Ask questions, c. Exit or pause at any time)**			
901	Did you review the consent form and receive agreement from the respondent to continue with the interview?	No ..... 0 Yes 1	
999	Name of Interviewer	Name ..... 1 Name ..... 2 Name ..... 3 Name ..... 4 Name 5	

No.	Question	Responses	Skip
MODULE 1: QUANTITATIVE			
SECTION 1: INTERVIEW INFORMATION			
Note to interviewer: Record information about where the interview is taking place. You do not need to ask this information of the respondent as this is part of the sample selection but ask the respondent if you are unsure.			
101	Interview code		
102	Date of interview	Add a date dial (day, month, year)	
103	Province SELECT ONE.	Savannakhet ..... 1 Khammouan ..... 2 Sekong ..... 3 Salavan..... 4 Xiengkhouang ..... 5 Vientiane ..... 6 Other (specify) 99	
104	District SELECT ONE.	<u>Khammuan</u> Bualapha..... 1 Thakheak ..... 2 <u>Savannakhet</u> Sepon..... 3 Ardsaphangthong ..... 4 Nong ..... 5 <u>Sekong</u> Kaluem..... 6 <u>Salavan</u> Salavan..... 7 Ta-oiy..... 8 <u>Xiengkhuang</u> Peak ..... 9 Phoukoud ..... 10 <u>Vientiane</u> Kasi ..... 11 Other (specify) 99	
105	Village SELECT ONE.	 <u>Bualapha</u> Maivanggueak.....1 Pakphanaang ..... 2 Hinlap ..... 3 Ka-ee..... 4 Nongkapad ..... 5 Sobpeng..... 6	

No.	Question	Responses	Skip
		Thongkham.....7 **Thakheak** Nasaard ..... 8 **Sepon** Kalengkang ..... 9 Mai Thadeng..... 10 Alai..... 11 Mueangsean.....12 **Ardsaphangthong** Najarn ..... 13 Saphangkeo ..... 14 **Nong** Hinsavang.....15 Alaoyai ..... 16 **Kaluem** Thongkhean ..... 17 Along..... 18 **Salavan** Phak-Ka..... 19 Naphontarn ..... 20 **Ta-oiy** Toungkong.....21 Padu..... 22 Kapay ..... 23 **Peak** Namkha ..... 24 Phousan ..... 25 Nakhampheng ..... 26 Nasala ..... 27 Vieng.....28 Khangkhai.....29 Phousan..... 30 **Phoukoud** Yai ..... 31 Phiengdy ..... 32 Xiengded..... 33 **Kasi** Nasou..... 34 Other (specify) 99	
106	Record GPS coordinates	Latitude Longitude Altitude Accuracy	

No.	Question	Responses	Skip
107	People present at the interview. SELECT ALL THAT APPLY.	Interviewer ..... 1 Notetaker ..... 2 Translator ..... 3 Caregiver(s)..... 4 Other family members..... 5 Friend(s)/Neighbor(s) ..... 6 Other (specify) 99	
108	Language caregiver interview was conducted?	Lao ..... 1 Phouthay ..... 2 Tai ..... 3 Lue ..... 4 Ngoaun ..... 5 Yang ..... 6 Xaek ..... 7 Thaineua ..... 8 Khmou ..... 9 Pray..... 10 Xingmoun ..... 11 Phong..... 12 Thaen..... 13 Oedou ..... 14 Bid..... 15 Lamed ..... 16 Samtao..... 17 Katang..... 18 Makong..... 19 Tri ..... 20 Yrou ..... 21 Triang..... 22 Ta-oy..... 23 Yae ..... 24 Brao ..... 25 Katu ..... 26 Harak ..... 27 Oy ..... 28 Griang ..... 29 Cheng..... 30 Sadang ..... 31 Xuay ..... 32 Nhaheun ..... 33 Lavy..... 34 Pacoh ..... 35 Khmer ..... 36 Toum ..... 37 Guan 38	

No.	Question	Responses	Skip
		Moy ..... 39 Kree ..... 40 Brou ..... 41 Akha ..... 42 Pounoy ..... 43 Lahou ..... 44 Syla ..... 45 Hayi ..... 46 Lolo ..... 47 Hor ..... 48 Hmong ..... 49 Ewmien ..... 50 Other (specify) 99	
109	Language child interview was conducted?	Lao ..... 1 Phouthay ..... 2 Tai ..... 3 Lue ..... 4 Ngoaun ..... 5 Yang ..... 6 Xaek ..... 7 Thaineua ..... 8 Khmou ..... 9 Pray ..... 10 Xingmoun ..... 11 Phong ..... 12 Thaen ..... 13 Oedou ..... 14 Bid ..... 15 Lamed ..... 16 Samtao ..... 17 Katang ..... 18 Makong ..... 19 Tri ..... 20 Yrou ..... 21 Triang ..... 22 Ta-oy ..... 23 Yae ..... 24 Brao ..... 25 Katu ..... 26 Harak ..... 27 Oy ..... 28 Griang ..... 29 Cheng ..... 30 Sadang ..... 31 Xuay 32	

No.	Question	Responses	Skip
		Nhaheun ..... 33 Lavy ..... 34 Pacoh ..... 35 Khmer ..... 36 Toum ..... 37 Guan ..... 38 Moy ..... 39 Kree ..... 40 Brou ..... 41 Akha ..... 42 Pounoy ..... 43 Lahou ..... 44 Syla ..... 45 Hayi ..... 46 Lolo ..... 47 Hor ..... 48 Hmong ..... 49 Ewmien ..... 50 Other (specify) 99	
110	Is this respondent's child selected for the qualitative module?	No ..... 0 Yes 1	Will be linked to Module 2
SECTION 2: DEMOGRAPHIC INFORMATION			
Interviewer Says: First, I would like to learn a little more about the child. Please respond as best you can.			
201	What is the relationship between interviewee and child?	Primary Caregiver .....1 Caregiver.....2 Other (Specify) 99	
202	How old is the child? (Completed years only)	(open)	
203	Indicate gender of child	Male ..... 1 Female 2	
204	What is the primary ethnic group of the child? SELECT ONE.	Lao .....1 Phouthay .....2 Tai.....3 Lue .....4 Ngoaun .....5 Yang .....6 Xaek.....7 Thaineua .....8 Khmou .....9 Pray.....10	

