



Socio-cultural Loss and Damage from Climate Change in Savannakhet Province, Lao PDR:

Gendered Impacts on Care Work and Indigenous

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Faculty of Public Health, University of Health Sciences (UHS), Lao PDR
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ABOUT THE RESEARCH REPORT

ARROW is seeking to collaborate with our partners to generate evidence and build frameworks that consolidate sexual and reproductive health, rights, and justice - through consolidating rights around overall autonomy, bodily autonomy and bodily integrity of women and young people in the Asia-Pacific region in the era of the polycrises (climate crises, economic crises, humanitarian crisis including tech and digital fueled democracy). In doing so, we hope to facilitate the strengthening of capacities of civil society partners at national levels to collect evidence and disseminate findings to influence key stakeholders, towards our collective goal to reorient policies and programmes. The findings from this research will be used for advocacy and engagement at various regional and international platforms, and contribute to the development of a regional profile of climate change and gender justice for Asia and the Pacific.

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List of Abbreviations

Abbreviation	Full Name
ADB	Asian Development Bank
CC	Climate Change
COP27	27th Conference of the Parties to the UNFCCC (Sharm el-Sheikh, 2022)
DRR	Disaster Risk Reduction
ESCAP	United Nations Economic and Social Commission for Asia and the Pacific
FGD	Focus Group Discussion
IDI	In-Depth Interview
IDRC	International Development Research Centre
IEK	Indigenous and Ethnic Knowledge
IPCC	Intergovernmental Panel on Climate Change
KII	Key Informant Interview
Lao PDR	Lao People's Democratic Republic
LWU	Lao Women's Union
LYU	Lao Youth Union
MLSW	Ministry of Labour and Social Welfare
MoNRE	Ministry of Natural Resources and Environment (Lao PDR)
NAP	National Adaptation Plan
NDC	Nationally Determined Contribution (to the Paris Agreement)
NDRMS	National Disaster Risk Management Strategy
NELD	Non-Economic Loss and Damage
NGO	Non-Governmental Organisation
NSDRR	National Strategy on Disaster Risk Reduction
OECD	Organisation for Economic Co-operation and Development
SIDS	Small Island Developing States
SNV	Netherlands Development Organisation (Stichting Nederlandse Vrijwilligers)
TEK	Traditional Ecological Knowledge (see also IEK)
UCDW	Unpaid Care and Domestic Work
UN	United Nations
UNFCCC	United Nations Framework Convention on Climate Change
UHS	University of Health Sciences, Lao PDR
UNU	United Nations University
WASH	Water, Sanitation, and Hygiene

Abbreviation	Full Name
WHO	World Health Organization

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Abstract

Introduction. Climate change generates non-economic loss and damage (NELD) that extends beyond measurable economic harm to include disruptions to care, social relations, reproductive health, cultural practices, and knowledge systems. These socio-cultural dimensions particularly unpaid care and domestic work (UCDW) and Indigenous, ethnic, and local knowledge (IEK) remain largely invisible within climate adaptation and disaster risk reduction (DRR) policy, both globally and in Lao PDR, where mainland Southeast Asia is under-represented in the international NELD literature. In Savannakhet Province, intensifying floods and droughts within a dual-hazard landscape are reshaping rural livelihoods and threatening the social and cultural continuity of village life.

Objectives. This study examined the gendered dimensions of socio-cultural loss and damage in Savannakhet Province, Lao PDR. Specifically, it explored: (1) how climate-related events reshape the volume, intensity, and distribution of UCDW; (2) locally defined forms and indicators of socio-cultural loss and damage, including psychosocial well-being and sexual and reproductive health and rights (SRHR); (3) climate impacts on the use and intergenerational transmission of Indigenous, ethnic, and local knowledge; and (4) implications for gender-just and culturally responsive adaptation and DRR planning.

Methods. A qualitative, multi-site case study was conducted in two districts (Champhone and Xonnabouly) across four villages (Ban Tha Kham Luem, Ban Don Ya Nong, Ban Lam Bong, and Ban Lam Phon). Data were collected through 20 focus group discussions, 9 in-depth interviews, and 11 key informant interviews with provincial and district stakeholders. Participants included women, men, adolescents, elders, caregivers, and local officials. Data were analysed using reflexive thematic analysis supported by framework analysis.

Results. Six interrelated themes emerged. First, participants described escalating climate extremes within a dual-hazard landscape in which flood and drought operated as paired and sequential pressures, disrupting seasonal predictability, undermining wet-season rice farming, and accelerating youth out-migration. Second, climate-related livelihood disruption intensified unpaid care and domestic work; women's care labour functioned as a hidden infrastructure of climate adaptation, with the heaviest burdens concentrated on widows, grandmother caregivers, and female-headed households facing what may be described as a triple jeopardy. Third, repeated disaster exposure generated substantial psychosocial distress, articulated through culturally specific idioms such as “the heart trembling,” “the mind going round and round,” and “the nerves breaking.” Fourth, SRHR needs intersected with climate shocks to produce a distinctive pattern in which pregnant women were visible as a welfare category but largely invisible as rights-holders within disaster response. Fifth, climate disruption, migration, marketisation, and ecological change were eroding IEK in farming, healing, weaving, and reciprocal labour, in some domains approaching functional extinction at village level. Sixth, participants described profound non-economic losses through the hollowing out of ceremonies, the rupture of evening sociability, and a form of poverty-mediated marginalization that may be described as “exclusion in place.” Although communities demonstrated strong locally grounded adaptive practices, formal governance systems largely failed to recognize or respond to these gendered and socio-cultural dimensions of climate harm.

Conclusion. Climate change in Savannakhet Province is best understood not as a tally of discrete impacts but as a cascading and stratified process in which livelihood disruption restructures care and migration, restructured care intensifies psychosocial load and reproductive vulnerability, and these in turn weaken the knowledge systems and ceremonial institutions through which communities have historically absorbed stress. The same intersectional axes older widows, female-headed households, grandmother caregivers, women living with absent or non-contributing partners recur as the most exposed at every stage. The

central gap in current governance is not only one of capacity but one of recognition: the harms participants identified as most central remain largely outside the categories through which formal monitoring, planning, and response are organized.

Recommendations. Climate adaptation and DRR frameworks in Lao PDR should incorporate gender-disaggregated time-use data, psychosocial well-being, SRHR continuity, and socio-cultural loss and damage indicators into national and sub-national planning. Urgent documentation and revitalization of endangered IEK is needed, supported by the material conditions tools, raw materials, social spaces, and time on which transmission depends, rather than by documentation alone. Disaster assistance should be redesigned around pre-identified vulnerability, recognizing the caregiver–dependent unit as a distinct category of vulnerability in its own right. Mental health and psychosocial support should be integrated into adaptation and disaster response through approaches that engage local idioms of distress rather than imported clinical instruments. SRHR should be explicitly integrated into climate-resilient health systems.

Keywords: loss and damage; non-economic loss and damage; socio-cultural impacts; climate change; unpaid care and domestic work; Indigenous and local knowledge; sexual and reproductive health and rights; gender; Lao PDR.

1. Background and Context

Climate change is increasingly recognized as a systemic threat whose impacts extend beyond physical damage and economic loss to include disruption of social relations, culture, knowledge systems, and well-being. The Intergovernmental Panel on Climate Change (IPCC) has emphasized that climate change is already generating substantial non-economic losses and damages, including losses of culture, traditions, place attachment, Indigenous and local knowledge, and psychosocial well-being. These losses are often difficult to measure, but they are highly consequential for affected communities, and they tend to accumulate as climate risks become more frequent and severe (IPCC, 2022; Tschakert et al., 2019; Warner & van der Geest, 2013). A growing literature on non-economic loss and damage (NELD) has begun to systematize these dimensions, but most empirical work to date has emerged from Pacific Island states, the Arctic, and parts of sub-Saharan Africa; mainland Southeast Asia remains comparatively under-represented in the international evidence base (Fernández-Llamazares et al., 2021; Tschakert et al., 2019).

Within the Lower Mekong region, Lao PDR is widely recognized as highly vulnerable to climate change. The country remains strongly dependent on climate-sensitive sectors, particularly agriculture, while also facing significant constraints in adaptive capacity. According to the ND-GAIN Country Index, Lao PDR remains among the more climate-vulnerable countries globally, and recent World Bank analysis similarly identifies the country as highly exposed to rising temperatures, more intense floods and droughts, and growing social and economic climate risks. This vulnerability is shaped not only by geography and hydro-climatic exposure, but also by the interaction of poverty, dependence on rain-fed and smallholder livelihoods, weak public infrastructure for care, and uneven access to adaptive resources and services (IPCC, 2022; ND-GAIN, 2023; World Bank, 2024).

Lao PDR's vulnerability is particularly acute in rural areas, where livelihoods depend heavily on seasonal rainfall, river systems, forest products, and local ecosystem services. National and international assessments consistently identify floods and droughts as among the country's most important climate risks, with growing evidence of more frequent and intense hydro-meteorological extremes. Recent national reporting to the UNFCCC and World Bank climate analyses note that Lao PDR is already experiencing rising temperatures, increasing rainfall variability, and substantial losses associated with flood and drought events with especially strong implications for agriculture, food security, health, and rural livelihoods. Crucially, flood and drought are not separate phenomena in the lived experience of central Lao communities; they are increasingly experienced as a dual hazard in which severe wet-season flooding is followed by dry-season water scarcity affecting the same households and landscapes (Lao PDR, 2021; World Bank, 2023).

Savannakhet Province, located in central Lao PDR along the Mekong corridor, is one of the provinces where these climate pressures are particularly salient. It is characterised by a predominantly agrarian economy and substantial social and cultural diversity, set within a wider national context in which Lao PDR officially recognises 50 ethnic groups and more than 80 living languages (UNFPA, 2020). Recent climate and agricultural analyses indicate that central and southern provinces, including Savannakhet, are among the areas experiencing substantial drought stress, while flooding along the Mekong and its tributaries remains a recurrent hazard. The catastrophic floods of 2018 and 2019 are widely remembered in the province as turning points after which the predictability of seasonal life began to break down, and after which household coping capacities have not fully recovered (UNDP Lao PDR, 2024; UNFPA, 2020; World Bank, 2023).

These climate stressors are not simply environmental events. They reshape the organization of everyday life, reconfigure household labour, alter mobility and migration, disrupt agricultural

and ecological knowledge, and weaken the social and ceremonial practices through which communities sustain cohesion and continuity. In rural Lao contexts, such disruptions are especially significant because household survival depends not only on income and production, but also on unpaid care, reciprocal labour, intergenerational knowledge transfer, and culturally embedded forms of mutual support. UN Women has argued that the global climate emergency increases and intensifies women's and girls' unpaid care, domestic, and communal work a relationship now framed as the “climate–care nexus” yet these dimensions remain poorly represented in dominant climate adaptation and DRR frameworks, which continue to privilege measurable physical damage and economic loss over less tangible but equally important forms of harm (Ferrant et al., 2014; IPCC, 2022; Tschakert et al., 2019; UN Women, 2023b).

These less tangible harms take several interrelated forms. They include the intensification of unpaid care and domestic work, which functions in climate-affected villages as a hidden infrastructure of adaptation absorbing the costs of disruption precisely where formal systems do not. They include psychosocial suffering, often articulated through locally specific idioms of distress that biomedical vocabulary captures only partially. They include disruptions to sexual and reproductive health and rights (SRHR), in which pregnant women and women with reproductive health needs may be acknowledged as a welfare category yet remain largely invisible as rights-holders within disaster response. They include the erosion of Indigenous, ethnic, and local knowledge, which is threatened not only by changing aspirations but also by the material destruction of tools and ecological resources, the death of knowledge-holders, and the interruption of intergenerational transmission. And they include the weakening of ceremonial life and a form of poverty-mediated marginalization within the village that may be described as “exclusion in place” a process by which households remain physically present in the community but are increasingly excluded from the ritual languages of belonging through which membership is enacted (Hayes et al., 2018; Resurrección, 2013; UN Women, 2023a).

These dimensions of harm do not operate in parallel; they are increasingly understood as cascading and stratified. Climate shocks disrupt livelihoods, livelihood decline restructures care arrangements and migration, restructured care intensifies psychosocial and reproductive vulnerability, and the weakening of communal labour and knowledge systems produces ceremonial exclusion and identity-level loss. The same intersectional axes older widows, female-headed households, grandmother caregivers, women living with absent or non-contributing husbands tend to recur as the most exposed at each stage. (Here and throughout, “intersectional” refers to the way overlapping social positions for example, being both an older widow and the head of a poor household combine to concentrate risk more than any single factor would on its own, not a technical statistical term.) Climate disruption in such settings is therefore best understood not as a single dramatic event but as a form of slow violence: a gradual and unevenly distributed reorganization of the conditions under which everyday life is sustained (Sultana, 2014; Tschakert et al., 2019).

Against this backdrop, socio-cultural loss and damage remains critically under-examined in both research and policy in Lao PDR. Despite welcome recognition of climate risk in the country's updated NDC, the 2025 National Adaptation Plan, and the Health National Adaptation Plan, the formal adaptation architecture remains primarily oriented to sectoral and infrastructural risks. Unpaid care work, SRHR continuity, psychosocial harm, ceremonial disruption, and IEK erosion are not yet operationalised as adaptation concerns in their own right (Lao PDR, 2021, 2025; Lao PDR Ministry of Health, 2024/2025). The gap between what communities identify as central forms of climate harm and what official systems are designed to measure and address is therefore not only a gap of resources or capacity; it is a gap of recognition a structural mismatch between the categories of loss most clearly named by climate-affected communities and the categories through which formal response is organised. In settings such as Savannakhet, where repeated floods and droughts intersect with migration,

poverty, and uneven social protection, this recognition gap means that significant forms of harm are likely to be both cumulative and highly differentiated by gender, age, ethnicity, and household position, yet remain largely invisible to current planning systems. Understanding these dimensions is therefore essential for designing adaptation and disaster response strategies that are not only technically effective, but also socially just and culturally grounded (Bharadwaj et al., 2023; Warner & van der Geest, 2013).

2. State of Research in the Field

2.1 Unpaid Care and Domestic Work

Unpaid care and domestic work (UCDW) refers to the non-remunerated activities required to sustain households and communities, including childcare, elder care, cooking, cleaning, and the collection of water and fuel. A substantial body of research shows that this work is unequally distributed, with women and girls performing a disproportionate share because of entrenched gender norms, unequal labour divisions, and weak public support systems (Ferrant et al., 2014; OECD, 2025). OECD evidence shows that women continue to spend substantially more time than men in unpaid care and household labour, and UN Women has further highlighted that climate change and environmental degradation intensify this burden by increasing the labour required to secure food, water, fuel, health, and household survival. In this sense, climate stress is not only an environmental problem but also a care problem, because it amplifies the invisible labour through which households absorb crisis.

The concept of the climate–care nexus has become increasingly important in recent scholarship. UN Women argues that climate change can increase women’s and girls’ unpaid domestic, care, and communal work through resource scarcity, disruptions to water and food systems, higher disease burdens, and crisis-related displacement and recovery demands. These pathways often produce time poverty, whereby women’s time is increasingly consumed by survival-related labour, with consequences for education, income generation, rest, and participation in public life. Earlier work by Ferrant et al. (2014) similarly showed that inequalities in unpaid care are a key mechanism reproducing wider gender inequalities in labour market outcomes and well-being.

An intersectional perspective further shows that the burden of UCDW under climate stress is not evenly distributed among women. Age, poverty, location, disability, and migration dynamics shape who performs care, under what conditions, and with what consequences. In Lao PDR, recent United Nations and ESCAP-linked materials indicate that women perform significantly more unpaid care and domestic work than men, while public discussion on valuing and investing in care remains relatively recent. For example, the United Nations in Lao PDR noted in 2024 that women in Lao PDR perform, on average, around five times more unpaid care and domestic work than men, while national reporting also points to clear gender disparity in unpaid domestic and care work. Despite this recognition, empirical research linking climate change specifically to UCDW in Lao PDR remains limited, and intersectional analyses of care, gender, and climate appear underdeveloped in the available literature and policy discourse.

2.2 Non-Economic Loss and Damage

The concept of loss and damage has become increasingly prominent in international climate governance over the past decade. Under the UNFCCC, the Warsaw International Mechanism (WIM) for Loss and Damage was established at COP19 in 2013 to strengthen knowledge, coordination, and support related to climate-related loss and damage. More recently, parties agreed at COP27 to establish new funding arrangements, including a dedicated fund for responding to loss and damage. These developments reflect growing recognition that some climate harms cannot be fully avoided through mitigation or adaptation alone.

However, both policy and research have historically prioritised economic losses, such as damage to infrastructure, agriculture, housing, and productive assets, while giving less sustained attention to non-economic loss and damage (NELD). Serdeczny et al. (2016) define NELD as climate impacts that are difficult to quantify and often overlooked in formal assessments, including harm to culture, biodiversity, local knowledge, mental health, and social cohesion. Tschakert et al. (2019) similarly demonstrate that climate-related intangible harms encompass losses to identity, place attachment, social relationships, cultural practice, and psychosocial well-being. The IPCC Sixth Assessment Report further recognises that climate change is already causing unavoidable non-economic losses, particularly in highly vulnerable communities.

Over the past decade, scholarship on NELD has expanded considerably. Studies from the Pacific and other climate-vulnerable regions have documented losses linked to culture, ancestral land, spirituality, ecological relationships, and community cohesion, arguing that these harms may be experienced as equally or more seriously than direct financial losses. This growing literature has been important in challenging the epistemological bias of climate impact assessment toward what can be monetised or measured easily. Yet significant gaps remain, especially in mainland Southeast Asia, where culturally grounded, community-level studies of non-economic loss are still comparatively scarce.

2.3 Gender, Indigenous Knowledge, and Climate Change

A strong body of literature has established that climate change is experienced in gender-differentiated ways because vulnerability is shaped by unequal access to land, labour, decision-making power, services, and social protection. Feminist political ecology has been especially influential in showing that environmental change intensifies social reproduction and care labour, rather than affecting only production or resource use. Resurrección (2013) argues that climate governance often reproduces persistent “women and environment” linkages without adequately confronting the structural inequalities that shape women’s vulnerability and agency. Related work also shows that women’s climate burdens are frequently expressed through expanded unpaid labour, heightened care responsibilities, and reduced access to decision-making spaces.

At the same time, Indigenous and local knowledge systems have received growing attention as both adaptive resources and domains under threat. UNESCO’s *Weathering Uncertainty* highlighted the importance of traditional knowledge for climate assessment and adaptation, while Fernández-Llamazares et al. (2021) warn that Indigenous and local knowledge systems are under widespread threat from interacting environmental and social pressures. This literature shows that climate change does not only create new harms; it may also erode the very knowledge systems through which communities have historically adapted to environmental variability. The loss of ecological cues, species, practices, and intergenerational transmission can therefore become a compounding process in which climate change simultaneously increases vulnerability and weakens adaptive capacity.

2.4 Evidence Gaps in Lao PDR

In Lao PDR, the available literature and policy architecture increasingly recognise climate risk, gender equality, and social inclusion, but important evidence gaps remain. The 2025 National Adaptation Plan acknowledges gender and social vulnerability, and the National Action Plan on Gender Equality signals a broader policy commitment to gender-responsive development. Recent national and UN-linked publications also show growing interest in valuing unpaid care and domestic work. However, the current adaptation literature and planning framework still appear to give limited attention to the intersection of climate change with UCDW, psychosocial

well-being, non-economic loss and damage, and the erosion of Indigenous and local knowledge systems.

These gaps are particularly important in provinces such as Savannakhet, where climate vulnerability, agrarian livelihoods, migration, and cultural diversity intersect. The literature remains thin on how repeated flooding and drought shape caregiving systems, ceremonial life, social cohesion, and intergenerational transmission of knowledge in Lao PDR. In particular, there is little qualitative evidence that focuses on women caregivers, older people, and village-based understandings of socio-cultural loss and damage. As a result, significant dimensions of climate harm remain under-measured in both research and policy. This study responds to that gap by examining climate change not only as an environmental or livelihood issue, but as a gendered and socio-cultural process affecting care, well-being, knowledge, and community continuity.

3. Research Gap

Despite the rapid growth of scholarship on non-economic loss and damage (NELD), gender and climate change, and Indigenous and local knowledge, several important gaps remain. First, the empirical literature on NELD remains geographically uneven. Much of the most visible work has emerged from Pacific Island contexts, small island developing states, Arctic settings, and parts of sub-Saharan Africa, while mainland Southeast Asia remains comparatively underrepresented. Reviews and syntheses of climate-related intangible harm repeatedly note the need for more geographically diverse, culturally grounded evidence, especially from highly vulnerable agrarian contexts where social and cultural losses may be substantial but poorly documented. Lao PDR is one such context, yet it remains weakly represented in the international peer-reviewed literature on NELD.

Second, although the gendered dimensions of climate change have received substantial international attention, the specific intersection of unpaid care and domestic work (UCDW), socio-cultural harm, and climate disruption remains analytically underdeveloped. Existing work increasingly recognises the climate–care nexus and shows that climate stress can intensify women’s and girls’ unpaid labour through resource scarcity, illness, food insecurity, and disrupted livelihoods. However, much of this literature still treats care burdens primarily as a gender or social reproduction issue, rather than examining how intensification of care contributes to broader socio-cultural loss and damage, including reduced participation in ceremonies, weakened knowledge transmission, and erosion of social belonging. This gap is particularly important in rural, multi-generational, and migration-affected societies, where care labour is redistributed unevenly across age, gender, and household position.

Third, scholarship on Indigenous and local knowledge and climate change has tended to focus either on the adaptive value of local knowledge or on its broad erosion under environmental change. Less attention has been paid to how climate-induced disruption interacts with concurrent social processes, such as labour migration, marketisation, language shift, and changing aspirations, to accelerate the fragmentation of knowledge transmission. This is especially relevant in ethnically and culturally diverse mainland Southeast Asian settings, where knowledge is often embedded not only in ecology, but also in ceremonies, reciprocal labour, craft production, and gendered domestic practice (Aswani et al., 2018; Hiwasaki et al., 2015). The literature warns that Indigenous and local knowledge systems are under increasing threat, but empirical work tracing how these pressures converge in village life remains limited. Fourth, no prior study identified in the reviewed literature appears to integrate all three dimensions socio-cultural NELD, gendered care work, and erosion of Indigenous, ethnic, and local knowledge within a single, community-grounded analytical framework in Lao PDR. This

matters because these processes are not separate in lived experience. In climate-affected rural communities, livelihood disruption, youth migration, unpaid care burdens, weakened social cohesion, and the loss of knowledge are often mutually reinforcing. Research that isolates one dimension risks obscuring the causal links among them and, in turn, limits the usefulness of evidence for policy and practice.

At the policy practice interface, the gap is equally significant. Lao PDR's updated NDC, National Adaptation Plan, and sectoral adaptation planning documents provide important recognition of climate risk and social vulnerability, but they do not appear to systematically operationalise socio-cultural loss and damage, unpaid care burdens, or climate-related erosion of local knowledge as core areas for assessment and response. Current policy frameworks remain more strongly oriented toward sectoral, biophysical, and economic impacts than toward the social and cultural harms that affected communities themselves may consider central. As a result, sub-national climate adaptation and disaster risk reduction planning in places such as Savannakhet lacks the evidence base, indicators, and culturally responsive tools needed to address these dimensions effectively. This study responds directly to that combined evidence and policy gap.

4. Research Problem

The central research problem addressed by this study is the systematic invisibility of socio-cultural loss and damage from climate change in the lived experiences of communities in Savannakhet Province, Lao PDR, and the corresponding failure of existing adaptation and disaster risk reduction frameworks to recognise, measure, or respond to these harms. While economic and infrastructure losses associated with floods and droughts are more readily captured in disaster records and policy discourse, less visible harms such as the erosion of caregiving capacity, the intensification of unpaid care burdens, the disruption of ceremonies and social bonds, the psychosocial toll of repeated exposure, and the weakening of Indigenous and local knowledge systems remain marginal within formal assessment systems. This invisibility matters because it shapes what is counted, whose suffering is recognised, and which forms of recovery are considered legitimate in climate governance.

This invisibility appears to reflect the interaction of at least three structural biases. First, climate harm is still predominantly framed through material and economic indicators, which privilege what can be counted, monetised, and reported. This creates a systematic tendency to under-recognise non-economic harms such as cultural loss, identity disruption, social fragmentation, and psychosocial suffering. The broader NELD literature has repeatedly identified this bias and argued that conventional damage accounting can distort understanding of what communities actually lose.

Second, the gendered nature of care work contributes to its structural invisibility. Because unpaid care and domestic work is performed largely within households and communities, and because it is not counted as formal economic activity, it is often absent from labour statistics, national accounts, and disaster assessments. Yet climate disruption can intensify this work substantially, especially where women and older caregivers must absorb additional burdens of food preparation, childcare, elder care, emotional support, and household recovery. When care remains invisible in governance systems, the ways climate change redistributes labour, time, and well-being within households also remain invisible.

Third, Indigenous, ethnic, and local knowledge systems are often epistemically marginal within formal planning processes. Even where local knowledge is rhetorically valued in adaptation discourse, governance systems may still fail to document how climate change disrupts the ecological, social, and cultural conditions through which such knowledge is practiced and

transmitted. This is particularly consequential in settings where knowledge is embedded in intergenerational teaching, ritual life, ecological familiarity, craft practice, and reciprocal labour. When these systems are weakened, communities lose not only cultural resources, but also practical adaptive capacities yet such losses rarely appear in formal adaptation design.

Taken together, these structural biases produce adaptation and disaster risk reduction responses that are only partially aligned with lived reality. They privilege visible infrastructure over invisible labour, economic recovery over social repair, and technical adaptation over cultural continuity. In a province such as Savannakhet where recurrent flooding, drought, migration, care burdens, and weakening local knowledge intersect this creates a significant mismatch between what communities experience as major forms of climate harm and what governance systems are designed to detect and address. The problem this study therefore tackles is not only one of exposure to climate risks, but one of recognition, representation, and response.

5. Aim and Objectives of the Study

5.1 Overall Research Question

How do climate-related hazards and long-term environmental changes in Savannakhet Province differentially affect women, men, and other caregivers in terms of unpaid care and domestic work and the use and transmission of Indigenous and ethnic knowledge and practices, and what gender-just, culturally grounded strategies can strengthen community resilience and reduce socio-cultural loss and damage?

5.2 Overall Aim

The overarching aim of this study is to analyse the gendered dimensions of socio-cultural loss and damage linked to climate change in Savannakhet Province, Lao PDR with a particular focus on unpaid care work and Indigenous and ethnic knowledge and to co-produce actionable, gender-just, and culturally responsive strategies for integration into sub-national climate adaptation and disaster risk reduction planning.

5.3 Specific Objectives

This study is guided by four specific objectives:

- To explore how climate-related events and environmental changes shape the volume, intensity, and distribution of unpaid care and domestic work among women, men, adolescents, and older caregivers in Savannakhet Province, and how these changes influence well-being, time use, and livelihood security.
- To identify and analyse locally defined forms and indicators of socio-cultural loss and damage, including loss of social cohesion, caregiving capacity, cultural roles and ceremonies, language use, and psychosocial well-being and to examine how these experiences vary by gender, ethnicity, age, and poverty status.
- To document climate impacts on the use and intergenerational transmission of Indigenous and ethnic knowledge and practices, including traditional ecological knowledge, agronomic practices, healing traditions, and cultural ecological calendars.
- To co-develop actionable recommendations for integrating care-sensitive and Indigenous knowledge-based approaches into sub-national climate adaptation and disaster risk reduction planning in Savannakhet Province and comparable settings across the Mekong region.

6. Significance and Contribution of the Research

This study makes important theoretical, empirical, methodological, and policy contributions to the fields of climate change, gender, and socio-cultural loss and damage. First, it contributes to the growing literature on NELD by providing evidence from Lao PDR, a context that remains underrepresented in international research. While much of the existing NELD literature has focused on Pacific Island states, Arctic regions, and parts of Africa, this study extends the discussion to mainland Southeast Asia and demonstrates how climate-related loss is experienced through social relations, care systems, cultural practices, and local knowledge (IPCC, 2022; Tschakert et al., 2019).

Second, the study contributes conceptually by highlighting unpaid care and domestic work as a central mechanism through which climate-related socio-cultural harm is produced and distributed. Although the climate–care nexus has received increasing attention, unpaid care work is still insufficiently integrated into loss and damage scholarship. By showing how climate change intensifies women’s care burdens and limits time, mobility, and participation in community and cultural life, this study helps strengthen the link between NELD scholarship and feminist political ecology (Ferrant et al., 2014; Resurrección, 2013; UN Women, 2023). Third, the study makes an empirical contribution by generating original, community-based evidence on the lived experience of socio-cultural loss and damage in Savannakhet Province. It focuses on the perspectives of women caregivers, older people, and village communities whose experiences are rarely captured in formal climate assessments or policy processes. In addition, the study documents climate-related pressures on Indigenous, ethnic, and local knowledge, contributing to wider calls for stronger recognition of such knowledge in climate adaptation research and policy (CBD, 2022; IPCC, 2022).

Fourth, the study contributes methodologically by demonstrating the value of qualitative, community-grounded approaches for understanding climate loss and damage. Standard disaster assessments often focus on measurable physical and economic losses, but this study shows that many of the most significant harms such as intensified care burdens, psychosocial distress, weakened solidarity, and erosion of knowledge can only be captured through methods that engage with people’s own lived experiences and locally defined meanings.

Finally, the study has direct policy relevance. Its findings provide evidence that can inform more gender-responsive and culturally grounded climate adaptation and disaster risk reduction planning in Lao PDR. In particular, it offers insights relevant to the implementation of the National Adaptation Plan and Nationally Determined Contribution, while also highlighting the need for stronger recognition of socio-cultural harms, unpaid care burdens, and knowledge loss within sub-national planning and disaster response systems (Lao PDR, 2021, 2025).

Overall, this study is significant because it shows that climate change in rural Lao PDR is not only an environmental and economic issue, but also a deeply social, cultural, and gendered one. By making these dimensions visible, the research contributes to a more complete understanding of climate-related loss and damage and supports the development of more just and effective adaptation responses. Beyond Savannakhet, the findings have direct implications for climate policy and governance: they provide an evidence base for more inclusive, rights-based adaptation and disaster-response strategies that are tailored to the intersectional needs, priorities, and lived realities of women, ethnic communities, and other groups whose experiences are currently under-recognised in formal planning systems.

7. Methodology

7.1 Research Design

This study employed a qualitative, multi-site case study design informed by a feminist participatory orientation. The design drew on core principles of feminist and participatory inquiry, particularly the importance of centring lived experience, valuing community-defined meanings, and attending to power relations in knowledge production (Cornwall & Jewkes, 1995; Creswell & Poth, 2018). Rather than seeking statistically representative estimates, the study aimed to generate an in-depth understanding of how climate change is experienced as socio-cultural loss and damage in everyday life.

The study combined three primary qualitative methods focus group discussions (FGDs), in-depth interviews (IDIs), and key informant interviews (KIIs) with a structured desk review of policy, programme, and academic literature. This design was appropriate because the research focused on meanings, perceptions, relationships, and lived experiences that are not easily captured through quantitative indicators alone and because the study's central questions concerned how communities themselves interpreted and gave meaning to climate-related loss, rather than testing pre-specified hypotheses against externally defined indicators. An interpretivist approach was therefore adopted to privilege participants' own categories of understanding, especially in relation to care burdens, non-economic loss, psychosocial distress, and the erosion of Indigenous, ethnic, and local knowledge.

Sampling and sample size were guided by purposive selection, maximum variation, **and** thematic sufficiency rather than statistical power. In plain terms: rather than selecting a random or fixed-size sample, the research team deliberately chose participants likely to hold relevant and varied experience (purposive selection with maximum variation), and kept adding participants until new interviews stopped surfacing genuinely new themes (thematic sufficiency), rather than stopping at a number decided in advance. Participants were selected to capture variation across gender, age, livelihood, caregiving role, and institutional position. Data collection continued until the major themes were sufficiently developed and additional interviews were no longer generating substantively new analytical insights (Guest et al., 2006; Hennink & Kaiser, 2022).

7.2 Conceptual Framework

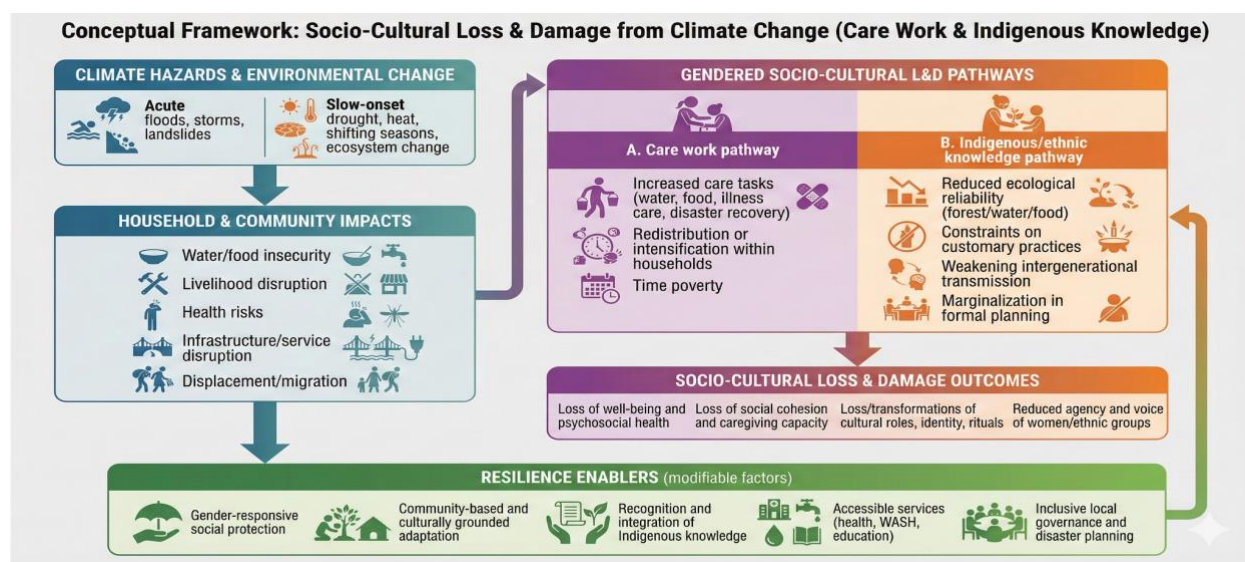
The study is grounded in an integrated conceptual framework drawing on feminist political ecology (Resurrección, 2013; Sultana, 2014), care ethics and the care economy literature (Mahon et al., 2019; Rao et al., 2020; UN Women, 2022), non-economic loss and damage scholarship (Serdeczny et al., 2016; Tschakert et al., 2019; Warner & van der Geest, 2013), and Indigenous knowledge and climate adaptation studies (Nakashima et al., 2012; Petzold et al., 2020). The framework articulates three interlinked analytical pathways:

- **Care Work Pathway:** Climate-induced disruptions to livelihoods and basic services (WASH, health, agriculture) intensify unpaid domestic and care burdens, resulting in time poverty, physical strain, psychosocial stress, and the exclusion of women from paid work, education, and community governance.
- **Indigenous Knowledge Pathway:** Climate extremes and slow-onset change disrupt traditional agricultural calendars, ceremonial life, and the ecological conditions on which IEK is practised, accelerating intergenerational knowledge loss.
- **Institutional Pathway:** Cross-cutting power relations including gender norms, age hierarchies, ethnicity, poverty, and migration status determine whose knowledge is

valued, who makes decisions about disaster response and land use, and who accesses formal support and protection.

The framework recognises that both loss and adaptive capacity co-exist in affected communities, and that effective policy must attend to both dimensions (see Figure 1).

Figure 1: Conceptual Framework of project “Socio-cultural Loss & Damage from Climate Change (Care Work & Indigenous Knowledge)”



Source: Developed by the research team for this study, based on the conceptual framework described in Section 7.2.

7.3 Study Site

The study was conducted in Savannakhet Province, central Lao PDR. Savannakhet was selected for three main reasons. First, it is a climate-exposed province affected by recurrent flooding, drought, and hydro-climatic variability, with national and sectoral assessments identifying central and southern Lao PDR as areas facing significant flood and drought risk. Recent national adaptation planning and sector reports also identify Champhone District as among the flood-prone areas in Savannakhet.

Second, Savannakhet has a predominantly agrarian economy in which households depend heavily on climate-sensitive livelihoods, especially rice cultivation, livestock, fisheries, forest products, and seasonal wage labour. This made it an appropriate setting for examining how climate stress interacts with livelihood insecurity, unpaid care, and migration.

Third, the province offers social and ecological diversity relevant to the study objectives, including variation in livelihood systems, hazard exposure, and local cultural practice. Within Savannakhet, two districts were purposively selected: Champhone District, representing lowland flood-prone conditions, and Xonnabouly District, representing a context where communities also face drought, heat stress, and variable rainfall alongside flooding. Village selection within these two districts prioritised flood/drought exposure, livelihood diversity, and fieldwork accessibility; it was not stratified by ethnicity, and the four villages selected proved to be predominantly Lao Loum settlements. Four villages were then selected in consultation with district authorities and village leaders based on three criteria: exposure to climate hazards, social and livelihood diversity, and practical accessibility for fieldwork.

7.4 Study Population and Sampling

A purposive, maximum-variation sampling strategy was employed to capture diverse experiences across gender, age, ethnicity, livelihood type, and institutional role (Creswell & Poth, 2018; Miles et al., 2020; Patton, 2015).

7.4.1 Community-level participants

Community participants were selected to reflect differentiated exposure to climate hazards, care responsibilities, and knowledge systems. Priority participant groups comprised individuals directly exposed to floods, droughts, or heat-related hazards, including:

- Women caregivers, including married, single and widowed women; women with young children; and women providing care to older persons, persons with disabilities or chronically ill family members.
- Men, including farmers, fishers, daily labourers, cross-border migrants and returned migrant workers, to capture gendered livelihood strategies and care roles.
- Adolescent girls and boys (15–19 years), including both in-school and out-of-school youth, to examine intergenerational dynamics, aspirations, and transmission of Indigenous/ethnic knowledge.
- Older persons and Indigenous/ethnic knowledge holders, such as elders, traditional healers, ritual specialists and experienced farmers, who play central roles in cultural practices, knowledge transmission and community decision-making.

Participants were identified in collaboration with village leaders, women's and youth organizations, and community volunteers. Particular attention was given to including households experiencing heightened vulnerability, such as recurrent floods or droughts, poverty, displacement, or substantial caregiving responsibilities. Initial household contacts were identified with support from women's representatives and village leaders who had access to household lists. The research team then approached potential participants directly in the community. The team documented whether any individuals declined to participate or were excluded, together with the reasons for non-participation or exclusion.

7.4.2 Local and district-level stakeholders (key informants)

Key informants were selected to capture institutional perspectives on climate impacts, disaster response, social support, and adaptation planning. These included:

- village heads and respected elders
- representatives of the Lao Women's Union and Lao Youth Union
- district and provincial staff in health, agriculture, environment, and disaster-related sectors
- local authorities involved in disaster management or social welfare
- extension workers and frontline officials working directly with climate-affected communities.

7.4.3 Sample size

The study drew on three qualitative data sources:

- 20 focus group discussions with 115 participants
- 9 in-depth interviews
- 11 key informant interviews

The FGDs included adult women, adult men, adolescent girls, adolescent boys, village elders, and village committee members across the four study villages. The IDIs were conducted primarily with women from households directly affected by climate shocks, especially those

with heavy care burdens or heightened vulnerability. KIIs were conducted with district and provincial stakeholders.

FGDs were organised as single-sex, age-stratified groups (separate sessions for adult women, adult men, adolescent girls, and adolescent boys) and held in familiar village locations away from household heads and other authority figures, with only the facilitator, note-taker, and participants present, in order to create a psychologically safe space and reduce the likelihood that women and young people would suppress their views (Morgan, 1997; see Section 7.7). All interview and discussion guides used for each participant group are provided in Annex 1.

Table 1: Sample Sizes by Data Collection Method

Method	Total sample	Participant groups	Distribution
Focus group discussions (FGDs)	20 groups, 115 participants	Adult women, adult men, adolescent girls, adolescent boys, elders, village committee members	Approximately 10 FGDs per district; 5 per village
In-depth interviews (IDIs)	9 participants	Women caregivers, elderly caregivers, women from climate-affected households, selected knowledge holders	Approximately 2 per village, with one additional interview across sites
Key informant interviews (KIIs)	11 participants	Provincial and district officials from women's affairs, agriculture, health, disaster-related sectors, youth and local governance	Across both districts and provincial level

7.5 Data Collection Methods

7.5.1 Desk Review

A structured desk review synthesized peer-reviewed and grey literature, policy documents, and programme reports to establish the policy, hazard, and evidence context for socio-cultural loss and damage in Lao PDR and Savannakhet Province. Review topics included: climate impact and hazard profiles; national climate and DRR strategies (NAP, NDC, NSDRR 2021–2030); documented links between climate change, unpaid care, and gender; and evidence on IEK and adaptation in Lao PDR and the wider Southeast Asian region (Government of the Lao PDR, 2021; SNV, 2024).

7.5.2 Focus Group Discussions

Semi-structured FGDs explored shared community experiences, norms, and understandings of climate-related socio-cultural harm and adaptation. Groups were stratified by gender and age with separate sessions for adult women, adult men, elders, and adolescents to create psychologically safe spaces and minimise the suppression of women's and young people's voices (Morgan, 1997). Core thematic areas covered perceived climate changes over 10–20 years; impacts on daily life and care work; changes in social relations and cohesion; perceptions of intangible loss; gender and age differences in burdens and voice; Indigenous coping practices; and community priorities for adaptation.