No.	Question	Responses	Skip
		Xingmoun ..... 11 Phong ..... 12 Thaen ..... 13 Oedou ..... 14 Bid ..... 15 Lamed ..... 16 Samtao ..... 17 Katang ..... 18 Makong ..... 19 Tri ..... 20 Yrou ..... 21 Triang ..... 22 Ta-oy ..... 23 Yae ..... 24 Brao ..... 25 Katu ..... 26 Harak ..... 27 Oy ..... 28 Griang ..... 29 Cheng ..... 30 Sadang ..... 31 Xuay ..... 32 Nhaheun ..... 33 Lavy ..... 34 Pacoh ..... 35 Khmer ..... 36 Toum ..... 37 Guan ..... 38 Moy ..... 39 Kree ..... 40 Brou ..... 41 Akha ..... 42 Pounoy ..... 43 Lahou ..... 44 Syla ..... 45 Hayi ..... 46 Lolo ..... 47 Hor ..... 48 Hmong ..... 49 Ewmien ..... 50 No Response ..... 97 Don't Know ..... 98 Other (specify) 99	
205	What languages does the child speak? SELECT ALL THAT APPLY.	Lao ..... 1 Phouthay ..... 2 Tai ..... 3 Lue 4	

No.	Question	Responses	Skip
		Ngoaun ..... 5 Yang ..... 6 Xaek ..... 7 Thaineua ..... 8 Khmou ..... 9 Pray ..... 10 Xingmoun ..... 11 Phong ..... 12 Thaen ..... 13 Oedou ..... 14 Bid ..... 15 Lamed ..... 16 Samtao ..... 17 Katang ..... 18 Makong ..... 19 Tri ..... 20 Yrou ..... 21 Triang ..... 22 Ta-oy ..... 23 Yae ..... 24 Brao ..... 25 Katu ..... 26 Harak ..... 27 Oy ..... 28 Griang ..... 29 Cheng ..... 30 Sadang ..... 31 Xuay ..... 32 Nhaheun ..... 33 Lavy ..... 34 Pacoh ..... 35 Khmer ..... 36 Toum ..... 37 Guan ..... 38 Moy ..... 39 Kree ..... 40 Brou ..... 41 Akha ..... 42 Pounoy ..... 43 Lahou ..... 44 Syla ..... 45 Hayi ..... 46 Lolo ..... 47 Hor ..... 48 Hmong ..... 49 Ewmien 50	

No.	Question	Responses	Skip
		No Response ..... 97 Don't Know ..... 98 Other (specify) 99	
206	Among those, what is the primary language the child speaks at home? SELECT ONE.	Lao ..... 1 Phouthay ..... 2 Tai ..... 3 Lue ..... 4 Ngoaun ..... 5 Yang ..... 6 Xaek ..... 7 Thaineua ..... 8 Khmou ..... 9 Pray ..... 10 Xingmoun ..... 11 Phong ..... 12 Thaen ..... 13 Oedou ..... 14 Bid ..... 15 Lamed ..... 16 Samtao ..... 17 Katang ..... 18 Makong ..... 19 Tri ..... 20 Yrou ..... 21 Triang ..... 22 Ta-oy ..... 23 Yae ..... 24 Brao ..... 25 Katu ..... 26 Harak ..... 27 Oy ..... 28 Griang ..... 29 Cheng ..... 30 Sadang ..... 31 Xuay ..... 32 Nhaheun ..... 33 Lavy ..... 34 Pacoh ..... 35 Khmer ..... 36 Toum ..... 37 Guan ..... 38 Moy ..... 39 Kree ..... 40 Brou 41	

No.	Question	Responses	Skip
		Akha ..... 42 Pounoy ..... 43 Lahou ..... 44 Syla ..... 45 Hayi ..... 46 Lolo ..... 47 Hor ..... 48 Hmong ..... 49 Ewmien ..... 50 No Response ..... 97 Don't know ..... 98 Other (specify) 99	
207	How well does the child understand Lao? SELECT ONE.	None/a little ..... 1 Some ..... 2 A lot/fluent 3	
208	What is the child's religion? SELECT ONE.	None ..... 0 Buddhism ..... 1 Animism ..... 2 Christianity (protestant/catholic) ..... 3 Other (specify) 99	
209	What is the child's highest level of education completed?	None ..... 0 Primary but not completed .....1 Completed Primary ..... 2 Junior secondary but not completed. 3 Completed Junior secondary .....4 Senior secondary but not completed 5 Completed Senior secondary 6	
210	Who lives in the household with the child? SELECT ALL THAT APPLY.	Nobody (live alone) ..... 1 Father (biological/in-law) ..... 2 Mother (biological (in-law) ..... 3 Spouse ..... 4 Brother ..... 5 Sister ..... 6 Daughter ..... 7 Son ..... 8 Other female relative ..... 9 Other male relative ..... 10 Other female non-relative ..... 11 Other male non-relative ..... 12 Other (specify) 99	

No.	Question	Responses	Skip
210	Is the place where the child currently lives different from the place where the child was born? SELECT ONE.	No ..... 0 Yes 1	If NO, SKIP to Q301
210a	What was the reason for moving? SELECT ALL THAT APPLY.	Conflict or violence ..... 1 Marriage ..... 2 Family reasons ..... 3 Access to medical care ..... 4 Economic reasons ..... 5 Displacement due to UXO incident .... 6 Other (specify) 99	
210b	How long has the child lived in this village?	Less than 1 year ..... 0 2-5 years ..... 1 6-10 years ..... 2 More than 10 years 3	
SECTION 3: HOUSEHOLD INFORMATION			
Interviewer Says: Now I would like to learn a bit about your household where the child lives.			
301	Does this dwelling have electricity? SELECT ONE.	No ..... 0 Yes with own meter ..... 1 Yes with shared meter ..... 2 Yes with own generator ..... 3 Yes, with solar cell .....4 Yes, with batteries 5	
302	Do you have internet access in your house (via Smartphone or other access)? SELECT ONE.	No ..... 0 Yes 1	
303	Do you have access to water at your house? SELECT ONE.	No ..... 0 Yes 1	If NO, SKIP to Q304
303a	What is this household's main source of drinking water	Piped water in/outside ..... 1 Protected well/borehole ..... 2 Unprotected well/borehole ..... 3 River/stream/dam/lake ..... 4 Bottle/can water ..... 5 Other (specify) 99	
304	What is the type of toilet facility mainly used by the household? SELECT ONE.	No facility/bush/field ..... 0 Flush/pour flush ..... 1 Pit latrine ventilated ..... 2 Pit latrine other ..... 3 Composting toilet ..... 4 Bucket 5	