7.5.3 In-Depth Interviews

IDIs provided biographical and narrative depth on individual lived experiences. Topics included: personal trajectories of care work before and after major climate events; experiences of time poverty, stress, and health impacts; detailed accounts of IEK practices and their

disruption; perceived drivers of knowledge erosion; and personal experiences of socio-cultural loss. A biographical-narrative approach was used, inviting open accounts before structured thematic probing (Kvale & Brinkmann, 2015).

7.5.4 Key Informant Interviews

KIIs explored institutional perspectives on climate risks, socio-cultural impacts, policy implementation constraints, observed changes in care burdens after disasters, the role of IEK in local DRR and agriculture, and opportunities for integrating care-sensitive and IEK-based approaches into provincial adaptation planning.

7.6 Data Analysis

All FGDs and IDIs were audio-recorded with informed consent and transcribed verbatim in Lao, then translated into English. KIIs were recorded where possible; detailed field notes were completed immediately after sessions where recording was not permitted. Data were analysed using reflexive thematic analysis (Braun & Clarke, 2006, 2019) integrated with framework analysis (Ritchie et al., 2014), supported by NVivo qualitative analysis software. Coding integrated inductive codes derived from participants' narratives and deductive codes informed by the conceptual framework (including unpaid care work, time poverty, psychosocial stress, IEK erosion, and social cohesion). Analysis included within-group analysis by gender, age, and social group, as well as comparative, intersectional analysis across gender, age, ethnicity, livelihood, poverty status, and district. Triangulation across FGDs, IDIs, KIIs, and documentary sources enhanced analytical credibility. ("Triangulation" here means cross-checking a finding against multiple independent sources of information for example, an account raised in an FGD, an IDI, a key informant interview, and a document before treating it as a reliable pattern rather than a single participant's view.) Preliminary findings were validated through participatory workshops. In plain terms, this meant reading and re-reading the interview and discussion transcripts to identify recurring ideas and experiences, organising these into a structured matrix by theme and by participant group, and revising the categories iteratively as patterns became clearer, rather than testing a fixed set of hypotheses decided in advance.

7.7 Ethical Considerations

Ethics approval was obtained from the Institutional Research Ethics Committee (IREC) of the University of Health Sciences, Lao PDR. Participants received clear information in Lao and relevant local languages; written or thumbprint consent was obtained from all adult participants. Adolescents provided written assent alongside parental or guardian consent, in accordance with national regulations. All participant identifiers were removed from transcripts, and data were stored on password-protected, access-controlled systems. Facilitators were trained to recognise participant distress and to provide referral information to local psychosocial and protection services, using a standard referral pathway to commune health-centre staff and the district Lao Women's Union protection focal point. In practice, informed consent was obtained through a two-step process: the information sheet was read aloud in Lao (or the relevant local language) before each interview or FGD, participants were given the opportunity to ask questions and to decline individual questions without leaving the study, and consent was documented separately from the interview data. Interviews with women were, wherever possible, conducted by female members of the research team, and locations were chosen by participants themselves to maximise privacy. Participation was voluntary and withdrawable at any time. Gender- and age-stratified FGD composition was employed to reduce coercion and power imbalances. The study respected local customs, involved community representatives in design and feedback, and established data ownership and authorship agreements with national partners.

8. Results

8.1 Socio-demographic Profiles

8.1.1 Key Informants (KII)

Table 2 summarizes the socio-demographic and professional characteristics of the 11 key informants. Most participants were female (63.6%), and the age distribution was even across 30–39 years (36.4%), 40–49 years (27.3%), and ≥ 50 years (36.4%). Over half held a bachelor's degree (54.5%), and participants represented diverse professional backgrounds, most commonly social protection/management and agriculture (27.3% each).

Most informants were affiliated with district offices (36.4%), the Lao Women's Union (27.3%), or the Lao Youth Union (18.2%). Nearly half worked in social protection (45.5%), while smaller proportions were involved in agriculture, women's empowerment/anti-trafficking, disaster risk reduction, health, and planning. Overall, the participants were experienced, with 45.5% reporting at least 15 years of professional experience and 63.6% having served 2–4 years in their current position.

In terms of thematic involvement, 72.7% reported direct engagement in climate change or disaster risk reduction work, 54.5% in unpaid care, gender, or social protection work, and 63.6% had experience working with vulnerable groups. However, only 18.2% had received training related to climate change, disaster risk reduction, gender, or social protection.

Table 2: Socio-demographic and professional characteristics of key informants (n = 11)

Characteristic	n	%
Sex		
Female	7	63.6
Male	4	36.4
Age group		
30–39	4	36.4
40–49	3	27.3
≥ 50	4	36.4
Highest education level		
Master's degree	1	9.1
Bachelor's degree	6	54.5
Higher diploma	2	18.2
Associate degree	1	9.1
Intermediate diploma	1	9.1
Professional background		
Education	2	18.2
Public administration	1	9.1
Economics / public finance	1	9.1
Social protection / management	3	27.3
Agriculture	3	27.3
Health	1	9.1
Type of organization		
Lao Women's Union (LWU)	3	27.3
Lao Youth Union (LYU)	2	18.2
Office of Agriculture and Environment	1	9.1
Provincial office	1	9.1
District office	4	36.4

Characteristic	n	%
Sector/area of work		
Social protection	5	45.5
Women's empowerment/anti-trafficking	1	9.1
Disaster risk reduction (DRR)	1	9.1
Agriculture	2	18.2
Health	1	9.1
Planning	1	9.1
Years of professional experience		
< 5 years	1	9.1
5–9 years	3	27.3
10–14 years	2	18.2
≥ 15 years	5	45.5
Years in current position		
< 2 years	1	9.1
2–4 years	7	63.6
≥ 5 years	3	27.3
Direct involvement in climate change/DRR work		
Yes	8	72.7
No	3	27.3
Direct involvement in unpaid care, gender, or social protection work		
Yes	6	54.5
No	5	45.5
Experience working with vulnerable groups		
Yes	7	63.6
No	4	36.4
Received training in climate change/DRR/gender / social protection		
Yes	2	18.2
No	9	81.8

The majority of KII respondents were aged 40 years or above, reflecting seniority in their positions. Most held bachelor's degrees; one held a master's degree (KII-01). Six of the nine key informants were women, drawn from the LWU, agriculture, and youth sectors. All reported direct involvement in climate change or DRR work, though formal training was limited: only KII-04 had completed a dedicated short course, while several had participated only in joint meetings without specific training.

8.1.2 In-Depth Interview (IDI) Participants

Table 3 presents the socio-demographic characteristics of IDI participants from climate-affected or care-intensive households. All participants were female, with a mean age of 48.1 years (SD = 13.3), and the largest proportion were aged 40–49 years (44.4%). Most were married (66.7%), while smaller proportions were widowed (22.2%) or divorced/separated (11.1%). Participants were mainly household heads or spouses (44.4% each). Educational attainment was generally low, with most having primary education (66.7%). Farming was the main occupation for most participants (88.9%), and all were from the Lao Loum ethnic group. The mean length of residence in the area was 43.2 years, and the mean monthly household

income was 1,312,500 LAK. Average household size was 5.8 persons, with a mean of 2.3 children per household. Nearly half of households had children under 5 years old (44.4%), and 22.2% included older persons aged 60 years or above.

Table 3: Socio-demographic Characteristics of IDI Participants who have climate-affected or care-intensive households (n = 9)

Characteristic	n	%
Sex		
Female	9	100.0
Age (years)		
Mean ± SD	48.1 ± 13.3	
Median (range)	45 (27–68)	
< 30	1	11.1
30–39	1	11.1
40–49	4	44.4
50–59	1	11.1
≥ 60	2	22.2
Marital status		
Married	6	66.7
Widowed	2	22.2
Divorced/Separated	1	11.1
Role in household		
Household head	4	44.4
Spouse	4	44.4
Other	1	11.1
Highest education level		
No formal schooling	1	11.1
Primary	6	66.7
Secondary	2	22.2
Main occupation		
Farming	8	88.9
Homemaker/caregiver	1	11.1
Ethnicity		
Lao Loum	9	100.0
Length of residence in area (years)		
Mean ± SD	43.2 ± 14.3	
Median (range)	43 (15–65)	
Monthly household income (LAK)		
Mean ± SD	1,312,500 ± 651,235	
Median (range)	1,250,000 (500,000–2,000,000)	
No income (dependent on relatives)	1	11.1
Household size (persons)		
Mean ± SD	5.8 ± 3.7	
Median (range)	4 (3–15)	
1–3	2	22.2
4–5	3	33.3
6–7	3	33.3
≥ 8	1	11.1
Number of children in household		

Characteristic	n	%
Mean $\pm$ SD	2.3 $\pm$ 3.0	
Median (range)	1 (0–9)	
Children under 5 years old in household		
Yes	4	44.4
No	5	55.6
Elderly ($\geq$ 60 years) in household		
Yes	2	22.2
No	7	77.8

* Including one member with a disability. † Including one drug-dependent child. HH = household.

8.1.3 Focus Group Discussion (FGD) Participants

Table 4 presents the socio-demographic characteristics of participants in the 20 FGDs, comprising a total of 115 individuals. The sample was nearly evenly divided by sex, with 51.3% female and 48.7% male participants. The mean age was 39.3 years (SD = 18.3), with a median of 44 years (range: 14–80). Participants represented a wide age distribution, with the largest proportions aged 50–59 years (22.6%), followed by those under 20 years (23.5%) and 40–49 years (20.0%).

More than half of participants were married (53.0%), while 33.9% were single, 9.6% were widowed, and 3.5% were divorced or separated. Educational attainment was generally low to moderate: 32.2% had completed primary education, 30.4% lower secondary education, and 23.5% upper secondary education, while 10.4% had no schooling. The vast majority of participants were engaged in farming or agriculture (93.0%), and almost all were of Lao Loum ethnicity (99.1%).

Participants lived in relatively large households, with a mean household size of 6.4 persons (SD = 2.7) and a median of 6 (range: 2–17). About one-third lived in households with 4–5 members (34.9%), while 33.0% lived in households with 8 or more members. The mean length of residence in the village was 34.6 years (SD = 18.6), indicating that most participants had long-term ties to their communities.

Table 4: Socio-demographic Characteristics of FGD Participants (20 FGDs, N = 115 participants)

Characteristic	n	%
Sex		
Female	59	51.3
Male	56	48.7
Age (years)		
Mean $\pm$ SD	39.3 $\pm$ 18.3	
Median (range)	44 (14–80)	
< 20	27	23.5
20–29	15	13.0
30–39	11	9.6
40–49	23	20.0
50–59	26	22.6
$\geq$ 60	13	11.3
Marital status		

Characteristic	n	%
Single	39	33.9
Married	61	53.0
Widowed	11	9.6
Divorced/Separated	4	3.5
Highest education level completed		
No schooling	12	10.4
Literacy class only	1	0.9
Primary (grades 1–5)	37	32.2
Lower secondary (grades 1–3)	35	30.4
Upper secondary (grades 4–7)	27	23.5
Main occupation		
Farmer / agriculture	107	93.0
Student	3	2.6
Homemaker	2	1.7
Wage labour / migrant work	2	1.7
Other	1	0.9
Ethnicity		
Lao Loum	114	99.1
Bru	1	0.9
Household size (persons)		
Mean ± SD	6.4 ± 2.7	
Median (range)	6 (2–17)	
1–3	13	11.3
4–5	40	34.9
6–7	24	20.8
≥ 8	38	33.0
Length of residence in village (years)		
Mean ± SD	34.6 ± 18.6	
Median (range)	32 (2–80)	

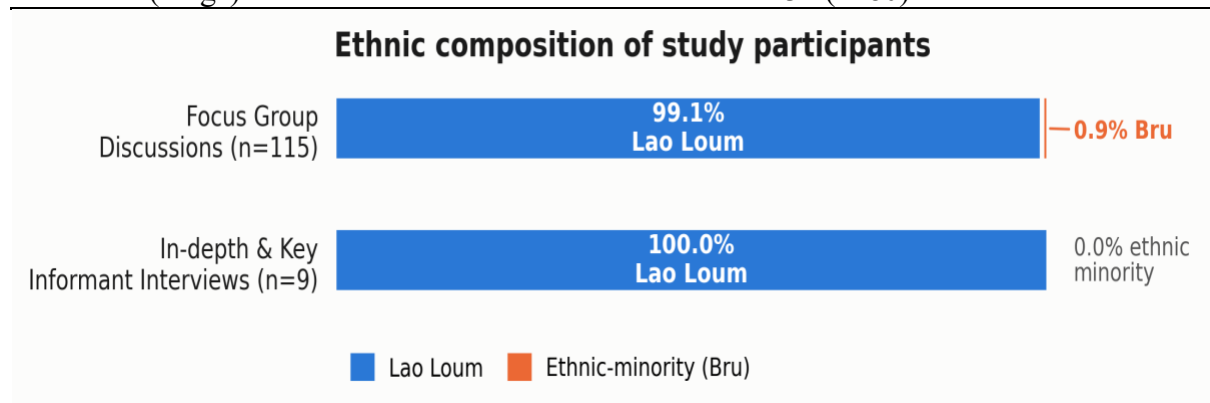


Figure: Ethnic composition of FGD and IDI/KII participants. The near-total predominance of Lao Loum participants (99.1% of FGD participants; 100% of IDI/KII participants) reflects village-level rather than ethnicity-stratified sampling (Section 7.3) and is a key limitation of the study (Section 12).

8.2 Classification of Categories and Themes

Table 5 presents the thematic and categorical framework derived from the qualitative analysis of climate change impacts in rural communities of Savannakhet Province, Lao PDR. The framework is structured across 6 themes and numerous categories. Theme 1 documents how climate extremes erratic rainfall, intensified flooding, and prolonged drought are undermining livelihoods, destabilising rice agriculture, and accelerating youth out-migration. Theme 2

examines how women disproportionately absorb the additional burdens of climate-related disasters through expanded unpaid care work, including cooking, childcare, and evacuation management while male role change remains limited and largely driven by demographic necessity rather than transformative shifts in gender norms. Theme 3 documents the psychosocial toll of repeated disaster exposure, encompassing chronic anticipatory anxiety, sleep disruption, protracted grief linked to the 2019 flood, depression-like experiences, shame, and social withdrawal, all in the near-total absence of formal psychosocial support within local disaster response systems. Theme 4 reveals critical gaps in sexual and reproductive health and rights (SRHR) responses: although pregnant women are nominally recognised as a priority group, their specific SRHR needs, including antenatal follow-up, contraception access, GBV screening, and delivery planning remain largely absent from disaster response protocols, further compounded by financial barriers to care-seeking. Theme 5 examines the progressive erosion of Indigenous, ethnic, and local knowledge systems, including seasonal farming wisdom, medicinal plant knowledge, and weaving and craft skills as youth out-migration disrupts intergenerational transmission and market dependence increasingly displaces household self-provisioning. Theme 6 analyses non-economic loss and cultural rupture, including the decline of ceremonies and merit-making practices, the poverty-mediated exclusion of vulnerable households from communal rituals, the thinning of everyday social life, the weakening of solidarity and collective belonging, and identity-level threats to village continuity. Taken together, the framework maps climate change not only as an environmental and economic crisis, but as a compound social, cultural, gendered, and psychological one.

Table 5: Classification of Categories and Themes

Theme	Categories	Sub-categories / Key issues
Theme 1. Escalating Climate Extremes and Disrupted Livelihoods	Seasonal disruption	Irregular rainfall; delayed rainy season; prolonged drought; unpredictable monsoon patterns
	Recurrent and intensified flooding	More frequent floods; higher water levels; repeated annual shocks; floodwater reaching homes and fields
	Dual hazard exposure	Flood and drought affecting the same households; loss of recovery time between hazards
	Agricultural decline	Crop loss; loss of rice production; livestock death; seed loss; reduced food security
	Forced livelihood transition	Shift to dry-season rice; use of pumps and purchased inputs; transition to cash dependence; alternative crops
	Youth out-migration	Migration to Thailand, Vientiane, and elsewhere; labour shortages; remittance dependence; changing village demography
Theme 2. Gendered Burden of Care — Women Holding the Household Together	Women as primary care providers	Cooking; cleaning; childcare; elder care; water and fuel collection; household management
	Intensified unpaid care during disasters	Preparing food and supplies; moving household belongings; managing evacuation; post-flood cleaning and recovery

Theme	Categories	Sub-categories / Key issues
Theme 3. Psychological Toll — Mental Health Under Repeated Disaster	Partial redistribution of labour	Men's temporary involvement during acute flood periods; guarding property; moving livestock; transport by boat
	Female-headed household vulnerability	Widows; women with absent or non-contributing husbands; single caregivers; poverty and care burden combined
	Grandparent caregiving	Grandmothers caring for grandchildren of migrant parents; elderly caregivers with declining health
	Shifting but incomplete male role change	Some men helping with domestic tasks; role change driven by labour shortage rather than gender transformation
	Chronic flood anxiety	Fear before rainy season; anticipatory stress; constant worry about flooding
	Sleep disruption	Inability to sleep during rainy season and floods; night-time vigilance
	Grief and unresolved emotional loss	Persistent sadness after the 2019 flood; crying; emotional distress linked to lost assets and family hardship
	Depression-like experiences	Loss of motivation; hopelessness; emotional exhaustion; irritability
	Shame and social distress	Embarrassment about poverty; inability to contribute socially; fear of being judged
	Social isolation and withdrawal	Avoiding ceremonies; reduced participation in community life; emotional loneliness
Theme 4. Sexual and Reproductive Health Under Climate-Related Disasters	Institutional absence of psychosocial support	Mental health not included in disaster response; no formal village psychosocial services
	Pregnancy recognised in emergency response, but assistance is general	Pregnant women named as vulnerable group; response focuses on safe relocation + food/basic supplies; SRHR needs not differentiated
	Disrupted access to health care increases SRHR vulnerability	Care-seeking depends on household money; transport and treatment costs delay care; reliance on relatives/kin support
	Post-flood outreach exists, but SRHR follow-up is not structured	Health teams visit after floods; no explicit ANC follow-up for displaced women; no mention of postnatal care; no contraception resupply; no GBV screening/referral described
	Weak financial protection undermines SRHR in recovery	No compensation; reliance on donations; post-disaster poverty reduces ability to pay for clinic visits/medicines/hygiene needs
	Household preparedness dominates SRHR risk management	Stockpiling food/water; keeping boats ready; limited SRHR-specific preparedness (no planned transport for pregnant women; no delivery

Theme	Categories	Sub-categories / Key issues
Theme 5. Erosion of Traditional Knowledge and Community Solidarity	Agricultural and ecological knowledge erosion	contingency plans; no clear referral arrangements) Loss of seasonal forecasting; declining relevance of traditional farming calendars; reduced knowledge of local rice varieties
	Craft knowledge erosion	Disappearance of weaving, spinning, mat-making, and related skills; destruction of tools in floods
	Medicinal knowledge decline	Death of herbal healers; incomplete transmission to younger generations; reduced use of medicinal plants
	Ecological loss affecting knowledge	Disappearance of medicinal plants, fish, and forest foods; climate change altering ecological base of knowledge
	Interrupted intergenerational transmission	Youth migration; younger generation not learning from elders; reduced everyday teaching spaces
	Commodification and market dependence	Buying instead of making; reduced incentive to continue traditional skills
Theme 6. Non-Economic Loss and Cultural Rupture	Decline of communal labour and mutual aid	Collapse of labour exchange; reduced reciprocity; shift to paid labour; weakening solidarity
	Ceremonial decline	Discontinuation of Bun Phavet and other merit-making events; reduced ritual calendar
	Exclusion from ceremony through poverty	Inability to contribute money or labour; self-withdrawal; not being invited
	Rupture of everyday social life	Quiet evenings; fewer gatherings; loss of informal social interaction; reduced village liveliness
	Loss of solidarity and togetherness	Weakening of unity; reduced collective participation; “hearts are not like before”
	Temple as moral and cultural centre	Reduced merit-making; fewer people attending temple; weakening of communal identity
	Identity-level cultural loss	Threat to traditions; rupture of belonging; reduced sense of village continuity
	Intergenerational rupture	Decline in ordination, ritual participation, and youth engagement in community traditions

The findings presented below draw on a triangulated qualitative dataset comprising 6 themes. Themes 1 and 2 examine the gendered restructuring of livelihoods and unpaid care under escalating climate volatility. Themes 3 and 4 turn to embodied, psychological, and reproductive dimensions of loss that remain largely absent from formal disaster response. Themes 5 and 6 address the slower, less visible erosion of knowledge systems, ceremonial life, and the moral fabric of community belonging.

Three analytical commitments run through the analysis. First, climate-related loss is treated as multidimensional, extending beyond economic damage to encompass psychosocial, embodied, ecological, and cultural dimensions. Second, these losses are read as stratified produced and experienced unevenly along intersecting axes of gender, age, marital status, poverty, household composition, and migration. Third, participants' own conceptual vocabularies are treated as analytically generative rather than merely illustrative: the categories through which residents named and explained their experiences are read as theoretical contributions in their own right, particularly where they signal forms of loss that institutional response systems do not yet recognise. In plain terms: the analysis takes seriously that loss is more than lost income, that it affects different people differently, and that how people themselves describe their experience matters as much as how outside categories describe it.

Theme 1: Escalating Climate Extremes and Disrupted Livelihoods

Three analytical points are important in interpreting this theme. First, climate disruption was experienced unevenly. Women, men, youth, elders, and households with differing levels of poverty described distinct forms of exposure and loss. These differences provide the foundation for the gendered and age-stratified analysis that follows. Second, participants did not describe climate change solely in terms of economic damage. They also referred to the breakdown of seasonal rhythms, the changing composition of villages, the weakening of intergenerational labour structures, and the disruption of household routines. These accounts suggest that climate-related livelihood change must be analysed as socio-cultural loss and damage, not as agricultural decline alone. Third, participants' own interpretations of causation and adaptation are analytically significant: community members frequently linked worsening floods not only to rainfall variability but also to upstream dams, irrigation infrastructure, and other hydrological changes. These locally grounded explanations are directly relevant to the co-production of adaptation and disaster risk reduction responses.

The analysis is organised around four interlinked subthemes: the shift from seasonal rhythm to recurring crisis; the dual hazard of flood and drought; agricultural system collapse and forced livelihood transition; and youth out-migration as both a coping strategy and a driver of further disruption.

1.1 From seasonal rhythm to recurring crisis

The most widely shared observation across participants was that the climatic calendar that had once structured both agricultural production and everyday life had become unreliable. Participants described a past in which dry and rainy seasons arrived at expected times, enabling households to plan planting, harvesting, ceremonies, travel, and caregiving routines. By contrast, current conditions were characterised by late rains, prolonged wet seasons, extended dry periods, and more frequent and severe flooding.

A senior district-level informant summarised this shift clearly:

“I think about the main climate risks going back ten years the weather up to April would be the dry season, and in June the rains would begin; we would plant the main rice crop, and by August it was still following the season. But today it is different... The rainy season does not come on time. These days it can already be April and the rain still has not fallen.”

— KII01, President, Champhone District Lao Women's Union, female, 50

This institutional account closely mirrored the views expressed in community discussions. In an elders' FGD in Dongyanong village, one participant explained that floods had become both more frequent and more severe:

“From 2019 and 2020 onward, flooding has been starting to come more often three or four times a year and getting more severe each time. Before that, floods did happen, but not that often, and not that severely.”

— FGD16, P2, adult man, 50, Dongyanong village elder group

Other participants echoed this change in temporal terms, contrasting an earlier pattern of occasional flooding with current conditions in which floods now occur multiple times per year. Women in Lamphun similarly described flooding as something their village had always lived with but emphasized that it now felt worse each year. These accounts suggest that the central loss was not simply meteorological instability, but the erosion of a predictable temporal order that had shaped agricultural planning, ritual life, household organization, and community expectations. The temporal infrastructure of village life had itself become unreliable.

One woman articulated this transformation in especially vivid terms:

“The seasons used to come on time, each in its own period, but now it is not like before — the droughts stretch on longer, and the heat is so strong it burns people's skin. In the rainy season, whether rain falls little or much, the water floods us, and floods so severely that it reaches the roofs of houses.”

— FGD05, P1, adult woman, Dongyanong village

Participants also linked worsening flood intensity to changes in dams and irrigation infrastructure. In both Lamphun and Dongyanong, several participants suggested that water no longer behaved according to natural seasonal patterns because it was being retained and released upstream. Analytically, this is significant: residents did not separate “climate change” from broader hydrological transformation but understood these as interlinked processes shaping their everyday exposure to risk. Their causal models are therefore relational rather than purely meteorological, and any locally legitimate adaptation strategy will need to engage with this composite framing.

1.2 Dual hazard: flood and drought in the same landscape

A second key feature of participants' accounts was that flooding and drought were not experienced as separate hazards. They were described instead as paired and sometimes sequential pressures affecting the same households and landscapes. In many accounts, severe flooding during the rainy season was followed by drought conditions that undermined dry-season cultivation. This dual hazard placed strain on poorer households, because the strategies needed to cope with one type of risk often depended on resources that were unavailable after the other.

A district agriculture official described this pattern succinctly:

“The severity is that the dry spells feel much longer, so people cannot farm according to the seasons; and if the rainy season brings heavy rain, then there is flooding.”

— KII05, Vice-Head, Champhone District Office of Agriculture and Environment, female, 43

At the village level, participants were equally clear that flood-prone areas could also be drought-prone. One elder in Dongyanong explained that despite frequent flooding, the village had very deep groundwater, making dry-season access to water extremely difficult. This finding directly challenges the analytical convenience of categorizing communities as facing a single dominant hazard. Residents described instead a layered risk environment in which contradictory adaptation logics had to be sustained simultaneously.

One woman from Lambong described this sequence from the household perspective:

“The floods come every year, and the worst was 2019... Then in 2023 it was drought — there was no water to put into the fields to farm rice... Maybe the flooding is more severe because they release water from the dam suddenly, and the water comes too fast.”

— IDI05, married woman, 45, Lambong village

The implications of this dual hazard were sharply unequal. Households with access to irrigation pumps, fuel, and seed could sometimes compensate for wet-season losses through dry-season rice cultivation. For poorer households, by contrast, drought meant they could not recover from flood losses, while flood meant they had no reserves with which to cope with drought. Climate risk in this context does not act on households as a single shock but as a sequence of compounding pressures, interacting with poverty, age, gender, and household composition to produce deeply unequal capacities for adaptation.

One woman observed that the village could now obtain many things through the market but only for those with money. Her remark points to a broader shift from household self-provisioning to cash dependence. For the poorest participants, especially widows, elderly households, and female-headed households, this meant that climate shocks were increasingly converted into debt, food insecurity, and chronic precarity. The dual-hazard environment thus operates as a kind of slow violence: not a single dramatic event, but a steady erosion of the buffers that had previously absorbed climatic variability.

1.3 Agricultural system collapse and forced livelihood transition

For participants whose livelihoods depended overwhelmingly on farming, the breakdown of seasonal regularity and the emergence of dual-hazard conditions translated directly into agricultural decline. Participants did not describe one failed season or one unusual event. Rather, they described an accumulated process of repeated losses that had undermined the reliability of wet-season rice farming and forced households into new, often unwanted livelihood arrangements.

An elder in Dongyanong explained the scale of change:

“From 2018–2019 until now, those of us doing wet-season rice have not eaten our own wet-season rice at all. Those who did eat it were only those who went to ask from relatives farming on higher ground... For us, we have been able to rely only on growing dry-season rice to eat.”

— FGD16, P2, adult man, 50, Dongyanong village elder group

This account is significant because it shows that a rice-farming community could no longer depend on the very crop that historically defined its economy and identity. Wet-season rice had long been central not only to household consumption but also to ceremonial life, reciprocity, and village self-understanding. The shift toward dry-season rice or alternative crops therefore represents more than a technical adaptation; it marks a transformation in the socio-cultural meaning of farming itself.

This pattern was confirmed in the IDIs, especially by women in highly vulnerable situations. One widow in Dongyanong described the 2019 flood as the turning point after which her household could no longer sustain itself through agriculture:

“Then came the most severe flood disaster, and it caused all our livestock to die and be submerged in the water in 2019. Since 2019, the rice farming we do has

dropped dramatically; it is only helping my son's family, just so he will share some rice for us to eat.”

— IDI04, widow, 68, Dongyanong village

Another woman made the gendered consequences explicit:

“When the water comes and floods us, we lose all hope, because we were depending on the rice... I feel like my workload has increased two to three times, because we have no rice to eat and I have to struggle to find a way to survive.”

— IDI08, married woman, 27, Dongyanong village

The decline of farming did not merely reduce production; it expanded the amount of unpaid labour required to secure food, maintain the household, and care for dependents. Agricultural collapse is therefore directly continuous with the intensification of care burdens. Production loss and reproductive labour intensification are not separate consequences of climate disruption but two dimensions of the same process.

Livestock losses further compounded this transition. Participants explained that grazing land had declined, floods had killed animals, and recovery was difficult. As one elder put it, cattle and buffalo could no longer be kept as before because there was no longer enough grass. These accounts suggest that households were not simply adapting their livelihoods but were being pushed out of long-standing systems of agrarian self-reliance and into more cash-dependent, more precarious modes of subsistence.

District officials confirmed this shift from a policy perspective. Agricultural offices described seed shortages following floods and growing efforts to promote drought-tolerant crops such as sesame, maize, okra, and chilli. The framing, however, differed across data sources. Officials tended to describe such changes as adaptation; community participants more often described them as loss of autonomy, of reliable food production, and of the livelihood practices that had sustained village life. This divergence between institutional and community interpretations is itself an analytic finding, signalling that what is officially recorded as resilience may be locally experienced as displacement from valued ways of life.

1.4 Youth out-migration as both response and rupture

The fourth and perhaps most far-reaching dimension of this theme was the large-scale migration of young people for wage labour. Participants across all three data sources identified youth out-migration as one of the most visible and socially consequential outcomes of climate-related livelihood decline. Migration was not presented as a matter of preference alone, but as a response to shrinking agricultural viability and the growing need for cash income.

A key informant from the district agriculture office illustrated this through her own family experience:

“My youngest son had finished upper secondary, and I asked him what he wanted to study next. He told me he did not want to study any further, because the economy today is impossible without money you cannot do anything and so he went to work in Bangkok, Thailand.”

— KII10, Vice-Head, Xonnabouly District Office of Agriculture and Environment, female, 49

She then described the wider district-level effect:

“If all our labour leaves to work elsewhere, what remains are children and the elderly. This means that in our district the workforce is now made up of elderly people and children.”

— KII10, Vice-Head, Xonnabouly District Office of Agriculture and Environment, female, 49

Community participants corroborated this demographic inversion. In Lambong, women directly linked migration to repeated crop loss:

“Our village is impacted by natural disasters by floods like this all the time and that damages our harvests so we don't get enough production to live on. That is why today most of the young people want to migrate, to go and find work somewhere else.”

— FGD12, P1, adult woman, Lambong village

In Dongyanong, elder men contrasted the past, when large households worked together locally, with the present, in which older people remained while younger adults left in search of money. One participant in Lamphun noted that migration now extended beyond Vientiane to Thailand and even South Korea, marking it as a historically new pattern. Together these accounts indicate that climate-related migration is not only an economic phenomenon but a demographic restructuring of village life itself.

Women's IDIs further revealed how migration is gendered. One older widow observed that nearly every household with adolescents or young adults now had children working in Thailand, and that remittances had become central to household survival. Another widow gave a particularly stark summary, noting that many men were affected by drugs while many women had gone to work abroad. These patterns matter for the study's later themes because the departure of younger women interrupts the transmission of knowledge and care practices that would otherwise have passed between generations within the village (see Theme 5).

At the same time, youth participants did not necessarily frame migration as a rejection of village life. Some described it as temporary and economically necessary, while still imagining eventual return. This points to a significant generational tension. Older participants often interpreted migration as evidence of socio-cultural rupture, whereas younger participants described it as a strategic pause in their relationship to village life. The divergence is itself analytically important: cultural continuity is understood differently across generations, and the meaning of out-migration is therefore contested rather than fixed. This generational tension also has a gendered dimension that follows directly from the care analysis in Theme 2: because male out-migration is frequently a wage-labour strategy while women's care responsibilities anchor them to the village, migration does not affect men and women symmetrically. Women left behind absorb the caregiving and household-management tasks migrant men would otherwise share, effectively trading one household member's mobility for another's immobility, and often gain de facto decision-making responsibility without a corresponding increase in formal authority over land, income, or disaster-response decisions.

Finally, migration was not equally available to all. For some women, especially those with children and absent or unreliable husbands, the option of leaving was constrained by care responsibilities. As one young mother explained:

“Carrying a burden like this, I want to change work. But here in our village there is no work except farming. If I were to work, I would have to go to Bangkok, Thailand. But if I went, I would worry about my children I cannot just leave them behind.”

— IDI08, married woman, 27, Dongyanong village

This illustrates the gendered asymmetry at the heart of Theme 1. Migration may operate as a livelihood strategy for some households, but for others especially women with dependent children care responsibilities make mobility far more constrained. Livelihood decline, migration, and care burden are therefore tightly interconnected: the same shocks that push some household members toward mobility simultaneously trap others in immobility. This double movement structures the analysis of unpaid care that follows. Because male out-migration also carries a direct sexual and reproductive health dimension reshaping decision-making around contraception, antenatal support, and family planning during periods of spousal absence this migration pattern is revisited from an SRHR perspective in Theme 4.

Theme 2: The Gendered Burden of Care - Women Holding the Household Together

Across the three data sources, there was strong convergence in how care burdens were understood. District officials described the pattern institutionally, focus group participants discussed it collectively, and individual women narrated it through the details of everyday life. All three sources pointed to the same conclusion: care work in climate-affected villages has intensified, this intensification is strongly gendered, and climate-related livelihood disruption is a key driver of that change. Read analytically, these findings suggest that women's unpaid care labour functions as an unrecognised infrastructure of climate adaptation a hidden subsidy that absorbs the costs of disruption precisely where formal systems do not.

At the same time, the data revealed substantial variation across household types. Young wives, widows, grandmothers caring for grandchildren, women with migrant husbands, and women living with absent, addicted, or non-contributing husbands described markedly different care configurations. These differences are analytically important because they show that the burden of unpaid care is stratified not only by gender, but also by age, poverty, marital status, household composition, and migration. The intensification of care is therefore not a uniform phenomenon but a differentiated one, concentrated at the intersections of multiple vulnerabilities.

2.1 Women as the primary care labour force

Across all sources, a consistent finding was that women formed the core labour force of unpaid care and domestic work even before climate disruption intensified those demands. Climate-related shocks did not fundamentally alter this baseline division of labour; rather, they deepened and extended it. Women remained responsible for cooking, cleaning, water collection, childcare, care for older adults, food preparation, and the daily work of household maintenance, while men were more commonly associated with income earning, livestock, or tasks outside the domestic sphere.

A key informant described this pattern in institutional terms:

“Household work and care for people in the family for the most part these are still women's responsibilities. Men are used for tasks that involve going outside the home: men go to work outside, perhaps to raise livestock, leaving only the women at home.”

— KII10, Vice-Head, Xonnabouly District Office of Agriculture and Environment, female, 40–49

This description was echoed across village FGDs. In Lamphun, one man acknowledged that women's responsibilities were often heavier because men focused primarily on earning money, while women managed family care, cooking, housework, and children. He described these tasks as “work that never ends.” That phrase captures an important conceptual distinction: women's work was continuous, repetitive, and non-deferrable, whereas men's work, although

often physically demanding, was more episodic and bounded. The asymmetry is one of temporal structure as well as volume.

This continuity was especially visible in the IDIs. One 27-year-old mother of four in Dongyanong described the household burden in stark terms:

“All the work, all the burdens of the family, are mine to carry from milling the rice, to fetching the water, I do all of it myself... My husband doesn't help with anything, my husband has no job and doesn't do anything. He just eats and sleeps.”

— IDI08, married woman, 27, Dongyanong village

Even in less extreme households, women's days were structured around uninterrupted care and domestic work. A 45-year-old woman in Lambong described waking at dawn to cook and clean before farm work, returning home at midday to prepare food again, going back to the fields in the afternoon, and spending the evening cooking, cleaning, and feeding livestock. The analytical point is therefore not that climate disruption created women's domestic responsibilities, but that it accumulated additional labour on top of an already saturated workload. The result is a structural intensification of social reproduction with no commensurate expansion of recognition or support.

2.2 Disaster as a trigger for partial and temporary redistribution

One of the more nuanced findings in the dataset is that climate shocks, especially floods, do produce some redistribution of labour within households. However, this redistribution was partial, temporary, and largely confined to the acute phase of the crisis. Men took on additional tasks during floods guarding the house, moving possessions, relocating livestock, using boats, or transporting women, children, and older people to safety. Yet once the immediate danger passed, household labour generally reverted to its earlier pattern, with women resuming the main burden of domestic recovery and care.

This temporary shift was described clearly in the Lamphun men's group:

“During flooding, men's responsibilities become heavier, because we have to guard the house and move things to higher ground, take the cattle to be grazed, catch fish. Normally, when there is no flooding, men only do farming, fishing, and taking the cattle out.”

— FGD02, P5, adult man, Lamphun village

This account is important because it shows that men themselves recognised a flood-specific expansion of their role. However, the expanded role remained tied to physically visible crisis tasks rather than to the continuous labour of caring for people and reproducing daily life. Women's accounts offered a fuller picture of what disaster response entailed. In Dongyanong, one participant described how the burden on women doubled during floods because they had to move household items to higher levels, prepare poultry cages, store firewood and water, secure cooking utensils, and ensure the family had enough food to eat:

“When there is a flood disaster, the mother's burden in the house doubles because we have to lift household items up above the flood, onto the upper floor, carrying them up and down, preparing cages for the poultry every year, gathering firewood and water up into the house, and preparing cooking utensils and rice so that the family has food to eat.”

— FGD05, P4, adult woman, Dongyanong village

The key analytical point is that male labour increased mainly during emergency response, whereas women's labour expanded before, during, and after the flood. Preparation, caregiving, food management, cleaning, and household recovery all remained predominantly women's work. The total care burden generated by climate shocks therefore continued to accumulate disproportionately on women, even where momentary redistribution occurred. This distinction between redistribution as event and intensification as process is important for adaptation programming, which has historically focused on the visible response phase rather than the sustained reproductive labour surrounding it.

An additional nuance emerged in the divergence between men's and women's accounts. Men's groups sometimes described the division of disaster labour more symmetrically, suggesting that “whoever gets to it first does it” or that “everyone helps together.” Women's groups, by contrast, described a more uneven reality in which they continued to absorb the less visible but more enduring forms of labour. This perceptual gap is itself analytically meaningful: perceptions of fairness and actual burdens did not align, suggesting that interventions premised on stated norms of cooperation may miss the embedded asymmetries that participants experience but do not always articulate publicly.

2.3 Female-headed households under triple jeopardy

For women heading households alone whether through widowhood, separation, migration, or a husband's addiction or non-participation climate shocks generated a particularly severe form of care burden. These households faced what may be described as a triple jeopardy. First, they were often among the poorest. Second, they absorbed the full burden of disaster preparation, response, and recovery without any male labour redistribution. Third, they were responsible for long-term care of children, grandchildren, older relatives, or persons with disabilities without the labour or financial buffers available in better-resourced households. The three conditions compound rather than simply accumulate, producing a category of vulnerability qualitatively distinct from that of poor households more generally.

The 68-year-old widow in Dongyanong illustrated this compounding vulnerability most clearly. Following her husband's death and the departure of her adult children, she was left caring for a 21-year-old grandchild with intellectual disability:

“Before, my husband and many children helped together, but now my husband has died and my children have left to start their own families. Only I am left with my grandchild with disabilities... This makes life very difficult, because I am already old and I still have to help raise my grandchild.”

— IDI04, widow, 68, Dongyanong village

Her care burden was inseparable from poverty and livelihood decline. She depended on small remittances from a daughter in Thailand, could not afford the inputs needed for dry-season rice cultivation, and lacked the transport or assistance needed to take her grandchild to hospital when necessary. Another participant, a 57-year-old widow in Lamphun, described similarly severe dependency, explaining that chronic pain and the absence of adult support meant she survived only through the assistance of her younger sister.

Focus group data confirmed that this was not an isolated pattern. In the Thakhamheum adult women's group, where several participants were widows caring for grandchildren, one woman explained:

“Now the elderly have to stay home to mind the grandchildren, because if we don't mind the grandchildren we have no money at all... If the [migrant] children don't send us anything, their mother will die even our rice, we are waiting on them.”

— FGD19, P4, adult woman, widowed, 65, Thakhamheuam village

This quotation captures a central feature of the care economy described in this study: older women's unpaid care labour makes labour migration possible for younger generations, while their own survival depends on remittances from those same migrant children. Unpaid care, migration, and vulnerability are therefore tightly intertwined within a circular structure. The grandmother's labour subsidises migration; migration sustains the grandmother. When either link weakens through illness, age, or the unreliability of remittances the whole arrangement is at risk of collapse, with no formal system positioned to absorb the resulting need.

Institutional interviews partly confirmed this picture. Officials acknowledged that elderly people, children, and pregnant women were treated as priority groups during emergencies, but they also recognised that support rarely extended beyond the immediate response phase, and that sustained assistance for labour-poor households remained inadequate. This gap between high need and limited long-term support is directly relevant to the study's adaptation objective: protection of female-headed households requires moving beyond episodic relief toward ongoing structural support that recognises the caregiver-dependent unit as a category of vulnerability in itself.