		Hanging toilet ..... 6 Other (specify) 99	
305	Is your house accessible by vehicle during the rainy season? SELECT ONE.	No ..... 0 Yes 1	
306	Do you have equipment or tools for breaking down scrap metal in your house? SELECT ONE.	No ..... 0 Yes 1	
Interviewer Says: I would also like to ask some questions about the situation of the household where the child lives such as employment, assets and debts from before the accident and after the accident. I want to better understand how the accident has affected the household where the child lives and any changes the household experienced.			
307a	Was the child in school before their accident?	No.....0 Yes.....1	
307b	Does the child attend school AFTER their accident?	No.....0 Yes.....1	
Next, I would like to know about how many of the following items owned by the household before the accident and if the household still owns the items after the accident. I am going to read a list of items to you and I would like you to think back to before the accident and tell me if your household owned these items.			
308a	When you think about the time **BEFORE** the child's accident, what did you spend most of your money? UP TO THREE ALLOWED.	Food .....1 Education .....2 Clothing .....3 Livestock.....4 Agriculture needs .....5 Housing .....6 Other (specify).....99	
308b	When you think about the time **AFTER** the child's accident, what did you spend	Food .....1 Education .....2 Clothing .....3 Livestock.....4 Agriculture needs .....5 Housing .....6 Other (specify).....99	

	most of your money on? UP TO THREE ALLOWED.		
309a	**BEFORE** the child's accident, did your household have any of the following items? READ LIST. SELECT ALL THAT APPLY.	Mobile phones .....1 Motorbike.....2 Bicycle .....3 Car or truck.....4 Tractor.....5 Television .....6 Radio .....7 Refrigerator .....8 Livestock (such as cattle, pigs, chickens, etc.) 9	
309b	Now can you tell me if the household where the child lives still owns any of these items AFTER the child's accident? READ LIST. SELECT ALL THAT APPLY.	Mobile phones .....1 Motorbike.....2 Bicycle .....3 Car or truck.....4 Tractor.....5 Television .....6 Radio .....7 Refrigerator .....8 Livestock (such as cattle, pigs, chickens, etc.) 9	
310a	BEFORE the child's accident, what was your main source of income or employment (as a primary caretaker or caretaker for the child)? SELECT ONE. *Farming – rice, banana, cassava, palm, corn, pineapple, raising animals*	Farmer (work for self).....1 Farm Worker (for a company).....2 Fisherman.....3 Small business .....4 Government staff .....5 Private company or organization .....6 Subsistence living .....7 Student.....8 None/Unemployed .....9 Other (specify).....99	

	Small business – house store, seamstress, hairdresser, etc. *Government staff – teacher, army, police, medical* *Private company – UXO staff, INGO, factory* *Subsistence living – no real crops, but have a small garden, hunt and gather in forests, streams* *Student – attend school or non-formal education*		
310b	AFTER the child's accident, what is your current main source of income or employment for the primary caretaker of the child? SELECT ONE. *Farming – rice, banana, cassava, palm, corn, pineapple, raising animals* *Small business – house store, seamstress,*	Farmer (work for self).....1 Farm Worker (for a company).....2 Fisherman.....3 Small business .....4 Government staff .....5 Private company or organization .....6 Subsistence living .....7 Student.....8 None/Unemployed .....9 Other (specify).....99	

	hairdresser, etc. *Government staff – teacher, army, police, medical* *Private company – UXO staff, INGO, factory* *Subsistence living – no real crops, but have a small garden, hunt and gather in forests, streams* *Student – attend school or non-formal education*		
311a	Now I would like you to think about other people in the household where the child lives in the time BEFORE the child's accident. What was their main source of income for other people in the child's household? SELECT ALL THAT APPLY.	Farmer (work for self).....1 Farm Worker (for a company).....2 Fisherman.....3 Small business .....4 Government staff .....5 Private company or organization .....6 Subsistence living .....7 Student.....8 None/Unemployed .....9 Don't know.....98 Other (specify).....99	
311b	Now I would like you to think about other people in the household	Farmer (work for self).....1 Farm Worker (for a company).....2 Fisherman.....3 Small business .....4 Government staff 5	

	where the child currently lives. What is their main source of income for other people who live in the child's household now? SELECT ALL THAT APPLY.	Private company or organization .....6 Subsistence living .....7 Student.....8 None/Unemployed .....9 Don't know.....98 Other (specify).....99	
312a	Did the primary caretaker of the child or the child's household have any debt **BEFORE** the child's accident? By this I mean money owe a bank or a loan from another person that needs to be repaid. SELECT ONE.	No..... 0 Yes..... 1 Don't know..... 98	If NO/DK, SKIP to Q313a
312b	What is your best estimate of the total amount of debt **BEFORE** the child's accident? SELECT ONE.	<180,000 LAK/month ..... 1 1,80,000 - <500,000 LAK/month ..... 2 500,000-<1 mil LAK/month ..... 3 1 mil-<2 mil LAK/month..... 4 2 mil-<5 mil LAK/month..... 5 5 mil-<10 mil LAK/month..... 6 10 mil or more LAK/month..... 7 Don't know/refused.....98	
313a	In this time **AFTER** the child's accident, does the primary caretaker of	No..... 0 Yes..... 1	If NO/DK, SKIP to Q401

	the child or the child's household have any debt?		
313b	What is your best estimate of the total amount of debt now, AFTER the child's accident? SELECT ONE.	<180,000 LAK/month ..... 1 1,80,000 - <500,000 LAK/month ..... 2 500,000-<1 mil LAK/month ..... 3 1 mil-<2 mil LAK/month..... 4 2 mil-<5 mil LAK/month..... 5 5 mil-<10 mil LAK/month..... 6 10 mil or more LAK/month..... 7 Don't know/refused.....98	
314	When you think about the time before the child's accident and after the accident, did the child's household lose any assets since the accident? This could be physical assets like a house or land, or could refer to a position in the community. SELECT ALL THAT APPLY.	No..... 0 Land..... 1 Home..... 2 Livestock..... 3 Other physical assets/belongings..... 4 Position in the community ..... 5 Don't Know..... 98 Other (specify)..... 99	
SECTION 4: ACCIDENT INFORMATION			
Interviewer Says: I would like to ask some questions about the child's accident. Some of these questions may be sensitive or difficult to answer, so if you need a break or do not want to respond to a question, just let me know. We understand that you may remember some things better than others. We are only asking you to share what you remember to the best of your ability.			
401	What was the date of the child's accident?	Add date dial (month, day, year)	
402	Where did the child's accident happen?	Field.....1 Road .....2 Home.....3 At Work 4	

		Village.....5 Do not know.....98 Other (specify).....99	
403	How did the bomb get activated (if known)? SELECT ONE.	By ax.....1 By hoe .....2 By saw .....3 By knife.....4 By fire .....5 By touching (kicking, stepping on it, throwing something on it).....6 Do not know.....98 Other (specify).....99	
404	At the time of the accident, how was the child moving?	On a motorbike .....1 In a car or truck .....2 On a tractor .....3 On foot .....4 Other (specify).....99	
405	What was the child doing before the explosion? SELECT ONE.	Gardening (plot within ½ km from house) .....1 Farming (plot more than ½ km from house .....2 Setting a fire .....3 Clearing land by burning.....4 Clearing land by cutting.....5 Foraging.....6 Recreation/sports.....7 Dismantling a UXO.....8 Taking care of animals.....9 Touched, moved a UXO.....10 Other (specify).....99	SKIP TO: 406a-406c 406a-406c 407a 408a 409a 410a-410b 411 412a-412b 501 413 501 501
ASK only if selected 1 (gardening) or selected 2 (farming) in Q403. Then SKIP to Q501.			
406a	What kind of crop? MULTIPLE??	Potato.....1 Cassava.....2 Banana .....3 Sugar cane.....4 Rice.....5 Corn.....6 Other (specify).....99	
406b	How deep was the child	0-5 cm .....1 6-10 cm 2	

	digging or planting? SELECT ONE.	11-15 cm .....3 16-25 cm .....4 26-50 cm .....5 Deeper than 50 cm.....6 Do not know.....98 Other (specify).....99	
406c	What kind of tool was the child using? SELECT ONE.	Hoe.....1 Shovel.....2 Axe.....3 Tractor.....4 Do not know.....98 Other (specify).....99	
ASK only if selected 3 (setting a fire) in Q403. Then SKIP to Q501.			
407a	For what reason was the child making a fire? SELECT ONE.	For warmth.....1 For cooking.....2 For burning garbage .....3 Do not know.....98 Other (specify).....99	
ASK only if selected 4 (clearing land by burning) in Q403. Then SKIP to Q501.			
408a	For what reason was the child clearing the land for burning? SELECT ONE.	For planting .....1 For building .....2 Do not know.....98 Other (specify).....99	
ASK only if selected 5 (clearing land by cutting) in Q403. Then SKIP to Q501.			
409a	For what reason was the child clearing the land by cutting? SELECT ONE.	Cutting wood (big tree) .....1 Cutting small grass .....2 cutting jungle.....3 Do not know.....98 Other (specify) 99	
ASK only if selected 6 (foraging) in Q403. Then SKIP to Q501.			
410a	For what reason was the child foraging? SELECT ONE.	Looking for food ..... 1 Fishing ..... 2 Hunting..... 3 Setting traps ..... 4 Looking for bamboo shoots..... 5 Do not know.....98 Other (specify)..... 99	
410b	Where was the child foraging? SELECT ONE.	In the forest..... 1 In the fields..... 2 Near a river or lake..... 3	

		Do not know.....98 Other (specify)..... 99	
ASK only if selected 7 (recreation/sports) in Q403. Then SKIP to Q501.			
411a	What type of recreation was the child doing?	Sports ..... 1 Exercise ..... 2 Do not know.....98 Other (specify)..... 99	
ASK only if selected 8 (dismantling a UXO) in Q403. Then SKIP to Q501.			
Remember that your answers are confidential. We will not include any names with any report so nobody will know how you respond.			
412a	Was the child dismantling a UXO when the accident happened?	No..... 0 Yes ..... 1 Do not know.....98	If NO/DK, SKIP to Q501
412b	What was the purpose of dismantling a UXO? SELECT ONE.	Extra income to sell ..... 1 To make it into something..... 2 Clearance operation ..... 3 Do not know.....98 Other (specify)..... 99	
ASK only if selected 10 (touched, moved UXO) in Q403. Then SKIP to Q501.			
413	Why did the child touch/move the UXO?	To move so that child could play.....1 To move to the safe place.....2 Accidently touch or step on.....3 Do not know.....98 Other (specify)..... 99	
SECTION 5: MEDICAL CARE AFTER THE ACCIDENT			
Now I would like to ask about your child's medical care following the accident. Some of these questions may be sensitive or difficult to answer, so if you need a break or do not want to respond to a question, just let me know. It is no problem. We understand that you may remember some things better than others. We are only asking you to share what you remember to the best of your ability.			
501	After the accident, was the child taken to a medical facility (such as a health center or a hospital) or receive any medical care? SELECT ONE.	No..... 0 Yes ..... 1 Do not know.....98	If YES, SKIP to Q502a

501a	If NO, for what reason was the child not taken to a medical facility? SELECT ALL THAT APPLY.	The injury did not seem serious ..... 1 No health facility nearby ..... 2 No transportation available..... 3 Could not afford the cost ..... 4 Afraid of doctors or hospitals ..... 5 Did not know where to go..... 6 Family or community advised against seeking care..... 7 Traditional or home remedies were tried first ..... 8 Received needed help at home..... 9 Was unconscious or unable to move 10 Facility was closed or too far ..... 11 Discrimination or fear of mistreatment by facility staff..... 12 Do not know .....98 Other (specify)..... 99	SKIP to Q503
502a	How long did it take for the child to receive his/her first medical care? This could include medics that came to the site of the accident to give the child medical care or the time it took between the accident and arriving at a medical facility.	Immediately ..... 1 Within 15 mins ..... 2 >15 mins and <30 mins ..... 3 >30 mins and <60 mins ..... 4 1-3 hours ..... 5 More than 3 hours ..... 6 >3 hours and <24 hours ..... 7 2-3 days ..... 8 More than 3 days ..... 9 Don't know..... 98 Other (specify)..... 99	
502b	What level of medical care did the child receive?	Basic first aid care at site..... 1 Health center (public)..... 2 District hospital (public) ..... 3 Provincial hospital (public) ..... 4 Central hospital (public) ..... 5 Private clinic ..... 6 Private hospital..... 7 Other (specify)..... 99	
502c	What type of care did the	Wound cleaning ..... 1 CPR 2	

	child receive that you can remember? SELECT ALL THAT APPLY. *Stabilization refers to medical providers monitoring to make sure conditions do not get worse, checking vital signs.*	Oxygen ..... 3 Bleeding control ..... 4 IV/Fluid control..... 5 Medication ..... 6 Stabilization (monitoring conditions, checking vital signs) ..... 7 Surgery ..... 8 Trauma surgical care (stitches, closing wounds)..... 9 Do not know.....98 Other (specify)..... 99	
503	After the accident, did the child receive rehabilitation?	No..... 0 Yes..... 1 Do not know.....98	If no skip to Q508
504	How long after the accident did the child receive rehabilitation support?	<2 weeks ..... 1 ≥2 weeks and < 6 months..... 2 ≥6 months and <12 months ..... 3 ≥12 months ..... 4 Do not know.....98	
505	How often did the child receive rehabilitation support?	1-2 times ..... 1 3-5 times ..... 2 5-10 times ..... 3 More than 10 times..... 4 Ongoing..... 5 Do not know.....98	
506	Is the rehabilitation complete or does the child still need more rehabilitation support?	Completed..... 1 Need more rehab support..... 2 Do not know.....98	If NEED MORE, SKIP to Q507a
506a	Why does the child not need further rehabilitation?	Child can move around independently 1 Child No longer needs medical treatment or physical therapy..... 2 Child can go to school again..... 3	ANY ANSWER, SKIP to Q508