2.4 Grandparent caregiving and the elderly care gap

A particularly important configuration of care identified in this study was the growing reliance on grandparents, especially older women, as full-time caregivers for grandchildren. This pattern was directly linked to youth out-migration (Theme 1.4) and was especially visible in Thakhamheuam, where several older women described caring for grandchildren as their main occupation.

Participants described this arrangement not as an occasional support role, but as an everyday reality shaped by migration, poverty, and climate stress. One older woman explained:

“These days the work is heavy, but our own children are not here with us, because they have all gone to earn money elsewhere.”

— FGD19, P1, adult woman, widowed, 65, Thakhamheuam village

Another made the exhaustion explicit:

“It's just me doing everything on my own, so I have to bear it — but I am tired, because I am old and I have no strength left... After I've cooked for the grandchild, I still have to cook for my own mouth too.”

— FGD19, P4, adult woman, widowed, 65, Thakhamheuam village

These accounts matter for several reasons. First, grandmothers were performing intensive care work that participants in younger households associated with mothers but doing so with reduced physical strength and often under conditions of poor health. Second, they did so in cash-poor households increasingly dependent on purchased food, water, or fuel. Third, they were also expected to absorb the added labour of climate shocks, including flood preparation, cleanup, and caring for sick children after contaminated water exposure. The intersection of advanced age, gendered care expectations, and climate exposure produces a category of caregiver whose needs are largely invisible in current response frameworks.

Interestingly, the Dongyanong elder men's group also recognised this shift, with one man explaining that older people now had to stay home to raise grandchildren and take them to health services when sick because migrant parents were absent. This suggests that grandparent caregiving was not simply a women's issue, but a broader reorganisation of village care systems. However, institutional responses had not yet adapted to this reality. District-level

assistance still tended to categorise “the elderly” and “children” as separate vulnerable groups, rather than recognising the widespread caregiver–dependent unit formed by an older grandparent caring for one or more young children. This categorical mismatch is itself a finding: existing vulnerability frameworks lag behind the demographic realities they are meant to address.

2.5 Shifting but incomplete male role change

A more unexpected finding in the data was that some male participants explicitly recognised changes in gender roles and described greater involvement in household and care work. These accounts are important because they show that role change was not invisible to men themselves and that gendered divisions of labour were not entirely fixed. In some households, especially where younger adults had migrated, older men described taking on tasks that would previously have been considered women's work.

One elder man in Dongyanong explained:

“In the past, household work was women's work. Now because there are no young people and no children the men have to come and help, come and do everything. We have to carry many burdens earning a living, farming, raising livestock, and taking care of the family are all on us now.”

— FGD16, P1, adult man, 57, Dongyanong village elder group

Another participant in the same discussion stated even more directly that steaming rice had now become part of his own work. This is notable because rice steaming is a highly gendered domestic task in rural Lao settings. That an older man could describe it matter-of-factly suggests that migration and labour shortage were indeed forcing task redistribution across gender lines, at least in some households.

The evidence also makes clear, however, that such shifts were uneven and incomplete. Not all men participated more, and not all households experienced the same degree of redistribution. A district official noted that in some rural and ethnic communities, strong norms of male authority continued to limit women's economic participation and shaped how household labour could be reorganised. She recounted a woman telling her, in effect, that programmes for women would not succeed unless men's attitudes also changed.

Two analytical implications follow. First, the possibility of more equitable care arrangements clearly exists; it is not merely a normative aspiration but an emergent practice in some households under conditions of labour shortage. Second, this emergent equity is contingent and fragile driven by demographic necessity rather than normative change and could just as easily reverse if migration patterns or household compositions shift. Climate-disrupted villages are therefore a site where gender relations are actively being renegotiated, but in ways that remain underdetermined and unevenly distributed. Adaptation programming that seeks to reinforce more equitable arrangements will need to engage explicitly with both the emergent possibilities and the persistent constraints. This unresolved renegotiation of care roles also has a direct bearing on SRHR: because women continue to carry the great majority of the caregiving and household-recovery labour documented above, they correspondingly have the least discretionary time and mobility to attend antenatal visits or reach health outposts, particularly in the weeks immediately following a flood (Theme 4).

Theme 3: The Psychological Toll — Mental Health Under Repeated Disaster

Participants described mental and emotional suffering not as a secondary effect of economic loss, but as a significant form of loss in its own right. Fear, sleeplessness, grief, shame,

exhaustion, and social withdrawal were named as enduring consequences of repeated disaster. These accounts speak directly to the study's objective of identifying locally defined forms of socio-cultural loss and damage including psychosocial well-being and examining how they vary by gender, age, and social position. They also extend the analytical claim of Theme 2: where the previous theme analysed care as a form of labour, this theme analyses care as a source of emotional load that participants themselves understood as illness, depletion, and harm.

Three patterns were especially notable. First, psychological distress was clearly gendered. Women and girls more often described anticipatory fear, sleep disturbance, grief, emotional exhaustion, and shame, whereas men referred to distress less frequently and often in more practical or indirect terms. Second, psychosocial suffering was concentrated in specific household and life-course positions, particularly among widows, female-headed households, grandmothers caring for grandchildren, and younger women living with recurrent disaster memories. Third, institutional recognition of mental health as a climate-related concern was minimal. Although officials acknowledged vulnerability among women, older persons, and children, structured psychosocial support was largely absent from local disaster response systems.

Throughout the analysis, participants used culturally embedded idioms “the heart trembling,” “the mind going round and round,” “the nerves breaking,” the “strength of the heart” being exhausted to express forms of suffering that biomedical vocabulary captures only partially. These idioms of distress are treated here as analytically primary rather than as folk translations of clinical categories: they articulate locally meaningful ways of naming experience that any culturally responsive psychosocial response will need to engage on its own terms. The theme is organised around three interrelated subthemes: chronic flood anxiety and sleep disruption; unresolved grief and emotional exhaustion following major losses; and social isolation, shame, and poverty-related withdrawal from community life.

3.1 Chronic flood anxiety and sleep disruption

A consistent finding across FGDs and IDIs was that living in flood-prone communities involved not only responding to floods when they occurred but also living with recurrent fear in anticipation of them. Participants described anxiety beginning before the rainy season, intensifying as rain approached, and peaking during periods of rising water. In this sense, distress was not limited to the moment of disaster; it was seasonal, cumulative, and closely tied to memory of previous events. This is a distinct temporal pattern of psychological harm one that maps onto the climatic calendar itself and one that current single-event models of disaster mental health do not adequately capture.

Young women in Lambong described this anticipatory pattern with particular clarity. One participant explained:

“The time we feel worried, pressured, and start to feel our minds come apart from our bodies is around May when the rainy season is approaching. That is when we start to feel afraid.”

— FGD13, P6, young woman, Lambong village

Another participant linked this fear directly to the remembered violence of earlier floods:

“When the rains come, we are anxious because we fear the flood so much that we cannot sleep. We fear the water arriving so fast that it breaks through and floods everything heavily, and we will not escape in time.”

— FGD13, P2, young woman, Lambong village

These accounts suggest that the approach of the rainy season itself had become a trigger for distress. Participants were not simply describing concern about possible flooding, but a recurring emotional and bodily state shaped by previous experience. The embodied character of this distress is striking: trembling, racing thoughts, inability to sleep, and the sensation of mind and body coming apart. One young woman described the fear during flood periods as so intense that “my heart was trembling,” conveying a register of suffering that exceeds the language of “stress” or “worry.”

Adult women in Dongyanong described similar patterns during actual flood periods. One participant explained:

“Our village floods every year, and some years the flooding is so severe we cry with the water that rises into our houses. For a whole month we cannot eat, we cannot sleep well, our minds go round and round with the flood situation.”

— FGD05, P2, adult woman, Dongyanong village

This description of the mind “going round and round” suggests a cycle of repetitive worry and mental preoccupation. Importantly, these experiences were closely linked to the gendered organisation of care and household responsibility analysed in Theme 2. Women were often the ones responsible for anticipating the needs of children, securing food, preparing for evacuation, and managing household safety. The people carrying the heaviest practical burdens were therefore also carrying the greatest anticipatory anxiety. Care work and psychological load are not separate experiences; they are two sides of the same gendered position.

The distress described by younger women also included concerns related to dignity and bodily management. In the Lambong female youth group, participants discussed the difficulty of managing menstruation safely and privately during floods, especially when sanitary supplies were unavailable or movement outside the house was restricted. This indicates that psychological distress during disasters was shaped not only by fear of drowning or loss, but also by gendered threats to privacy, hygiene, and bodily dignity dimensions that anticipate the SRHR concerns analysed in Theme 4.

Institutional accounts partly corroborated these experiences but also revealed a notable silence. Officials acknowledged that post-flood responses focused mainly on food, shelter, and physical health, while psychological support remained informal or absent. One of the most pervasive effects of repeated flooding seasonally recurring anxiety was therefore widely present in women's narratives but largely missing from formal response systems. This is not a gap of resources alone; it is a gap of recognition, in which a category of harm that participants experienced as central remains outside the categories through which response is organised.

3.2 Grief, depression, and unresolved loss after major disasters

If chronic anxiety characterised the broader experience of living in flood-prone villages, unresolved grief was especially evident among participants whose households had suffered major losses, particularly during the 2019 flood. These participants described grief that had not diminished over time, but instead remained active and intertwined with ongoing poverty, insecurity, and caregiving burdens. Their narratives suggest that climate-related disaster can produce not only immediate fear, but prolonged emotional disruption that persists for years after the precipitating event.

A 68-year-old widow in Dongyanong gave one of the clearest descriptions of this prolonged suffering:

“In the first period I could not eat, I could not sleep, I could only cry for a long time. Even now, I still cannot forget it... Even today I still feel grief, and sometimes I still cry.”

— IDI04, widow, 68, Dongyanong village

Her account indicates that grief remained unresolved years after the flood. She described the emotional impact of losing livestock, household belongings, stored rice, and the security of a household already weakened by her husband's death. Her narrative also highlighted how psychological suffering affected caregiving relationships:

“I became irritable, I would take my bad moods out on my children and grandchildren, and I would cry from sadness for months at a time. Whenever I thought of it, the grief came back.”

— IDI04, widow, 68, Dongyanong village

This is especially important analytically because it shows that caregiver distress had consequences not only for the individual woman but also for the quality of care available within the household. Emotional suffering spilled over into intergenerational relationships and everyday family life, so that psychological harm in one generation became a determinant of care quality for the next. The implications for child wellbeing, particularly in households where older women are now the primary caregivers (Theme 2.4), are direct and substantial.

A similar pattern appeared in the account of a widow in Lamphun:

“After the severe flood of 2019 we lost so much, two cattle died... I was so grieved I lost all the strength I had to go on living.”

— IDI06, widow, 57, Lamphun village

This account conveys not only sadness, but a deeper depletion of emotional endurance. Participants often used locally meaningful expressions to describe these states, including the sense that the “strength of the heart” had been exhausted. Such language points to culturally grounded ways of expressing depression-like experiences without using biomedical terminology. Rather than forcing these accounts into clinical categories, the analysis takes participants' own emotional vocabularies seriously as indicators of psychosocial loss and damage vocabularies that any locally legitimate response will need to engage rather than translate away.

A further point is that grief was not experienced as a closed response to a past event. For many women, especially those who remained poor and still lived in the same risk environment, the 2019 flood continued to shape their emotional present. The losses had not been materially recovered, and each rainy season renewed the fear that the same devastation could recur. Grief was therefore entangled with ongoing vulnerability in a way that distinguishes climate-related psychological harm from event-bounded models of trauma: there is no “after” when the conditions that produced the loss persist.

Institutional interviews confirmed a major gap in response. One district health official stated directly:

“Up to now, we have not done work related to mental health issues.”

— KII07, epidemiologist, Champhone District Health Office, female, 32

This admission is significant. While participants described psychological suffering as a major dimension of loss, mental health remained largely absent from district-level disaster and health responses. The gap is not merely operational; it is structural a reflection of how the categories

of climate-related harm have been historically defined to exclude exactly the dimensions of loss most clearly named by women in this study.

3.3 Social isolation, shame, and poverty-related withdrawal from community life

The third dimension of psychological toll concerned the social consequences of repeated climate-related hardship. Participants, especially women in highly vulnerable households, described withdrawal from ceremonies, reduced participation in community life, and feelings of shame tied to poverty and inability to reciprocate. These experiences were not only social outcomes; they were deeply psychological, affecting self-worth, belonging, and emotional well-being. They also anticipate the analysis of ceremonial exclusion developed in Theme 6, where the social dimension of this withdrawal is examined in greater detail.

A widow in Dongyanong described how poverty prevented her from participating in village ceremonies:

“Contributing collective labour, giving money to help repair the temple, attending weddings and string-tying ceremonies — because I have no money to tie the string at the wrist for them, I dare not go, and they do not invite me.”

— IDI04, widow, 68, Dongyanong village

This account reveals several layers of exclusion. Her inability to contribute economically led her to withdraw voluntarily, but it also altered how others treated her. She linked this directly to shame and loss of social respect:

“It has a very strong effect on my heart, because I am anxious and ashamed that I have no money to contribute with them. They no longer show our family any respect; they look down on us because we have no money.”

— IDI06, widow, 57, Lamphun village

These emotions are not adequately captured by broad terms such as “stress” or “low mood.” They are specifically relational emotions, shaped by moral expectations of reciprocity, contribution, and status within village life. Psychological loss in this context is inseparable from the erosion of social belonging from the experience of being unable to occupy a recognised position within the moral economy of the village.

Another participant in Thakhamheuam described the link between material hardship and emotional breakdown in similarly powerful terms:

“If we have nothing to live on and nothing to eat like this our hearts become disturbed, we feel suffocated, our faces become joyless and our eyes cannot brighten... thinking too much can cause our nerves to break.”

— IDI07, elder woman, Thakhamheuam village

This quotation demonstrates how participants themselves understood the pathway from poverty to psychological distress. Material deprivation, social exclusion, and emotional suffering were experienced as part of the same process. The idea that “thinking too much” could cause one’s “nerves to break” reflects a locally meaningful model of mental strain in which embodied symptoms, cognitive overload, and social-economic pressure are not analytically separable. This idiom deserves serious analytical attention precisely because it does not map onto a single biomedical diagnosis: it names a syndrome of climate-related distress that encompasses elements of depression, anxiety, somatic complaint, and social withdrawal.

FGDs supported this wider picture. Women in Lambong observed that mutual sharing had weakened and that village life had become more individualised. Men in Dongyanong similarly

reflected that where people had once relied on one another, a pattern of “each person for himself” was now emerging. These shifts are important because they suggest that repeated disaster and economic hardship were not only damaging households, but also weakening the social relationships that might otherwise buffer distress. As collective buffering capacity erodes, psychological harm is increasingly absorbed at the individual level and, given the gendered organisation of care, disproportionately by women.

This process was especially severe for older women caring for grandchildren. In Thakhamheum, participants described days filled with continuous labour, little rest, absent adult children, and no one with whom to share emotional burdens. For these women, psychological suffering was shaped by a combination of loneliness, fatigue, poverty, and obligation. Their distress cannot be understood apart from the broader reorganisation of care analysed in Theme 2.4: it is the affective correlate of a structural position. The same climate of shame and withdrawal documented here plausibly extends to reproductive health-seeking specifically: as Theme 6 discusses in relation to ceremonial exclusion, a woman who feels unable to attend a communal event because she cannot make the expected financial contribution is, by the same logic of poverty-mediated shame, unlikely to feel able to present at a health centre for a reproductive health concern she also cannot afford (Theme 4).

Theme 4: Sexual and Reproductive Health Under Climate-Related Disasters

This theme examines the specific implications of climate-related disasters for sexual and reproductive health and rights (SRHR). Across the dataset, an instructive pattern emerged: pregnant women were consistently named as a priority group in emergency response, yet their reproductive health needs were rarely addressed in differentiated terms. Climate shocks intersect with reproductive life in ways that current local response systems acknowledge in principle but have not yet operationalised in practice.

Three analytical points are important in interpreting this theme. First, recognition and response do not coincide. Vulnerability is named at the level of welfare food, shelter, basic health without being translated into the categories of reproductive rights, continuity of care, or protection from sexual and gender-based violence. Pregnant women are visible as vulnerable subjects but largely invisible as rights-holders. Second, the conditions that constrain SRHR access during and after climate shocks are intersectional. Poverty, dependency on kin, gendered decision-making, and the loss of household assets combine to delay, displace, or prevent care-seeking even where services exist. Third, the gap between general health response and specific SRHR provision is not merely a service-delivery deficit; it is a conceptual gap. SRHR has not yet been integrated into local understandings of what climate-related response requires. This positions SRHR not as an oversight but as a category of need that disaster response systems have not yet learned to see.

The analysis below is organised around five interrelated subthemes: the framing of pregnant women as a priority group; the constraints of poverty and dependency on care-seeking; post-flood outreach and its limits; the absence of compensation mechanisms and their SRHR implications; and household-led preparedness and the limits of SRHR-responsive local planning.

4.1 Pregnant women as a priority group with generalised support

Respondents consistently identified pregnant women as a vulnerable group requiring attention during floods and other climate-related emergencies. However, the forms of assistance described were largely framed in general welfare terms evacuation support, food relief, household supplies, and basic health care. There was limited evidence that this recognition translated into services specifically tailored to SRHR. In analytical terms, pregnant women

were visible in the language of emergency response, but their specific reproductive health needs remained largely invisible within the content of that response.

“When the flood comes, we think about the pregnant women, the elderly, the children. We make sure they receive assistance to move to a safe place, with food and basic health care.”

— IDI04, widow, 68, Dongyanong village

This finding suggests that pregnancy is acknowledged as a marker of vulnerability, but that emergency support remains insufficiently differentiated. SRHR-specific provisions continuity of antenatal care, safe delivery planning, emergency referral pathways, access to contraception, menstrual hygiene supplies, postnatal follow-up, and screening for gender-based violence were not clearly described as part of routine disaster response. The result is a paradox of named-but-unaddressed vulnerability: the category exists in the institutional imagination but lacks the substantive content that would make it operationally meaningful.

4.2 Climate-related health needs constrained by poverty and dependency

Participants reported seeking care at district hospitals when health problems occurred during or after climate-related events. However, financial hardship repeatedly emerged as a key barrier that delayed or prevented timely care-seeking. The costs of transport, consultation, medicines, and accompaniment were difficult to meet, particularly when floods had already disrupted livelihoods and household resources. Reliance on relatives for transport money, caregiving, and decision-making support was a recurring theme, illustrating how poverty and dependency convert climate exposure into reproductive health risk.

“We want to go to the hospital, but there is no money, so we wait and ask our relatives.”

— FGD05, P2, adult woman, Dongyanong village

“If I don't have money, my sister helps me. Without her, I cannot go.”

— IDI07, elder woman, Thakhamheuam village

These accounts indicate that access to SRHR services is shaped not only by the physical availability of health facilities, but also by household economic resilience and informal kinship support. For women with limited financial autonomy, climate-related shocks can further reduce their ability to seek timely care for pregnancy, delivery, contraception, menstrual health, or other reproductive concerns. Crucially, the women most likely to face these compound constraints are the same women identified in Themes 2 and 3 as most exposed to intensified care burdens and psychological distress: widows, female-headed households, and women living with non-contributing partners. SRHR vulnerability is therefore not a separate axis of risk but a further dimension of an already concentrated pattern of intersectional disadvantage.

4.3 Post-flood outreach without SRHR-specific follow-up

Respondents described health teams visiting communities after floods to assess impacts and check on residents. This indicates the existence of some post-disaster outreach capacity at community level. However, participants did not describe systematic SRHR-focused follow-up such as antenatal check-ins for pregnant women displaced by floods, postnatal home visits, contraception resupply, menstrual hygiene support, or screening and referral for gender-based violence.

“After the water goes down, the health workers come to see how we are.”

— FGD13, P6, young woman, Lambong village

The presence of general post-flood outreach without an explicit SRHR component represents a missed opportunity. Existing community visits could serve as important entry points for identifying pregnant women, supporting continuity of care, assessing delivery risks, replenishing reproductive health supplies, and linking women and girls to protection and referral services. Without such integration, SRHR needs may remain unrecognised even when health workers are physically present in affected communities. The issue is not the absence of contact but the absence of an SRHR lens through which to interpret it: outreach exists, but its conceptual frame does not yet include reproductive health continuity.

4.4 The absence of compensation and its SRHR implications

Several respondents emphasised that there was no formal compensation mechanism for climate-related losses. Communities instead depended on donations from government, organisations, or individuals for basic necessities. Although the absence of compensation affects households broadly, it has specific SRHR implications. Women and pregnant women may face additional out-of-pocket costs for transport, clinic visits, medicines, clean clothing, hygiene products, and recovery-related needs at precisely the moment when household resources have been depleted.

“There is no compensation. We wait for donations from government and people who want to help.”

— FGD19, P1, adult woman, widowed, 65, Thakhamheuam village

“After the flood, I cannot pay for the clinic visit because everything is gone.”

— FGD16, P3, adult man, 48, Dongyanong village elder group

The lack of predictable financial protection therefore operates as an indirect but consequential determinant of SRHR. When livelihoods, assets, and savings are lost, women's ability to access essential reproductive health services becomes dependent on charity, family support, or delayed care-seeking. This raises the structural risk that SRHR needs will be postponed, unmet, or managed outside the formal health system. Notably, this risk does not appear in standard categories of climate damage it is invisible in agricultural loss accounting, in housing damage assessment, and in livelihood recovery programming yet it has direct consequences for maternal and reproductive outcomes.

4.5 Household preparedness and the limits of SRHR-responsive planning

Coping strategies described by participants were mainly household-based. Families prepared by storing rice, drinking water, and essential items, and by keeping boats available for evacuation or transport. These practices demonstrate community awareness and adaptive capacity. However, they also reveal the limits of formal SRHR-responsive preparedness. No participant described specific measures such as pre-arranged transport for pregnant women, emergency birth preparedness plans, referral agreements with health facilities, safe delivery contingency plans, or designated support for women and girls during floods. Interviews and FGDs did not systematically probe where women give birth under normal conditions or whether home delivery increases when flooding cuts off access to health facilities; this specific question was not part of the topic guides used in this round of data collection (see Annex 1) and should be treated as an evidence gap rather than a finding of an absence of home delivery. Direct data on normal and flood-modified delivery practices should be collected in any follow-on SRHR-focused study, as it is foundational to designing the referral and transport provisions recommended below.

“We prepare rice, drinking water, and the boat, so when the water comes, we are ready.”

— KIII10, Vice-Head, Xonnabouly District Office of Agriculture and Environment, female, 40–49

This reliance on household preparedness places responsibility for managing climate-related reproductive health risks primarily on families themselves which, given the gendered organisation of care analysed in Theme 2, means primarily on women. In the absence of structured support from local authorities and health services, pregnant women and others with SRHR needs remain exposed during periods of heightened vulnerability. Strengthening SRHR-responsive disaster preparedness would require moving beyond general household readiness toward planned referral systems, community mapping of pregnant women, emergency transport arrangements, reproductive health supply planning, and the integration of SRHR into local climate adaptation and disaster response plans. The shift required is not merely operational but categorical: SRHR must be moved from the implicit margin of “vulnerable groups” to an explicit element of climate-resilient health systems.

Theme 5: The Erosion of Traditional Knowledge and Community Solidarity

Across all data sources, participants described an active and uneven erosion of locally held knowledge ecological, agronomic, craft-based, and medicinal together with the weakening of communal labour and mutual-aid institutions through which such knowledge had historically been circulated. This erosion is analysed here not as an inevitable consequence of modernisation, but as a distinct form of climate-related loss and damage.

Three analytical considerations inform this reading. First, knowledge loss is multi-causal, but climate disruption is centrally implicated. Major floods, especially in 2019, destroyed the material conditions such as tools, seeds, plants, and animals on which knowledge practices depended; recurrent shocks made inherited predictive knowledge less reliable; and climate-related livelihood decline accelerated the out-migration that interrupted intergenerational transmission. Second, the loss is itself an adaptation loss. Communities are being deprived of precisely the locally grounded knowledge repertoires they would need to adapt under conditions of intensifying instability a paradox in which the same forces that heighten the need for adaptive knowledge are simultaneously eroding its social and ecological foundations. Third, the loss is gendered. Much of the knowledge described weaving, mat-making, medicinal plant use, household production, ritual preparation was held disproportionately by women, particularly older women, and was sustained through distinctly women’s spaces of evening sociability that are now in decline.

The theme is organised around four related domains: agricultural and ecological knowledge under climate disruption; women's craft knowledge; medicinal knowledge and healing traditions; and the weakening of communal labour and mutual-aid systems.

5.1 Agricultural and ecological knowledge under climate disruption

One of the first forms of knowledge participants identified as being under pressure was the body of ecological and agronomic knowledge that had historically guided rice cultivation, seed choice, the reading of seasonal signs, and the management of land and water. Older participants described this knowledge as having been learned from parents and elders through direct practice rather than formal instruction. Many now felt that climate instability had made parts of this knowledge less reliable in practice.

A district agriculture official captured this tension clearly:

“Our people have the knowledge of how to read when to plant and when to sow... But it is not like that any more these days, because the climate has changed, and the old ways of forecasting do not apply.”

— KII10, Vice-Head, Xonnabouly District Office of Agriculture and Environment, female, 40–49

This statement points to a distinctive form of loss that may be termed epistemic (that is, a loss in the confidence and reliability of knowledge itself, rather than in the knowledge being forgotten): older ecological knowledge had not simply disappeared, but had become harder to use because the environmental patterns it once interpreted were no longer stable. Community elders described a similar experience, noting that signs they had been taught to watch when the rain should come, where water would stand, how the land would behave no longer matched current conditions. Climate disruption is therefore not only environmental but also epistemic. It weakens confidence in the practical value of inherited knowledge, even where the knowledge itself remains intact.

A related issue concerned seed knowledge and local rice varieties. Participants and officials described a shift away from locally adapted varieties toward more uniform commercial seed, especially after repeated floods destroyed household seed stores. Some older women described this as a movement away from farming “according to nature” toward cultivation increasingly dependent on purchased inputs, machinery, fertiliser, and irrigation. For poorer households, this shift meant not only the loss of a familiar production system, but also the loss of the opportunities for transmission embedded within it: when a household no longer saves its own seed or plants by local signs, the relational space in which younger people once learned these practices contracts.

5.2 Craft knowledge: weaving, mat-making, and household production

A second domain of erosion concerned women's craft knowledge, especially weaving, spinning, mat-making, basketry, and related forms of household production. Older women described these activities as once central to village life and to women's work, particularly in the evenings and in the agricultural off-season. They were not only productive practices, but also social spaces in which skills, stories, and values were passed from one generation to the next.

Participants identified the 2019 flood as a major turning point because it destroyed not only houses and livelihoods, but also the tools needed for craft production. One woman explained:

“We still want to weave, but all our tools were swept away by the flood. Now we have no reed, no heddle, no shuttle because everything was carried away by the water.”

— FGD19, P1, adult woman, widowed, 65, Thakhamheuam village

This quotation highlights a key mechanism of knowledge loss. The knowledge itself may still reside with older women, but without looms, weaving tools, raw materials, and time, the practice cannot continue. Another participant in the same group reflected that in the past women gathered together at night to weave, spin cotton, raise silkworms, and make mats, but that this collective craft life had largely disappeared. The loss is therefore both material and social: the tools were gone, and so were the regular occasions for practising and teaching. Knowledge of this kind is not a stock that can simply be stored and retrieved; it is a flow that depends on continued practice, and once practice stops, the knowledge itself becomes harder to retrieve, even from those who once held it.

A similar pattern was described in individual interviews. One older woman in Dongyanong explained:

“For weaving cloth — all the tools were swept away by the water... Nowadays my children and grandchildren do not want to do it, they say it is easier to buy.”

— IDI04, widow, 68, Dongyanong village

This points to the second and third drivers of craft decline: interrupted intergenerational transmission and the marketisation of household consumption. Younger women were often absent because they had migrated for work, and even when present, purchased goods were seen as easier and quicker than making things by hand. Traditional craft knowledge has therefore become concentrated among older women without clear pathways for transmission. Youth FGDs reinforced this interpretation: younger participants could still describe learning farming tasks from parents and grandparents but were much less likely to describe actually learning weaving, mat-making, or similar skills. This is a significant generational break in transmission, and one that is gendered in both content and consequence: the knowledge being lost was historically held by women, and the relational spaces that sustained it were specifically women's spaces.

5.3 Medicinal knowledge and healing traditions

A third domain under pressure was medicinal and healing knowledge held by herbal healers, spirit healers, and ordinary villagers who once used medicinal plants to treat common illnesses. Participants described this knowledge as increasingly fragile, partly because younger generations were less interested in learning it, partly because biomedical treatment had become more common, and partly because the ecological base of the knowledge was itself changing.

One older woman in Dongyanong described how the death of a single local healer had nearly extinguished herbal treatment in her village:

“In our village there was one herbal doctor who used to treat people with traditional medicine. But he has passed away, and his son is not as skilled as his father was — because the son did not have time to learn completely.”

— IDI04, widow, 68, Dongyanong village

This illustrates the vulnerability of knowledge systems that depend heavily on a small number of practitioners and informal apprenticeship. Once transmission is interrupted, there is often no institutional record or support mechanism to preserve what has been lost. The loss is structural in the sense that nothing in current systems is positioned to catch it.

A married woman in Lambong described a similar change in more everyday terms:

“For medicinal plants, we used to know from our parents that this leaf is used for treating this, that one for that. But our children today do not want to learn, because they go to the hospital and buy medicine at the pharmacy.”

— IDI05, married woman, 45, Lambong village

This quotation shows that the erosion of medicinal knowledge was not only about the death of knowledge-holders, but also about changing health-seeking behaviour and changing ideas of value. Young people increasingly turn to hospitals and pharmacies, even though access to biomedical care can itself become difficult during floods (Theme 4.2). Traditional knowledge is therefore being lost precisely at moments when it might still have practical relevance the very moments of disrupted access when locally available, low-cost therapeutic resources would be most useful.

A further layer of loss concerned the disappearance of medicinal plants and other species from local environments. Participants and institutional informants noted that some herbs, fish, and forest foods had become less available or disappeared altogether. Traditional knowledge is therefore being undermined not only socially, but also ecologically. Knowledge that depends on the continued presence of certain plants or animals becomes harder to practise as those

resources decline. The erosion of medicinal knowledge is, in this sense, an example of how climate change can produce coupled losses the social erosion of knowledge transmission and the ecological erosion of the material world to which that knowledge refers move together, reinforcing one another.

5.4 The collapse of communal labour and mutual-aid economies

The fourth dimension of erosion concerned the knowledge and social organisation embedded in practices of communal labour, reciprocity, and collective resource management. Participants across data sources described the weakening or disappearance of labour exchange, shared work, communal harvesting, and other forms of mutual aid that had previously helped villages absorb shocks and support more vulnerable households. This was a critical form of non-economic loss because it involved the erosion of the social institutions through which knowledge, obligation, and support had historically circulated.

A provincial cultural informant summarised this shift directly:

“There is no more labour-exchange farming (nawan) as in the past. Nowadays there is only paid labour.”

— KII09, Provincial Culture Office, Savannakhet

This observation is analytically important because reciprocal labour exchange was not simply a farming technique. It was a moral and social institution through which households helped one another with transplanting, harvesting, and other tasks, with the expectation that assistance would later be returned. Its decline therefore signals not only a technical change in labour organisation, but a weakening of the reciprocal fabric of village life a shift from a relational economy of obligation to a transactional economy of payment.

Community members described this shift in similarly moral terms. In Dongyanong, one elder explained:

“In the past, whatever we had we shared, whatever we did we did by helping each other... but now everyone goes their own way, each one for themselves.”

— FGD16, P2, adult man, 50, Dongyanong village elder group

This phrase “each one for themselves” captures participants' sense that mutual aid had been replaced by market logic and individual survival strategies. Several interviewees linked this change directly to youth out-migration and labour shortages. When younger adults were absent and those remaining needed cash income, reciprocal systems became harder to sustain. Another institutional informant observed that neighbours now often helped only if they were paid, and that a household lacking money could no longer easily mobilise support as before.

The disappearance of these practices had particular implications for widows, older people, and female-headed households the same categories of household repeatedly identified as most exposed across themes. Earlier systems of shared fishing, communal hunting, or ritual redistribution had once ensured that vulnerable households received a share of food or support. With the decline of these practices, those households were left more dependent on cash, remittances, or close kin. The erosion of communal labour and resource-sharing was therefore not only a cultural loss, but also a material and protective one: the very social institutions that might have buffered the most vulnerable against climate shocks are themselves casualties of those shocks. This is the deeper sense in which knowledge loss is an adaptation loss: it removes from communities the relational infrastructure they would need to absorb future disruption.

Theme 6: Non-Economic Loss and Cultural Rupture

This theme turns to the ceremonial, relational, and identity-level losses that participants described as hollowing out what it means to belong to their communities. Where previous themes addressed material disruption, embodied suffering, and reproductive precarity, this theme analyses what may be termed non-economic loss and damage: forms of loss that cannot be expressed in monetary terms, but that participants themselves identified as central to the meaning and continuity of village life.

Two analytical features are especially important. First, participants repeatedly used a local moral vocabulary often expressed as solidarity, unity, or togetherness to describe what had been weakened. This was not a researcher-imposed interpretation but an emic indicator: a category through which participants themselves assessed the health of village life. Second, participants distinguished carefully between losses they attributed directly to climate disruption and those they linked to other forces, including migration, marketisation, state discouragement of costly ceremonies, and generational change. This distinction matters analytically because it shows that cultural rupture was experienced as climate-related but not climate-exclusive. Climate disruption acts here as an accelerant and intensifier of changes whose origins are also social, political, and economic not their sole cause, but a force that compounds and entrenches them.

The theme is organised around four interrelated forms of loss: the hollowing out of the ceremonial calendar; ceremonial exclusion through poverty (what may be termed “exclusion in place”); the rupture of evening and everyday social life; and the identity-level loss centred on the temple as a container of moral continuity.

6.1 The hollowing out of the ceremonial calendar

One of the clearest forms of non-economic loss described by participants was the weakening or disappearance of named festivals and ritual events that had previously structured the year. Participants did not speak vaguely about “culture” declining; they referred to specific ceremonies and explained how and why they had become harder to sustain. In Thakhamheuam, widowed women described the disappearance of Bun Phavet and other merit-making events after years of repeated flooding:

“In the past we had Bun Khao Chi and Bun Phavet but today we no longer do them... I remember that ever since the floods began coming so often to our village, people have not organised Bun Phavet.”

— FGD19, P6, adult woman, widowed, 57, Thakhamheuam village

Another participant in the same group confirmed the longer pattern:

“Ever since the floods started coming repeatedly for more than ten years now our village has not held Bun Phavet.”

— FGD19, P1, adult woman, widowed, 65, Thakhamheuam village

These statements are important because Bun Phavet the recitation of the Mahavessantara Jataka, one of the most sacred and socially significant ceremonies in Theravada Buddhist Lao village life — is not an ordinary festival. It is one of the most elaborate collective merit-making events in the Lao ritual calendar, requiring extensive community preparation, collective labour, financial contribution, and multi-day gathering. Similarly, Bun Khao Chi, associated with the offering of sticky rice cakes to the sangha (monastic community), forms part of the seasonal cycle of communal merit-making that structures moral and social life in the village. The discontinuation of these events therefore signifies far more than the loss of single occasions. It marks the weakening of the principal occasions through which the village

previously gathered, performed collective belonging, and reproduced itself as a moral and ritual community.

Participants in Lambong described this decline not only in practical but also in affective and relational terms. One woman explained that Bun Phavet required extensive preparation over two days and two nights, and that it could no longer be organised because “solidarity has become less” and younger generations were no longer willing or able to participate. Another added that “people's hearts have changed,” suggesting that what had weakened was not simply labour supply, but the moral disposition that had once made collective ceremony possible. This is a culturally embedded theory of ceremonial decline that links ritual capacity to affective and relational conditions and one that any analysis purely in terms of resources or logistics would miss.

At the same time, the data also show that not all ceremonial decline was attributed directly to climate change. In Dongyanong, some elders explained that certain large-scale rituals had also been reduced through state discouragement on the grounds of their economic burden on poor households. This distinction matters. Participants were not asking for the restoration of every practice that had declined, but rather were identifying particular ceremonies especially those associated with merit-making, collective gathering, and moral cohesion as central to village continuity. Loss in this domain is therefore specific rather than generalised, and any meaningful response must engage with participants' own hierarchy of what matters most.

6.2 Exclusion in place: ceremonial exclusion through poverty

A second form of non-economic loss concerned not the disappearance of ceremonies themselves, but the exclusion of certain households from participating in them. This form of loss was concentrated among poor, widowed, elderly, and female-headed households and was expressed most clearly through accounts of inability to contribute materially to communal events. It is described here as “exclusion in place”: a form of marginalisation that does not require physical displacement but instead operates within the village itself, leaving households present yet ceremonially absent.

The 68-year-old widow in Dongyanong described this form of exclusion with striking clarity:

“Contributing collective labour, giving money to help repair the temple, attending weddings and string-tying ceremonies — because I have no money to tie the string at the wrist for them, I dare not go, and they do not invite me.”

— IDI04, widow, 68, Dongyanong village

This quotation reveals a layered process of exclusion. First, she lacked the money required to participate in customary contribution and reciprocity. Second, she internalised this lack as shame and withdrew pre-emptively “I dare not go.” Third, she perceived that others no longer invited her, suggesting that poverty had become socially visible and relationally consequential. This is a particularly important example of climate-related socio-cultural loss because it shows how material deprivation translates into exclusion from the symbolic and moral practices through which belonging is expressed. The pathway runs from economic loss to internalised shame to social removal, and each step reinforces the others. The same mechanism of poverty-mediated shame and withdrawal documented here is analytically continuous with the SRHR findings in Theme 4: when shame governs whether a household can appear at a communal event, it plausibly also governs whether a woman feels able to seek antenatal care, disclose a reproductive health concern, or ask for help during a flood, even where services are nominally available. Read together, Themes 4 and 6 suggest that ceremonial exclusion and reproductive health under-utilisation may be two visible expressions of the same underlying poverty-shame dynamic, rather than unrelated domains of loss.

The significance of this is heightened by the fact that the ceremony she refers to the wrist-tying ritual (known in Lao as the *baci* or *su kwan*) is one of the central symbolic forms through which care, blessing, kinship, and continuity are enacted in Lao society. Participation requires a material contribution of money or food; exclusion from this obligation therefore carries profound social and moral weight. Exclusion from the *baci* is therefore not simply missing an event; it is exclusion from one of the key ritual languages of belonging through which care, protection, and social recognition are performed. This form of loss is especially concentrated among women already structurally vulnerable through age, widowhood, disability caregiving, or migration-related labour shortages within the household.

Ceremonial exclusion therefore illustrates how non-economic loss and damage is socially differentiated. It is not experienced equally across the community. It is shaped by poverty status, gender, household composition, and caregiving burden. For those unable to migrate or access wage income, climate-related economic decline produces exactly the form of marginalisation described above: not departure from the village, but loss of social standing within it. Climate disruption, in this sense, does not flatten communities; it stratifies them more deeply, making visible the moral economy of who can and cannot participate in collective life.

6.3 The rupture of evening life and the everyday social fabric

A third dimension of non-economic loss concerned not formal ceremonies, but the ordinary texture of village social life. Participants repeatedly described the disappearance of evening gatherings, shared night-time activities, and the informal sociability that had once made village life feel lively and relationally dense. This was one of the most evocative findings in the data because it captured a change that was not easily measurable, yet clearly meaningful to participants.

Women in Lambong described the contemporary village as quiet and socially thinned:

“But these days when evening comes it is silent; by eight o'clock at night it is quiet — everyone has gone into their own house.”

— FGD12, P3, adult woman, Lambong village

Another participant in the same group added that the village was no longer lively as it used to be, and that gatherings and meetings now happened far less often. These observations suggest that social life had contracted, not only because of disaster, but also because of migration, changing labour demands, and the weakening of the shared activities that once brought people together.

In Thakhamheum, older women reflected on the loss of evening activities such as spinning cotton, weaving, chatting, and preparing for festivals together. These were not only productive practices, but also social occasions in which intergenerational relationships were maintained. One participant described how, in the past, people “lived gathered together,” and evenings were filled with weaving and spinning. The disappearance of these practices therefore represented more than the loss of craft (Theme 5.2). It also meant the loss of the everyday social infrastructure through which stories, advice, knowledge, humour, and companionship circulated between women and across generations the very channels through which the knowledge described in Theme 5 was historically transmitted.

An important nuance in these accounts is that participants were not simply opposing “the past” to “the present” in a romantic way. Some explicitly acknowledged that material life had improved in certain respects. Yet they also felt that these improvements had coincided with a growing relational distance. The village might be more materially developed, but socially less connected. This distinction is analytically important because it shows that participants were

evaluating change in a multidimensional way: they were not refusing material progress, but insisting that progress measured in material terms alone misses something essential about what makes village life worth living.

6.4 Identity-level loss and the temple as a container of continuity

At the deepest level, participants described non-economic loss not only as the weakening of ceremonies and social gatherings, but as a threat to the village's moral and cultural coherence. In Dongyanong especially, elders articulated a local theory of how community is held together, centring on the relationship between the temple, merit-making, and solidarity.