	SELECT ALL THAT APPLY.	Child received a prosthetic or mobility aid that meets their needs ..... 4 Child has adjusted to living with their injury ..... 5 Child has no more pain or health issues related to the injury ..... 6 Child no longer dependent on others for daily tasks ..... 7 Child returned to my normal routine8 The community accepts and supports the child ..... 9 No money to return for more care or treatment for the child..... 10 No help getting child to or from appointments ..... 11 Child does not feel like they need any more help ..... 12 Do not know .....98 Other (specify)..... 99	
507a	Where did/does the child receive the rehab support?	Center of Medical Rehabilitation.....1 Health center (public)..... 2 District hospital (public) ..... 3 Provincial hospital (public) ..... 4 Central hospital (public) ..... 5 Private clinic ..... 6 Private hospital..... 7 Other (specify)..... 99	
507b	What rehab services did/does the child receive. MULTIPLE RESPONSES ALLOWED. SELECT ALL THAT APPLY.	Massage ..... 1 Pain management ..... 2 Physical therapy ..... 3 Medicine ..... 4 Prosthetic and Orthotic (P&O) ..... 5 Assistive device ..... 6 Support for mobility (stretching, exercises, etc.) ..... 7 Do not know .....98 Other (specify)..... 99	
508	What type, if any, support did/does the child receive?	None.....0 Medical..... 1 Assistive devices ..... 2 Mental health..... 3 Do not know .....98 Other (specify)..... 99	

509	Does the child or the child's household receive any type of support from the government, such as the MOH, MOLSW, or NRA?	No..... 0 Yes..... 1 Do not know.....98	If NO, SKIP to Q510
509a	If yes, what type of support does the child/the child's household receive? MULTIPLE OPTIONS POSSIBLE. CAN SELECT MORE THAN ONE.	Financial ..... 1 Food ..... 2 Livelihood training..... 3 Medicine ..... 4 Small business support..... 5 Transport support ..... 6 Do not know.....98 Other (specify)..... 99	
510	Does the child or the child's household receive any type of support from NGOs, the NPA, or other foundations?	No..... 0 Yes..... 1 Do not know.....98	If NO, SKIP to Q511
510a	If yes, what type of support does the child/the child's household receive? MULTIPLE OPTIONS POSSIBLE. CAN SELECT MORE THAN ONE.	Financial ..... 1 Food ..... 2 Livelihood training..... 3 Medicine ..... 4 Small business support..... 5 Transport support ..... 6 Do not know.....98 Other (specify)..... 99	
511	Does the child or the child's household receive any	No..... 0 Yes..... 1 Do not know.....98	If NO, SKIP to Q601

	type of support from the village committee?		
511a	If yes, what type of support does the child/child's household receive? MULTIPLE OPTIONS POSSIBLE. CAN SELECT MORE THAN ONE.	Financial ..... 1 Food ..... 2 Livelihood training..... 3 Medicine ..... 4 Small business support..... 5 Transport support ..... 6 Do not know.....98 Other (specify).....99	
SECTION 6: BASIC ACTIVITIES OF DAILY LIVING (ADL) FUNCTIONING			
Now I would like to ask you some questions about the child's ability to do some daily living activities. Some of the questions will ask about the child's level of difficulty. By difficulty, I mean effort, pain, slowness, or needing to adapt or change how you do something. I will ask if the child has no difficulty, some difficulty, a lot of difficulty, or if it is something you cannot do at all. I may ask some follow-up questions about each condition. Please respond as best you can based on what you have observed or know about the child's condition. You can consult with your child if you choose to as well.			
601	Does the child have any difficulty seeing since the accident? Tell me if the child has no difficulty, some, a lot, or if you cannot see at all.	No, no difficulty..... 1 Some difficulty..... 2 A lot of difficulty..... 3 Cannot do at all/unable to do ..... 4 Refused to answer..... 97 Don't know..... 98	If NO, SKIP to Q602
601a	What assistive product does your child use to manage your seeing difficulty such as glasses?	None..... 0 Glasses..... 1 Eye prosthetics..... 2 Surgical intervention ..... 3 Other (specify)..... 99	
602	Does the child have any difficulty hearing since the accident? Tell me if the child has no	No, no difficulty..... 1 Some difficulty..... 2 A lot of difficulty..... 3 Cannot do at all/unable to do ..... 4 Refused to answer..... 97 Don't know..... 98	If NO, SKIP to Q603

	difficulty, some, a lot, or if you cannot see at all.		
602a	**What assistive product such as a hearing aid does your child use to manage their hearing difficulty?**	None..... 0 Hearing aid (behind or in ear) ..... 1 Cochlear implant ..... 3 Hearing amplifier..... 4 Hearing assistance app (on Smart phone or tablet)..... 5 Lip reading or sign language as main communication method..... 6 Other (specify)..... 99	
603	Does the child have any difficulty walking or going up or down stairs since the accident? Tell me if the child has no difficulty, some, a lot, or if you cannot see at all.	No, no difficulty..... 1 Some difficulty..... 2 A lot of difficulty..... 3 Cannot do at all/unable to do ..... 4 Refused to answer..... 97 Don't know..... 98	If NO, SKIP to Q604
603a	Tell me if the child needs something like a device to support walking or going up or down stairs?	None..... 0 Cane ..... 1 Crutches ..... 2 Walker (frame) ..... 3 Walking frame with wheels ..... 4 Prosthetic leg or foot..... 5 Leg brace or orthopedic support..... 6 Wheelchair (manual)..... 7 Wheelchair (electric) ..... 8 Walking assistance from another person 9 Other (specify)..... 99	
604	Does the child have any difficulty communicating or understanding since the accident? Tell	No, no difficulty..... 1 Some difficulty..... 2 A lot of difficulty..... 3 Cannot do at all ..... 4 Refused to answer..... 97 Don't know..... 98	