One elder explained this directly:

“The temple is the gathering place of the hearts of the people. Going to make merit is what gives us our solidarity.”

— FGD16, P2, adult man, 50, Dongyanong village elder group

This statement is analytically significant because it shows that participants understood solidarity not as a pre-existing feature of village life, but as something actively produced through shared ritual and religious practice. In this formulation, the temple is not simply a building or religious site. It is the relational and symbolic centre through which the moral unity of the community is sustained. Solidarity, in this local theory, is not a stable resource but an outcome of repeated ceremonial activity which means that when ceremonial activity declines, solidarity declines with it.

Another participant extended this logic further:

“If we lose the temple, if no one goes to the temple any more, if there is no gathering of hearts, then our traditions and our culture will disappear with it.”

— FGD16, P3, adult man, 48, Dongyanong village elder group

This is a remarkably explicit articulation of cultural rupture. The speaker describes a chain of loss in which reduced ritual participation leads to weakened emotional and moral cohesion, which in turn threatens the continuity of culture itself. Other participants connected this to the decline of ordination among young men, which they linked not only to generational change but also to migration and economic pressure. The weakening of ritual life was therefore experienced as part of a broader shift in what it meant to become and remain a socially recognised person within the village a shift in the conditions of personhood, not merely in patterns of religious practice.

This identity-level dimension of loss also appeared in individual narratives. One elder woman described the emotional state produced by cumulative hardship in terms of losing brightness, ease, and the visible signs of personhood:

“If we have nothing to live on and nothing to eat like this our hearts become disturbed, suffocated, our faces become joyless and our eyes cannot brighten.”

— IDI07, elder woman, Thakhamheuam village

This expression is especially important because it conveys the subjective register of cultural and social loss. It links material deprivation, emotional suffering, and diminished personhood in a way that standard measures of disaster damage cannot capture. Identity-level loss is not separate from ceremonial decline or social exclusion; it is their lived, internal consequence the way an external transformation of communal life is experienced from within a single body.

9. Discussion

9.1 Summary of key findings

This study examined the gendered dimensions of socio-cultural loss and damage associated with climate change in Savannakhet Province, Lao PDR, with particular attention to unpaid care and domestic work (UCDW), psychosocial well-being, SRHR, and the erosion of Indigenous, ethnic, and local knowledge (IEK). Across the six themes, the findings indicate that climate-related loss and damage in the study villages was experienced not only through damaged crops, livestock, houses, and infrastructure, but also through the disruption of seasonal predictability, care relations, reproductive health continuity, social reciprocity, ceremonial life, and intergenerational continuity. In this sense, the study supports a multidimensional understanding of climate loss and damage in which material losses and socio-cultural losses are tightly intertwined, consistent with broader work on non-economic loss and damage (NELD) that highlights harm to identity, place attachment, social cohesion, cultural practice, and psychosocial well-being (Tschakert et al., 2019; Warner & van der Geest, 2013).

Six substantive findings stand out. First, participants described a shift from a relatively legible seasonal order to a pattern of recurrent and overlapping climate extremes especially repeated flooding and dry-season water scarcity within a dual-hazard landscape in which flood and drought were paired, sequential pressures. Second, women particularly widows, grandmothers, and women in labour-poor households were carrying disproportionate and intensifying unpaid care burdens that operated as a hidden infrastructure of climate adaptation. Third, repeated disaster exposure had significant psychosocial consequences, articulated by participants through culturally specific idioms of distress such as “the heart trembling,” “the mind going round and round,” and “the nerves breaking.” Fourth, SRHR needs were acknowledged at the level of welfare pregnant women were consistently identified as a priority group yet rarely translated into reproductive health-specific provisions, leaving women visible as vulnerable subjects but largely invisible as rights-holders. Fifth, climate disruption, migration, marketisation, and ecological change were converging to weaken local knowledge systems in agriculture, weaving, medicinal practice, and reciprocal labour, in some domains approaching functional disappearance at village level. Sixth, participants described profound non-economic losses through the hollowing out of ceremonies, the rupture of evening sociability, and a form of poverty-mediated marginalisation within the village that may be described as “exclusion in place.”

Read together, these findings indicate that climate-related loss and damage in Savannakhet is best understood not as a tally of discrete impacts but as a cascading and stratified process. Climate shocks disrupt livelihoods; livelihood decline restructures care and migration; restructured care intensifies psychosocial and reproductive vulnerability; and these changes in turn weaken the knowledge systems and ceremonial institutions through which communities have historically absorbed stress. The losses are therefore sequenced rather than parallel, and the same intersectional axes such as older widows, female-headed households, grandmother caregivers, women living with absent or non-contributing husbands recur as the most exposed at every stage. This pattern is consistent with framings of climate disruption as a form of slow violence: not a single dramatic event, but a gradual and unevenly distributed reorganisation of the conditions under which everyday life is sustained (Tschakert et al., 2019; Warner & van der Geest, 2013).

9.2 Unpaid care work and climate disruption

The finding that climate change intensifies women's unpaid care and domestic work is strongly consistent with international evidence showing that climate shocks, resource stress, and service disruptions increase the time and labour required for care, food preparation, water management,

and household survival, while also deepening gender inequalities in paid work, political participation, and well-being. OECD analysis has shown that women's disproportionate unpaid care burden constrains labour outcomes and economic autonomy, while UN Women has explicitly identified a “climate–care nexus” in which environmental stress amplifies women's and girls' unpaid domestic, care, and communal labour (Ferrant et al., 2014; UN Women, 2022, 2023).

The Savannakhet findings extend this literature in three ways. First, they suggest that women's unpaid care labour functions in these communities as an unrecognised infrastructure of climate adaptation a hidden subsidy that absorbs the costs of disruption precisely where formal systems do not. Disaster preparation, food management, post-flood cleanup, care of dependents during and after shocks, and the everyday reproduction of household life under conditions of intensifying volatility are all sustained primarily through women's time. When these losses are tallied in economic terms, this subsidy disappears from view; when they are tallied in care-burden terms, it becomes the central story of how adaptation is being financed at household level.

Second, the study shows that care intensification is not experienced uniformly among “women” as a single category. The heaviest burdens fell on specific groups: widows, older women caring for grandchildren, women with absent or non-contributing husbands, and women responsible for children, older relatives, or disabled dependants in contexts of recurrent flooding and weak support systems. Female-headed households in particular faced what may be described as a triple jeopardy: they were among the poorest, they absorbed the full burden of disaster preparation and recovery without any male labour redistribution, and they carried long-term care for dependants without the labour or financial buffers available in better-resourced households. This supports intersectional analyses showing that climate impacts are mediated through age, marital status, household composition, labour availability, and poverty not gender alone. It also adds to emerging evidence that grandparent caregiving is becoming a critical, but under-recognised, mechanism through which labour migration redistributes care in rural households, producing a caregiver–dependent unit that current institutional categories of “elderly” and “children” do not yet recognise (Rao et al., 2020).

Third, the findings complicate dominant narratives about male withdrawal from care. In some households, especially in Dongyanong's elder men's group, men described greater participation in domestic tasks and emergency response. However, the data suggest a distinction between redistribution as event and intensification as process. Male labour expanded during the acute phase of floods guarding the house, moving possessions, transporting livestock but generally reverted to earlier patterns once the immediate danger passed. Women's labour, by contrast, expanded before, during, and after the flood, encompassing preparation, caregiving, food management, cleaning, and household recovery. The visible redistribution of disaster-response tasks therefore coexists with a much larger and less visible intensification of women's social reproduction. Where men's role change has occurred at all, it appears driven less by transformed gender norms than by demographic necessity, especially out-migration and labour shortage. Temporary or necessity-driven care sharing should not be equated with substantive gender equality. This aligns with critiques of gender and climate governance that caution against simplistic assumptions that women-focused interventions alone can transform household power relations without engaging men and broader social norms (Resurrección, 2013).

9.3 Psychosocial well-being as loss and damage

The psychosocial findings are consistent with the growing NELD literature, which increasingly recognises psychological harm as a core climate-related loss rather than a secondary by-product of material damage. Tschakert et al. (2019) identified a wide range of intangible climate-related

harms linked to fear, grief, social dislocation, and identity disruption. More recent systems-oriented work on climate change and mental health similarly argues that psychological suffering can be persistent, cumulative, and socially patterned, especially under repeated exposure to climate-related stressors (Hayward et al., 2021).

The Savannakhet findings add three important nuances. First, participants did not articulate distress primarily through biomedical vocabulary. They used culturally embedded idioms the “heart trembling,” the “mind going round and round,” the “strength of the heart exhausted,” the experience of “thinking too much” until the “nerves break” that capture forms of suffering for which clinical categories provide only partial translation. These idioms of distress are treated here as analytically primary rather than as folk approximations of depression or anxiety: they articulate locally meaningful ways of naming experience that any culturally responsive psychosocial response will need to engage on its own terms, not translate away. The implication for adaptation programming is significant. Generic mental-health screening tools are unlikely to register the specific configurations of fear, exhaustion, shame, and embodied disturbance that participants in this study described.

Second, the temporal pattern of psychosocial distress in flood-prone communities does not fit single-event models of disaster mental health. Women in Lambong described anticipatory fear beginning before the rainy season, intensifying as rain approached, and peaking during periods of rising water. Distress was therefore seasonal, cumulative, and closely tied to memory of previous events. Grief, especially after the 2019 flood, did not diminish with time but remained active and intertwined with ongoing poverty, insecurity, and caregiving burdens. Where material loss has not been recovered and the conditions that produced it persist, there is no “after” in which grief can resolve a temporal structure that is poorly accommodated by event-bounded trauma frameworks.

Third, the data support a relational understanding of psychosocial loss and damage one that treats emotional distress as inseparable from social obligations, economic insecurity, and cultural belonging. Fear was linked to women's responsibility for children and household survival; grief was entangled with unrecovered losses; shame was produced by inability to reciprocate in social and ritual life. The people carrying the heaviest practical burdens were also carrying the greatest anticipatory anxiety. Care work and psychological load are not separate experiences but two sides of the same gendered position. The near absence of formal mental health support in post-disaster response confirmed by one district health official's direct statement that “up to now, we have not done work related to mental health issues” is therefore a major governance gap. Lao PDR's Health National Adaptation Plan identifies several priority climate-sensitive health risks, including extreme weather events, water and sanitation-related risks, food insecurity, heat-related conditions, and vector-borne disease, but psychosocial well-being is not foregrounded as a major adaptation domain in the same way. This omission is striking given how prominently mental distress featured in participants' accounts (Lao PDR Ministry of Health, 2024/2025).

9.4 Sexual and reproductive health under climate-related disasters

Theme 4 of the findings makes visible a dimension of climate-related harm that is largely absent from the existing NELD discussion: the specific implications of repeated disasters for sexual and reproductive health and rights. Pregnant women were consistently named by respondents as a priority group requiring attention during floods. However, the forms of assistance described evacuation support, food relief, household supplies, basic health care were framed in general welfare terms rather than SRHR terms. Recognition therefore did not translate into reproductive health-specific provisions such as continuity of antenatal care, safe delivery planning, emergency referral pathways, contraception access, menstrual hygiene supplies, postnatal follow-up, or screening for gender-based violence.

This produces a distinctive pattern: women are visible as vulnerable subjects within emergency response but largely invisible as rights-holders within it. The gap between general health response and specific SRHR provision is not merely a service-delivery deficit; it is a conceptual gap. SRHR has not yet been integrated into local understandings of what climate-related response requires. Post-flood community visits exist, but they lack the SRHR lens that would convert them into entry points for continuity of reproductive care. Compensation mechanisms are absent, with direct implications for women's ability to absorb the additional out-of-pocket costs that pregnancy, delivery, and post-flood reproductive health care entail at precisely the moment household resources have been depleted. Household preparedness fills the gap, but in doing so it places the management of climate-related reproductive health risks on families which, given the gendered organisation of care, means on women themselves.

Two implications follow. First, SRHR vulnerability in this context is not a separate axis of risk but a further dimension of an already concentrated intersectional pattern. The women most likely to face SRHR access barriers during and after climate shocks widows, female-headed households, women living with non-contributing partners, women in cash-poor households are the same women identified across other themes as carrying the heaviest care burdens and greatest psychosocial load. Second, integrating SRHR into climate adaptation requires more than expanded service provision. It requires a conceptual relocation of SRHR from the implicit margin of “vulnerable groups” to an explicit element of climate-resilient health systems, with operational consequences for outreach design, financial protection, community mapping of pregnant women, and the integration of SRHR into local climate adaptation and disaster preparedness planning. This finding speaks directly to wider global calls for SRHR-responsive climate and humanitarian programming but extends them empirically by showing how the recognition gap operates at sub-district level in mainland Southeast Asia.

9.5 Erosion of Indigenous, ethnic, and local knowledge

The findings on the erosion of Indigenous, ethnic, and local knowledge are consistent with a wider body of work showing that knowledge systems are threatened both directly by climate change and indirectly by migration, marketisation, ecological degradation, and loss of knowledge-holders. UNESCO's *Weathering Uncertainty* highlighted the importance of traditional knowledge for climate assessment and adaptation, while more recent scholarship has documented how rapidly such knowledge can erode when relationships between people, territory, and practice are disrupted. Fernández-Llamazares et al. (2021) explicitly warned that Indigenous and local knowledge systems are under pervasive threat, with serious consequences for livelihoods, biodiversity stewardship, and cultural continuity (Fernández-Llamazares et al., 2021; Nakashima et al., 2012).

The Savannakhet data reinforce this argument and sharpen it in three ways. First, climate disruption is producing a form of epistemic loss that is distinct from the loss of knowledge-holders. Older ecological and agronomic knowledge has not simply disappeared; it has become harder to use because the environmental patterns it once interpreted are no longer stable. Knowledge of when the rains should come, where water will stand, and how the land will behave remains intact in many older participants, but the climatic signs it once read no longer reliably correspond to the conditions that follow. This is a paradox at the heart of climate adaptation in such settings: the same forces that intensify the need for locally grounded knowledge are eroding the conditions under which that knowledge functions.

Second, knowledge erosion in this context is often materially triggered, not only attitudinally driven. Weaving did not decline only because younger people were “not interested”; in Thakhamheum, the looms, reeds, heddles, and shuttles were physically swept away in the 2019 flood and were never replaced. Medicinal knowledge was not simply less used; it was lost when key healers died without fully trained successors and when the plants on which it

depended became less available. This points to a coupled social-and-ecological erosion in which the social transmission of knowledge and the ecological grounding of knowledge weaken together. Knowledge of this kind is best understood not as a stock that can be stored and retrieved but as a flow that depends on continued practice; when practice stops, the knowledge itself becomes harder to recover even from those who once held it.

Third, some forms of knowledge are not only eroding but approaching functional extinction at village level. This is important because it suggests that policy frameworks treating local knowledge as a standing resource available for adaptation may be overly optimistic in contexts where the social and ecological conditions of transmission have already been severely weakened (Fernández-Llamazares et al., 2021; Nakashima et al., 2012). At the same time, the findings caution against framing local knowledge only as loss. Participants also described active adaptive knowledge: raising houses, protecting rice stores, using boats and rafts, and reading flood conditions. The policy challenge is therefore dual: to protect threatened knowledge domains while also recognising and supporting knowledge that remains active in present-day adaptation.

9.6 Non-economic loss and cultural rupture

The findings are broadly consistent with the NELD literature, especially studies that highlight losses to identity, social cohesion, cultural practice, place attachment, and spiritual life. Warner and van der Geest (2013) showed that many serious losses experienced by climate-affected households are not easily expressed in monetary terms, while Tschakert et al. (2019) documented the breadth of climate-related intangible harms across diverse settings. The Savannakhet study contributes to this literature by showing how NELD is recognised and described locally. Participants repeatedly used the language of unity, solidarity, and the gathering of hearts to describe what had been weakened. This is theoretically important because it demonstrates that communities do not only experience social cohesion as an abstract analytic category; they articulate it in culturally specific moral language (Tschakert et al., 2019; Warner & van der Geest, 2013).

The study also highlights a form of poverty-mediated cultural marginalisation that may be described as “exclusion in place.” For the poorest women, especially widows and elderly caregivers climate-related livelihood decline translated into inability to contribute to ceremonies such as wrist-tying rituals, which in turn led to internalised shame, pre-emptive withdrawal, and reduced invitation by others. The pathway runs from material loss to symbolic exclusion within the village itself, without any physical displacement. This is a particularly important form of climate-related socio-cultural loss because it demonstrates that economic and non-economic loss are not separate spheres. Material insecurity directly undermines access to the ritual languages of belonging, and cultural exclusion deepens psychosocial suffering. Climate disruption in this sense does not flatten communities; it stratifies them more deeply. This linkage deserves more explicit attention in NELD scholarship, which has often catalogued categories of loss without sufficiently showing how they interact in everyday life (Tschakert et al., 2019).

A further analytic point concerns participants' own theory of cultural continuity. In Dongyanong especially, elders articulated a local model in which the temple, merit-making, and solidarity are mutually constitutive: the temple is the “gathering place of the hearts of the people,” and shared ritual is what produces and sustains unity. In this formulation, solidarity is not a stable resource but an outcome of repeated ceremonial activity, which means that when ceremonial activity declines through poverty, migration, repeated floods, or state discouragement of costly rituals solidarity declines with it. This is an emic theory of socio-cultural reproduction that NELD scholarship and adaptation programming can usefully engage

with, rather than translate into more familiar but less precise vocabularies of “social capital” or “community resilience.”

9.7 Governance gaps and the recognition problem

A major implication of the study is that current governance systems are not well configured to recognise or respond to the social and cultural dimensions of climate harm. This is broadly consistent with critiques of climate governance which argue that policy commitments to gender mainstreaming and social inclusion often remain operationally thin. Resurrección (2013) showed how climate policy frequently relies on reductive “women and environment” framings that either naturalise women as vulnerable or instrumentalise them as agents of adaptation without addressing underlying power relations. The Savannakhet findings reflect this tension: women are central to disaster response and household resilience, but unpaid care, psychosocial distress, SRHR access, ceremonial loss, and local knowledge erosion remain largely invisible within formal assessment and response systems.

Lao PDR's 2021 updated NDC, 2025 National Adaptation Plan, and Health National Adaptation Plan provide an important institutional basis for climate resilience planning. However, the formal adaptation architecture still appears to focus primarily on sectoral and infrastructural risks. The NDC and NAP recognise adaptation across sectors, while the H-NAP prioritises climate-sensitive health risks such as extreme weather impacts, WASH, food insecurity, and vector-borne disease. None of these policy documents, however, appears to operationalise unpaid care work, SRHR continuity, psychosocial harm, ceremonial disruption, or social cohesion as adaptation concerns in their own right. The gap between what communities identify as central forms of climate harm and what official systems are designed to measure and address is therefore not only a gap of capacity or resources; it is a gap of recognition a structural mismatch between the categories of loss that participants in this study experienced as most central and the categories through which formal response is organised (Lao PDR, 2021, 2025; Lao PDR Ministry of Health, 2024/2025).

At the same time, the study found considerable community adaptive capacity. Villagers had developed practical preparedness strategies, reciprocal kin support, and context-specific knowledge for living with recurrent floods. This aligns with broader literature showing that local and Indigenous communities often sustain highly effective place-based adaptation practices that are insufficiently recognised by formal institutions. The problem, then, is not lack of local resilience. It is that existing governance systems neither measure nor systematically support the dimensions of resilience that matter most for care, reproductive health, culture, and social continuity (Nakashima et al., 2012).

9.8 Theoretical implications

This study contributes to the NELD literature in four ways. First, it provides a detailed case from mainland Southeast Asia, a region still underrepresented in discussions often shaped by Pacific, African, and Latin American examples. Second, it shows empirically that unpaid care work is not merely adjacent to socio-cultural loss and damage; it is one of the mechanisms through which such loss is produced and distributed. When women's time is absorbed by expanded care burdens, their capacity to participate in ceremonies, teach grandchildren, sustain reciprocal relations, and maintain social presence is reduced. Conversely, when social cohesion, mutual aid, and local knowledge weaken, the labour of household survival falls even more heavily on caregivers. The relationship between care and culture under climate stress is therefore recursive rather than additive (Tschakert et al., 2019; UN Women, 2023).

Third, the study suggests that the relationships between dimensions of NELD are best understood as cascading rather than parallel. The findings can be read as a sequence: livelihood

disruption restructures care arrangements and migration; restructured care intensifies psychosocial load and reproductive vulnerability; livelihood decline and migration interrupt the transmission of local knowledge; and the weakening of communal labour and knowledge systems produces ceremonial exclusion and identity-level loss. Each stage compounds the next, and the same households reappear as the most exposed across every stage. This cascading and stratified structure is a useful analytic frame for future NELD research, which has often presented categories of loss in parallel rather than tracing their relations.