	me if the child has no difficulty, some, a lot, or if you cannot see at all.		
605	Does the child have any difficulty remembering or concentrating since the accident? Tell me if the child has no difficulty, some, a lot, or if you cannot see at all.	No, no difficulty ..... 1 Some difficulty ..... 2 A lot of difficulty ..... 3 Cannot do at all ..... 4 Refused to answer ..... 97 Don't know 98	
Now I will ask you some questions about the level of difficulty the child may have to take care of their own hygiene as well as some of the basic daily living tasks. There is no right or wrong answer. Please share what you have observed or know. Please respond as best you can based on what you have observed or know about the child's condition. You can consult with your child if you choose to as well.			
606	Does the child have any difficulty getting on the toilet alone since the accident? Tell me if the child has no difficulty, some, a lot, or if you cannot see at all.	No, no difficulty ..... 1 Some difficulty ..... 2 A lot of difficulty ..... 3 Cannot do at all ..... 4 Refused to answer ..... 97 Don't know 98	
607	Does the child have any difficulty using the toilet without support since the accident? Tell me if the child has no difficulty,	No, no difficulty ..... 1 Some difficulty ..... 2 A lot of difficulty ..... 3 Cannot do at all ..... 4 Refused to answer ..... 97 Don't know 98	

	some, a lot, or if you cannot see at all.		
608	Does the child have any difficulty washing their whole body alone since the accident? Tell me if the child has no difficulty, some, a lot, or if you cannot see at all.	No, no difficulty ..... 1 Some difficulty ..... 2 A lot of difficulty ..... 3 Cannot do at all ..... 4 Refused to answer ..... 97 Don't know 98	
609	Does the child have any difficulty dressing him or herself since the accident? Tell me if the child has no difficulty, some, a lot, or if you cannot see at all.	No, no difficulty ..... 1 Some difficulty ..... 2 A lot of difficulty ..... 3 Cannot do at all ..... 4 Refused to answer ..... 97 Don't know 98	
610	Does the child have any difficulty eating food by yourself since the accident? Tell me if the child has no difficulty, some, a lot, or if you cannot see at all.	No, no difficulty ..... 1 Some difficulty ..... 2 A lot of difficulty ..... 3 Cannot do at all ..... 4 Refused to answer ..... 97 Don't know 98	
611	Does the child have any difficulty doing basic manual labor by him or herself, such as gardening or	No, no difficulty ..... 1 Some difficulty ..... 2 A lot of difficulty ..... 3 Cannot do at all ..... 4 Refused to answer ..... 97 Don't know 98	

	drawing, since the accident? Tell me if the child has no difficulty, some, a lot, or if you cannot see at all.		
612	Does the child have any difficulty sitting on the back of a motorbike since the accident? Tell me if the child has no difficulty, some, a lot, or if you cannot see at all.	No, no difficulty ..... 1 Some difficulty ..... 2 A lot of difficulty ..... 3 Cannot do at all ..... 4 Refused to answer ..... 97 Don't know 98	
615	Does the child have any difficulty participating in school since the accident? Tell me if the child has no difficulty, some, a lot, or if you cannot see at all.	No, no difficulty ..... 1 Some difficulty ..... 2 A lot of difficulty ..... 3 Cannot do at all ..... 4 Refused to answer ..... 97 Don't know 98	
SECTION 7: UXO EDUCATION EXPOSURE			
Finally, I want to ask you a few questions about any Explosive Ordinance Risk Education (EORE) the child may have been exposed to prior to your accident.			
701	Prior to the accident, had the child heard of UXOs or know anything about UXOs?	No ..... 0 Yes 1	If No, SKIP to Q702
701a	What did the child know about UXOs	Heard of them, but not what they looked like ..... 1 That they are dangerous 2	

	prior to your accident? SELECT ALL THAT APPLY.	Not to touch/approach them ..... 3 To report a UXO if I saw one..... 4 That they were not in this area (my area where I live)..... 5 That they were only dangerous to children ..... 6 That they only exploded if hit or tampered with ..... 7 Do not know..... 98 Other (specify)..... 99	
701b	From where or from whom did the child learn about or hear this information?	School/teacher ..... 1 Village chief/community leader ..... 2 Family member ..... 3 Friend/neighbor ..... 4 NGO or humanitarian organization ... 5 Government official..... 6 Health worker..... 7 Television or radio..... 8 Social media or internet ..... 9 Posters, leaflets, or signs..... 10 Training or awareness session..... 11 Do not know/remember ..... 98 Other (specify)..... 99	
702	Record the caregiver's WhatsApp number if available. Use "99" if they do not have one.	(Open; digits)	

END OF QUANTITATIVE INTERVIEW

Let the respondent know that we have reached the end of the quantitative portion of the interview for the caretaker. If the child has been selected to continue to the qualitative questions (Q109=YES), take a brief break before beginning the next section.

If the interview is ending, make sure to do that following:

- **Share a contact document that has hotlines or numbers for support for rehab, medical care, or mental health services.**
- **Share the next steps:**
  - **Tell the respondent we will contact them through WhatsApp if we have any follow-up questions or clarifications that come up during the translation or data cleaning.**
  - If they say yes, we will send them copes of the information and provide them time to review and delete parts that they would like to be excluded or add clarification to what they said.
  - **We will share plans to report the data and will provide an option of sharing relevant findings with their community.**

No.	Question	Responses	Skip
MODULE 2: QUALITATIVE			
Add intro section for the child			
READ THE STORY TOGETHER			
Interviewer and child interviewee will read the story together[56] about the child UXO survivor together (depending upon age). The interviewer will ask 2-3 questions about the story to ensure the child's comprehension.			
1	Who is in the story?		
2	What happens to (character "A") in the story?		
3	How is the story like your life? How is it different? (Note: The interviewer will ask about how the child's experience was similar or different to the child in the story.		
FOLLOW UP QUESTIONS			
Follow-up questions include probing questions such as the following: Please can you tell me why? I really want to know.			
4	What happens at school each day?		
5	How is school the same as before your accident? How is it different?		
6	What happened when you went to hospital for the accident?		
7	How can adults help other children so they don't have accidents?		
8	Did you hear about UXOs before your accident? What did you hear? From whom or where?		
9	What are some of your dreams for the future?		
END OF QUALTITATIVE INTERVIEW			
Let the respondent know that we have reached the end of the qualitative portion of the interview. Thank them for their time and remind them of the confidentiality of their answers assure them that they can contact the research team for any additional questions and remind them of the hotline contact sheet in the event they need support. The interviewers should spend some time with the child (maybe 5-15 minutes) during which the child can continue to draw and/or play with the game that was given to them as a gift. The interviewers can ask the child questions about their drawings and/or play the game with them. This is not intended to be part of the study. This is to the child the opportunity to shift their thinking from this difficult subject to something else.			

[56] The story was developed by Plan International and describes a girl with a disability who struggles socially at school but then receives encouragement from her teacher.

Local Authority & Community Leader Interview Guide

Interview Location:

- Interview modality (phone, in-person, virtual meeting)
- Province:
- District:
- Village:
- Position (MOFA/NRA, district/province, village leader):

1. Talk about any support that UXO survivors in your community can receive. This could include different acts such as providing money or food, giving rides/transportation, helping with household chores, helping with your food harvest, providing medicine, supporting livelihood training, or giving livelihood support (e.g., chicken, pigs, funds to start a small business).
    a. What about from the government?
    b. What about NGO organizations?

2. Do you have any other strategies for providing support to UXO survivors in your community? Do you do anything like contact organizations that might provide training or financial support like the LDPA, LWU, or others? Or contact other government departments or officials or health facilities to help them find medical, financial, or training support?

3. Suppose that you meet another community leader who wants to support UXO survivors in their community. What advice would you give them?

4. Do you know anything about the process to obtain proof of disability? If so, what is that process? Do any UXO survivors in your community have that? Do you know any kinds of support they can get if they have it? What if they do not have proof of disability – are they not allowed to access certain services?

5. Do you know of any UXO survivors in your community that have received livelihood support, such as education, small business start-up, small business loans, agricultural tools, food or cash transfers, vocational training (in what vocations), etc.? From whom or where (government or NGO or other)?

What kind of support that survivors in your community need that they currently don't have or don't have access to?

Annex B

Annex B: Additional Data Tables

Sociodemographic Characteristics of UXO Survivors

Table B.1. Key sociodemographic characteristics of adult and child UXO survivors

	Adult Survivors (n=32)		Child Survivors (n=18)	
	%	n	%	n
Age (years)	mean=37 (18-66)		mean=12)9-15)	
9-12	-	-	66.7	12
13-15	-	-	33.3	6
18-34	46.9	15	-	-
35-54	43.7	14	-	-
≥ 55	9.4	3	-	-
Marital Status*				
Single	12.5	4	-	-
Married	75.0	24	-	-
Divorced/Widowed	12.5	4	-	-
Sex				
Female	43.8	14	22.2	4
Male	56.2	18	77.8	14
Ethnic Group				
Lao-Tai	21.9	7	27.8	5
Mon-Khmer	59.4	19	27.8	5
Hmong-Mien	18.8	6	44.4	8
Religion				
Animism	71.9	23	72.2	13
Buddhism	21.9	7	27.8	5
Christianity	6.2	2	-	-
*All children were unmarried				

Table B.2. Education and language characteristics of adult and child UXO survivors

	Adult Survivors (n=32)		Child Survivors (n=18)	
	%	n	%	n
Education*				
None	28.1	9	5.6	1
Primary	37.5	12	66.7	12
Junior Secondary	15.6	5	27.8	5
Senior Secondary	15.6	5	-	-
Higher	3.1	1	-	-
Primary Language				
Brou	9.4	3	11.1	2
Griang	3.1	1	-	-
Guan	3.1	1	-	-
Hmong	18.7	6	44.4	8
Khmou	6.3	2	-	-
Lao	21.9	7	27.8	5
Makong	15.6	5	11.1	2
Pacoh	12.5	4	-	-
Phouthay	3.1	1	-	-
Ta-oy	3.1	1	5.6	1
Tri	3.1	1	-	-
Lao Fluency				
None/a little	12.5	4	33.3	6
Some	31.3	10	27.8	5
A lot/fluent	56.2	18	38.9	7

*Primary, junior and secondary represents some and/or completed; higher includes anything beyond senior secondary

Housing and Household Characteristics of UXO Survivors

Table B.3. Household characteristics of adult and child UXO survivors

	Adult Survivors (n=32)		Child Survivors (n=18)	
	%	n	%	n
Lives in Household				
Nobody	3.1	1	-	-
Father (biological/in-law)	28.1	9	77.8	14
Mother (biological/in-law)	21.9	7	83.3	15
Spouse	71.9	23	-	-
Brother	15.6	5	44.4	8
Sister	6.2	2	38.9	7
Daughter	59.4	19	-	-
Son	53.1	17	-	-
Other female relative	-	-	11.1	2
Other male relative	-	-	11.1	2
Other female - non-relative	-	-	-	-
Other male - non-relative	3.1	1	-	-
Residence				
Same as where born	59.4	19	77.8	14
Different from where born	40.6	13	22.2	4
Reasons for Moving	(n=13)		(n=4)	
Marriage	46.2	6	-	-
Family reasons	23.1	3	100	4
Economic	23.1	3	-	-
Other	7.7	1	-	-
Time in Current Village	(n=13)		(n=4)	
2-5 years	30.8	4	5.6	1
6-10 years	15.4	2	16.7	3
More than 10 years	53.8	7	77.8	14

Table B.4. Housing characteristics of adult and child UXO survivors

	Adult Survivors (n=32)		Child Survivors (n=18)	
	%	n	%	n
Has electricity				
No	6.2	2	11.1	2
Yes, own/shared meter	93.7	30	88.9	16
Has Internet*				
No	43.7	14	44.4	8
Yes	56.3	18	55.6	10
Has access to water				
No	9.4	3	22.2	4
Yes	90.6	29	77.8	14
Main drinking source	(n=29)		(n=14)	
Piped	41.4	12	35.7	5
Protected well	31.0	9	28.6	4
Unprotected well	6.9	2	7.1	1
River/stream/lake	6.9	2	14.3	2
Bottle/canned water	10.3	3	14.3	2
Other	3.4	1	-	-
Main toilet facility				
None (bush/field)	18.7	6	5.6	1
Flush/pour flush	18.7	6	27.8	5
Pit latrine ventilated	62.5	20	66.7	12
House accessible in rain				
No	18.7	6	11.1	2
Yes	81.3	26	88.9	16
Scrap metal equipment				
No	84.4	27	100	18
Yes	15.6	5	-	-

*Via Smartphone or other form of internet

Accident Information among UXO Survivors

Table B.5. Year of UXO accident by sociodemographic characteristics among adult survivors

	Year of UXO Accident %(n)					Total (n=32)
	2024 (n=2)	2023 (n=10)	2022 (n=4)	2021 (n=11)	2020 (n=5)	
Age						
18-34	50.0 (1)	40.0 (4)	50.0 (2)	63.6 (7)	20.0 (1)	46.9 (15)
34-54	50.0 (1)	50.0 (5)	50.0 (2)	27.3 (3)	60.0 (3)	43.7 (14)
55+	-	10.0 (1)	-	9.1 (1)	20.0 (1)	9.4 (3)
Province						
Khammouane	-	-	25.0 (1)	9.1 (1)	-	6.3 (2)
Salavan	-	10.0 (1)	75.0 (3)	-	40.0 (2)	18.7 (6)
Savannakhet	100 (2)	30.0 (3)	-	54.5 (6)	40.0 (2)	40.6 (13)
Sekong	-	-	-	9.1 (1)	-	3.1 (1)
Xiengkhouang	-	60.0 (6)	-	27.3 (3)	20.0 (1)	31.2 (10)
Sex						
Female	100 (2)	60.0 (6)	-	45.4 (5)	20.0 (1)	43.7 (14)
Male	-	40.0 (4)	100 (4)	54.5 (6)	80.0 (4)	56.3 (18)
Lao Fluency						
None/a little	-	20.0 (2)	25.0 (1)	9.1 (1)	-	12.5 (4)
Some	-	60.0 (6)	50.0 (2)	18.2 (2)	-	31.3 (10)
A lot/fluent	100 (2)	20 (2)	25.0 (1)	72.7 (8)	100 (5)	56.3 (18)
Ethnic Group						
Lao-Tai	50.0 (1)	20.0 (2)	25.0 (1)	18.2 (2)	20.0 (1)	21.9 (7)
Mon-Khmer	50.0 (1)	40.0 (4)	75.0 (3)	63.6 (7)	80.0 (4)	59.4 (19)
Hmong-Mien	-	40.0 (4)	-	18.2 (2)	-	18.7 (6)

TOTAL	100	100	100	100	100	100

Table B.6. Year of UXO accident by sociodemographic characteristics among child survivors

	Year of Accident %(n)					Total (n=18)
	2024 (n-=7)	2023 (n=5)	2022 (n=0)	2021 (n=6)	2020 (n=0)	
Age						
9-12	85.7 (6)	60.0 (3)	-	50.0 (3)	-	66.7 (12)
13-15	14.3 (1)	40.0 (2)	-	50.0 (3)	-	33.3 (6)
Province						
Khammouane	28.6 (2)	20.0 (1)	-	-	-	16.7 (3)
Salavan	14.3 (1)	20.0 (1)	-	-	-	11.1 (2)
Savannakhet	14.3 (1)	-	-	66.7 (4)	-	27.8 (5)
Xiengkhouang	42.9 (3)	60.0 (3)	-	33.3 (2)	-	44.4 (8)
Sex						
Female	14.3 (1)	-	-	50.0 (3)	-	22.2 (4)
Male	85.7 (6)	100.0 (5)	-	50.0 (3)	-	77.8 (14)
Lao Fluency						
None/a little	42.9 (3)	40.0 (2)	-	16.7 (1)	-	33.3 (6)
Some	14.3 (1)	40.0 (2)	-	33.3 (2)	-	27.8 (5)
A lot/fluent	42.9 (3)	20.0 (1)	-	50.0 (3)	-	38.9 (7)
Ethnic Group						
Lao-Tai	42.9 (3)	-	-	33.3 (2)	-	27.8 (5)
Mon-Khmer	14.3 (1)	40.0 (2)	-	33.3 (2)	-	27.8 (5)
Hmong-Mien	42.9 (3)	60.0 (3)	-	33.3 (2)	-	44.4 (8)
TOTAL	100	100	-	100	-	100

Table B.7. Details for UXO survivors farming or gardening at the time of the accident

	Adult Survivors (n=4)		Child Survivors (n=0)	
	%	n	%	n
Type of crop				
Potato	-	-	-	-
Cassava	50.0	2	-	-
Banana	50.0	2	-	-
Sugar cane	-	-	-	-
Rice	50.0	2	-	-
Corn	25.0	1	-	-
Other	-	-	-	-
Digging or Planting Depth				
0-5 cm*	2	75.0	-	-
6-10 cm	1	25.0	-	-
11-15 cm			-	-
16-25 cm			-	-
26-50 cm			-	-
>50 cm			-	-
Tool				
Hoe	1	25.0	-	-
Shovel	-	-	-	-
Axe	-	-	-	-
Tractor	-	-	-	-
Other**	3	75.0	-	-
*One digging at the surface; treated as zero **Rice planting stakes and a long weeder				

Table B.8. Details for UXO survivors setting a fire at the time of the accident

	Adult Survivors (n=18)		Child Survivors (n=1)	
	%	n	%	n
Reasons for setting a fire				
Warmth	47.1	8	100	1
Cooking	11.8	2	-	-
Burning garbage	23.5	4	-	-
Other*	17.6	3	-	-
*Making knives; burning grass				

Table B.9. Details for UXO survivors clearing land at the time of the accident

	Adult Survivors		Child Survivors (n=0)	
	%	n	%	n
Reasons for burning	n=2			
For planting	50.0	1	-	-
For building	-	-	-	-
Other*	20.0	1	-	-
Reasons for cutting (n=1)				
Cutting big trees	-	-	-	-
Cutting small grass	100	1	-	-
Cutting jungle	-	-	-	-
Other	-	-	-	-
*Cleaning up the yard				

Table B.10. Details for UXO survivors foraging at the time of the accident

	Adult Survivors (n=1)		Child Survivors (n=5)	
	%	n	%	n
Reasons for foraging				
Looking for food	100	1		
Fishing	-	-	80.0	4
Hunting	-	-		
Setting traps	-	-		
Bamboo shoots	-	-		
Other*	-	-	20.0	1
Location of foraging				
In the forest	100	1	20	1
In the fields	-	-	-	-
Near a river or lake	-	-	40.0	2
Other**	-	-	40.0	2
*Looking for cassava to sell **Near a drainage ditch (fishing)				

Table B.11. Details for UXO survivors handling a UXO at the time of the accident

	Adult Survivors (n=0)		Child Survivors	
	%	n	%	n
Dismantling a UXO			n=1	
Yes	-	-	100	1
Reasons for dismantling				
Extra income to sell	-	-	100	1
Make something	-	-	-	-
Clearance operation	-	-	-	-
Other	-	-	-	-
Touching UXO			n=8	
Move so could play	-	-	75.0	6
Move to a safe place	-	-	-	-
Accident	-	-	-	-
Don’t know	-	-	25.0	2
Other	-	-	-	-