Fourth, the study adds to feminist political ecology by showing that care is not only a private domestic matter, but a central component of climate resilience and socio-cultural continuity. Women's unpaid labour functions as an unrecognised infrastructure of adaptation absorbing the costs of disruption precisely where formal systems do not, and producing the social conditions under which ritual life, knowledge transmission, and intergenerational continuity have historically been sustained. This supports wider feminist arguments that environmental change must be analysed through power, labour, embodiment, and social reproduction rather than through resource scarcity alone. It also suggests that climate adaptation research should treat care ethics and social reproduction as analytically central to loss and damage rather than as a specialized subtheme (Resurrección, 2013; Sultana, 2014).

9.9 Policy implications, contribution to knowledge, and limitations

The policy implications are immediate. At national level, future revisions to Lao PDR's adaptation architecture could be strengthened by incorporating indicators that make visible dimensions of harm currently overlooked: climate-related changes in unpaid care work; psychosocial distress after repeated disaster; SRHR access during and after climate shocks; disruptions to ceremonies and social cohesion; and the status of local knowledge systems. At sub-national level, vulnerability mapping should better distinguish labour-poor, female-headed, elderly-caregiver, and disability-care households, because these groups carried disproportionate burdens in the study villages, and should treat the caregiver-dependent unit (an older grandparent caring for one or more young children) as a category of vulnerability in its own right rather than disaggregating it into separate categories of “elderly” and “children.” Mental health and psychosocial support should be integrated into disaster preparedness and recovery through community-based approaches that are culturally legible and engage local idioms of distress rather than relying on imported clinical frameworks. SRHR should be explicitly integrated into climate adaptation and disaster response systems, moving beyond welfare-framed protection of pregnant women toward operational provisions for continuity of reproductive care during and after climate shocks. Official recognition and documentation of local knowledge especially medicinal, craft, and ritual knowledge at risk of disappearance should be treated as an adaptation priority, not only as cultural preservation, and supported with the material conditions (tools, raw materials, spaces, time) on which transmission depends. These implications are consistent with global calls to close the NELD knowledge gap and better integrate cultural heritage, local knowledge, mental well-being, and SRHR into adaptation planning (IIED, 2023; UN Women, 2023). More specifically, Lao PDR's current adaptation architecture the National Adaptation Plan (NAP), Nationally Determined Contribution (NDC), and National Socio-Economic Development Plan (NSDP) does not yet contain indicators for unpaid care intensification, psychosocial distress, SRHR access during climate shocks, ceremonial and social disruption, or IEK erosion; the gap this study identifies between what communities name as central harms and what official systems measure is therefore not only conceptual but literally reflected in the absence of these dimensions from the three instruments that currently define Lao PDR's national climate response.

In terms of contribution, the study offers an empirically rich, community-grounded account of socio-cultural loss and damage in Lao PDR and demonstrates the value of integrating care,

knowledge, reproductive health, and ceremony into climate-loss analysis. Methodologically, it shows that qualitative, community-based approaches are essential for identifying losses that standard disaster accounting misses, and that participants' own conceptual vocabularies from idioms of distress to local theories of solidarity are analytically generative rather than merely illustrative. Theoretically, it argues for a stronger integration of unpaid care, social reproduction, and SRHR into NELD scholarship, and for an analytic frame that treats climate-related losses as cascading and stratified rather than parallel and discrete.

Several limitations should be acknowledged. As a qualitative study, the findings support analytical rather than statistical generalisation. The single most significant limitation of this study is its ethnic composition: 99.1% of participants (100% of IDI and KII participants specifically) were of Lao Loum ethnicity, despite site selection being partly framed around the province's social and cultural diversity (Section 7.3). This was a consequence of village-level rather than ethnicity-stratified sampling within the two selected districts (see Section 7.3 for the research team's account of how this arose) and it fundamentally limits the extent to which the study can speak to the experiences of other ethnic groups in the province, including Phouthai, Brou, Katang, and Mangkong communities whose distinct IEK systems and socio-cultural loss experiences merit dedicated, ethnicity-stratified investigation. This limitation applies with particular force to the study's IEK findings (Theme 5), which should be read as documenting Lao Loum knowledge systems specifically rather than the province's Indigenous and ethnic knowledge base as a whole. Adolescent girls were comparatively less represented in the in-depth interviews than older women, leaving a gap in understanding of gendered intergenerational dynamics under climate stress. Retrospective accounts of the 2019 flood may be shaped by recall and subsequent experience, and translation across Lao and local expressions into English inevitably risks flattening culturally specific concepts a particular concern for the idioms of distress analysed and the moral vocabularies analysed. Two further limitations should be noted. Persons with disabilities and older or chronically ill dependants appear throughout the findings as objects of others' care (for example, “caring for a grandchild with disabilities”) rather than as direct research participants in their own right; their own experience of climate impacts, and any SRHR needs they may have, was not captured by this study's sampling frame and should be a priority for dedicated future research. Similarly, gender-based violence (GBV) is documented in this report only as an absence in formal service provision (Theme 4); the qualitative data collected did not set out to explore GBV as a lived experience, such as intra-household tension, dependency, or violence risk during displacement and disaster response, and this should not be read as evidence that such experiences are absent. These limitations do not weaken the central findings, but they do indicate clear priorities for future research.

10. Conclusion

This study provides a community-grounded analysis of socio-cultural loss and damage associated with climate change in Savannakhet Province, Lao PDR, with particular attention to unpaid care and domestic work, psychosocial well-being, sexual and reproductive health and rights, and the erosion of Indigenous, ethnic, and local knowledge. The findings show that climate change in these communities is not experienced only as an environmental or economic crisis. It is also a deeply social, cultural, and gendered process that is reshaping livelihoods, care relations, reproductive health, social cohesion, ceremonial life, and intergenerational continuity.

Across the study sites, recurrent and intensifying climate hazards especially the combined pattern of flooding and drought within a dual-hazard landscape have disrupted agricultural livelihoods, reduced food security, and accelerated youth out-migration. These changes have not been socially neutral. They have disproportionately increased the burden of unpaid care

and domestic work for women, particularly widows, older women, and grandmothers caring for multiple dependants in labour-poor households. Women's care labour has functioned as a hidden infrastructure of climate adaptation, absorbing the costs of disruption precisely where formal systems do not. The resulting time poverty, physical strain, emotional exhaustion, and psychosocial distress articulated by participants through culturally specific idioms such as the “heart trembling” and the “nerves breaking” emerged as central dimensions of climate harm. Reproductive health needs intersected with these patterns to produce a distinctive form of vulnerability in which pregnant women and women with SRHR needs were visible as a welfare category but largely invisible as rights-holders within disaster response.

At the same time, the study documents the weakening of Indigenous, ethnic, and local knowledge systems that once supported farming, healing, craft production, and communal reciprocity. In some domains particularly weaving, mat-making, and herbal medicine these systems are not only under pressure but approaching functional disappearance at village level, eroded together with the ecological resources and social spaces that once sustained them. The collapse of communal labour exchange, the hollowing out of the ceremonial calendar, and a form of poverty-mediated marginalisation within the village that may be described as “exclusion in place” together represent profound non-economic losses that cannot be captured through conventional measures of climate damage alone. These losses matter because they affect not only how people survive, but also how they care, belong, remember, and sustain community life.

Read across themes, three integrative observations stand out. First, climate-related losses in this context accumulate rather than substitute: each dimension of loss compounds and intensifies the next, in a sequence that moves from livelihood disruption through care and psychosocial load into reproductive vulnerability, knowledge erosion, and cultural rupture. Second, the same intersectional axes such as older widows, female-headed households, grandmother caregivers, women living with absent or non-contributing partners recur as the most exposed at every stage; climate disruption stratifies communities more deeply rather than affecting them uniformly. Third, the most pervasive gap in current governance is a recognition gap. The dimensions of harm that participants experienced as most central care intensification, idioms of distress, SRHR access, knowledge erosion, ceremonial exclusion, identity-level rupture remain largely outside the categories through which formal monitoring, planning, and response are organised.

Importantly, the findings also show that communities are not passive recipients of climate risk. Participants described a range of practical and locally grounded adaptive strategies, reflecting considerable knowledge, ingenuity, and collective effort. However, these capacities are being stretched by repeated shocks and are not adequately recognised or supported by current governance systems. Overall, this study argues that climate adaptation and disaster risk reduction in Lao PDR must move beyond a narrow focus on infrastructure and economic recovery. Policies and programmes need to recognise unpaid care work, psychosocial well-being, reproductive health continuity, social cohesion, ceremonial life, and local knowledge as core dimensions of climate-related loss and damage. Doing so is essential not only for more gender-responsive and culturally grounded policy, but also for more just and effective adaptation.

11. Recommendations

The following recommendations are grounded directly in the study's findings and are organised thematically. They are directed at relevant implementing actors at national, provincial, district, and community levels. They reflect the study's central analytic claim that closing the gap between climate-affected communities' experience of loss and the categories through which

response is organised requires both expanded services and a broader conceptual recognition of what counts as loss in the first place.

11.1 Strengthen gender-responsive climate and disaster risk reduction policies

Priority: Medium-term (aligned with the next NAP/NDC/NSDP revision cycle)

- **Integrate unpaid care and domestic work into climate policy.** Build the recognition of UCDW into the National Adaptation Plan, NDC, and DRR strategies, including the use of gender-disaggregated time-use data to monitor how climate disruption is reshaping the daily allocation of women's, men's, and older caregivers' time.
- **Recognise the caregiver-dependent unit as a category of vulnerability.** Develop targeted social protection mechanisms for households organised around this unit particularly older women caring for grandchildren whose parents have migrated for work, widows caring for grandchildren with disabilities, and female-headed households managing chronically ill dependants rather than disaggregating them into separate categories of “elderly” and “children.”
- **Adopt gender-transformative rather than gender-targeted approaches.** Engage both women and men to address unequal power relations at household and community levels, recognizing that necessity-driven role change under labour shortage should not be mistaken for substantive normative change, and that programmes for women cannot succeed without engaging men's attitudes and practices.

11.2 Incorporate socio-cultural loss and damage into monitoring systems

Priority: Medium-term (next monitoring-framework revision)

- **Develop and institutionalise NELD indicators.** Build indicators for ceremonial disruption, psychosocial well-being, social cohesion, IEK erosion, SRHR access during and after climate shocks, and place attachment, for integration into provincial disaster impact reports and adaptation monitoring.
- **Expand disaster assessment frameworks.** Move beyond economic losses to capture socio-cultural and mental health dimensions, including “exclusion in place” the loss of access to ceremonial and ritual life through poverty-mediated marginalization within the community.
- **Build capacity of local authorities.** Train district and village officials to recognise, document, and report these dimensions in planning processes, and to engage participants' own conceptual vocabularies (idioms of distress, local theories of solidarity, locally named ceremonies) as analytically meaningful rather than as anecdotal.

11.3 Address mental health and psychosocial needs

Priority: Immediate (integrate into the next disaster-response cycle)

- **Integrate MHPSS into climate adaptation and disaster response.** Embed mental health and psychosocial support into community-level adaptation and disaster response programmes, with explicit attention to the seasonal, anticipatory pattern of distress described by women in flood-prone villages not only acute post-event support.
- **Train village health volunteers in culturally grounded screening.** Develop screening and response approaches that engage local idioms of distress “the heart trembling,” “the mind going round and round,” “the strength of the heart exhausted,” “the nerves breaking” rather than relying on translated clinical instruments that may miss the specific configurations of fear, exhaustion, and shame these idioms name.

- **Establish referral pathways.** Build referral systems for vulnerable populations to district-level mental health services, with particular attention to widows and older caregivers, whose isolation and prolonged grief featured prominently in the data.

11.4 Integrate SRHR into climate and disaster response

Priority: Immediate (safety-critical; integrate before the next flood season)

- **Operationalise SRHR-specific provisions in disaster response.** Move beyond welfare-framed recognition of pregnant women toward operational SRHR provisions: continuity of antenatal care, safe delivery planning, emergency referral pathways, contraception access, menstrual hygiene supplies, postnatal follow-up, and GBV screening.
- **Use existing post-flood outreach as SRHR entry point.** Equip existing post-flood community health visits with an explicit SRHR component, including antenatal check-ins for displaced pregnant women, postnatal home visits, contraception resupply, and protection referral.
- **Build SRHR-responsive preparedness at village level.** Support community mapping of pregnant women before flood seasons, pre-arranged transport for delivery, referral agreements with health facilities, safe delivery contingency plans, and reproductive health supply planning.

11.5 Protect and Revitalise Indigenous, Ethnic, and Local Knowledge Systems

Priority: Immediate — the most time-sensitive set of recommendations in this report

- **[TIME-CRITICAL] URGENT — Urgently document endangered IEK systems.** Document traditional agricultural practices, medicinal knowledge, ecological calendars, weaving and mat-making techniques, and craft traditions before remaining elder knowledge-holders are lost. This is the most time-sensitive recommendation in this report: in some domains, the knowledge is already approaching functional extinction at village level.
- **Support the material conditions of transmission, not only the knowledge itself.** Knowledge of weaving, mat-making, and similar crafts depends on tools, raw materials, and shared time. Replacing looms, reeds, heddles, and shuttles lost in the 2019 flood, and supporting the social spaces in which transmission has historically occurred, is as important as documentation.
- **Promote intergenerational knowledge transmission.** Support community-based learning, revitalisation of communal labour practices, and integration of IEK into primary school curricula recognising that without practice, knowledge becomes a stock that erodes rather than a flow that continues.
- **Incorporate IEK into formal extension services.** Integrate locally grounded knowledge into agricultural extension and adaptation strategies, while remaining attentive to the epistemic dimension of climate-related knowledge loss: some inherited predictive knowledge no longer reliably maps onto current environmental conditions, and adaptation programming should support the active reworking of knowledge as well as its preservation.

11.6 Enhance community-based and inclusive adaptation

Priority: Medium-term

- **Formally recognise and resource community adaptive practices.** Resource early warning systems, household preparedness strategies, kinship-based solidarity, and

existing communal labour practices, rather than treating communities as passive aid recipients.

- **Respect spiritual and cultural protocols in any resettlement planning.** Incorporate guardian spirit consultation and site preparation into resettlement processes, and allow communities adequate time a minimum of one agricultural cycle for spiritual site preparation before any relocation is expected.
- **Give women's preparedness committees formal decision-making authority.** Ensure that women's disaster preparedness committees have binding decision-making authority at village level, not merely consultative participation, particularly in relation to the protection of female-headed households and caregiver-dependent units.

11.7 Improve equity and targeting in disaster response

Priority: Immediate (ahead of the next flood season)

- **Establish village-level vulnerability mapping.** Conduct vulnerability mapping with Lao Women's Union representatives and community health volunteers to identify and register the most at-risk households before each flood season, including widowed elderly caregivers, female-headed households, households with disabled or chronically ill dependants, and pregnant women.
- **Redesign assistance distribution.** Prioritise pre-identified vulnerable households rather than uniform allocation, recognising that uniform distribution leaves the triple jeopardy of female-headed households unaddressed.
- **Expand social protection.** Extend coverage to address climate-induced care burdens and livelihood loss, with specific pathways for widowed elderly caregivers managing disabled or chronically ill dependants, and for women trapped in immobility by care responsibilities while household members migrate for wage labour.

11.8 Strengthen research and evidence systems

Priority: Long-term (embed in the next research programming cycle)

- **Extend research to ethnic minority communities.** Conduct dedicated research in Phouthai, Brou, Katang, and Mangkong communities in Savannakhet, whose distinct IEK systems and socio-cultural loss experiences were not captured in this study.
- **Centre adolescent girls in follow-on studies.** Include adolescent girls as primary research participants to address a critical gap in understanding gendered intergenerational dynamics, particularly given the role of younger women in the migration and knowledge-transmission patterns documented here.
- **Conduct longitudinal research.** Track the trajectory of IEK erosion, psychosocial recovery, reproductive health outcomes, and ceremonial decline over time, in order to establish causal relationships between climate events and socio-cultural harms that cross-sectional research cannot fully capture.
- **Develop methodologies for cascading loss.** Build research approaches capable of tracing the sequential, cascading relationships between dimensions of climate-related loss from livelihood disruption to care intensification, psychosocial load, reproductive vulnerability, knowledge erosion, and cultural rupture rather than analysing these dimensions in isolation.

References

- Asian Development Bank. (2023). Climate change and health in Lao PDR: Vulnerabilities, projections, and adaptation responses. Asian Development Bank.
- Aswani, S., Lemahieu, A., & Sauer, W. H. H. (2018). Global trends of local ecological knowledge and future implications. *PLOS ONE*, 13(4), e0195440. <https://doi.org/10.1371/journal.pone.0195440>
- Barnett, J., Tschakert, P., Head, L., & Adger, W. N. (2016). A science of loss. *Nature Climate Change*, 6(11), 976–978. <https://doi.org/10.1038/nclimate3140>
- Bharadwaj, R., Mitchell, T., & Huq, S. (2023). *Non-economic loss and damage: Closing the knowledge gap* (IIED Briefing). International Institute for Environment and Development. <https://www.iied.org/21311iied>
- Boyd, E., James, R. A., Jones, R. G., Young, H. R., & Otto, F. E. L. (2017). A typology of loss and damage perspectives. *Nature Climate Change*, 7(10), 723–729. <https://doi.org/10.1038/nclimate3389>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101.
- Braun, V., & Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qualitative Research in Sport, Exercise and Health*, 11(4), 589–597.
- Caorsi, V., Molinari, P., & Rusconi, G. (2020). *Gender and agriculture in Lao PDR: Emerging issues*. Oxfam Research Report.
- Convention on Biological Diversity (CBD). (2022). Kunming–Montreal Global Biodiversity Framework.
- Cornwall, A., & Jewkes, R. (1995). What is participatory research? *Social Science & Medicine*, 41(12), 1667–1676.
- Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five approaches* (4th ed.). SAGE.
- Fernández-Llamazares, Á., Lepofsky, D., Lertzman, K., Armstrong, C. G., Brondizio, E. S., Gavin, M. C., Lyver, P. O'B., Nicholas, G. P., Pascua, P., Reo, N. J., Reyes-García, V., Turner, N. J., Yletyinen, J., Anderson, E. N., Balée, W., Cariño, J., David-Chavez, D. M., Dunn, C. P., Garnett, S. C., ... Vaughan, M. B. (2021). Scientists' warning to humanity on threats to Indigenous and local knowledge systems. *Journal of Ethnobiology*, 41(2), 144–169. <https://doi.org/10.2993/0278-0771-41.2.144>
- Ferrant, G., Pesando, L. M., & Nowacka, K. (2014). *Unpaid care work: The missing link in the analysis of gender gaps in labour outcomes*. OECD Development Centre. https://www.oecd.org/dev/development-gender/Unpaid_care_work.pdf
- Goh, A. H. (2012). *A literature review of the gender-differentiated impacts of climate change on women's and men's assets and well-being in developing countries* (CAPRI Working Paper No. 106). International Food Policy Research Institute.
- Government of Lao PDR. (2021). National adaptation plan 2021–2030. Ministry of Natural Resources and Environment.
- Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough? An experiment with data saturation and variability. *Field Methods*, 18(1), 59–82.
- Hayes, K., Blashki, G., Wiseman, J., Burke, S., & Reifels, L. (2018). Climate change and mental health: Risks, impacts and priority actions. *International Journal of Mental Health Systems*, 12, 28. <https://doi.org/10.1186/s13033-018-0210-6>
- Hayward, G., West, S., Nevot, C., van den Heuvel, C., Croeser, T., Vardy, J., & Matthews, V. (2021). A systems approach to understand climate change and mental health in rural and remote communities in Australia. *Climatic Change*, 166, Article 3.
- Hiwasaki, L., Luna, E., Syamsidik, & Marçal, J. A. (2015). Local and indigenous knowledge on climate-related hazards of coastal and small island communities in Southeast Asia. *Climatic Change*, 128, 35–56. <https://doi.org/10.1007/s10584-014-1288-8>

- Hennink, M., & Kaiser, B. N. (2022). Sample sizes for saturation in qualitative research: A systematic review of empirical tests. *Social Science & Medicine*, 292, 114523.
- Intergovernmental Panel on Climate Change (IPCC). (2022). *Climate change 2022: Impacts, adaptation and vulnerability*. Cambridge University Press.
- International Development Research Centre. (2024). *Recognizing women's unpaid care work for food security and climate resilience*. IDRC.
- Kvale, S., & Brinkmann, S. (2015). *InterViews: Learning the craft of qualitative research interviewing* (3rd ed.). SAGE.
- Lao PDR Ministry of Health. (2024). *Health National Adaptation Plan (H-NAP)*. Ministry of Health, Vientiane.
- Lao PDR. (2021). *Nationally Determined Contribution (updated)*. Government of the Lao People's Democratic Republic, submitted to the United Nations Framework Convention on Climate Change, April 2021.
- Lao PDR. (2025). *National Adaptation Plan*. Ministry of Natural Resources and Environment, Vientiane.
- Lao People's Democratic Republic Ministry of Health. (2024/2025). *Health national adaptation plan for building climate resilient health systems in Lao People's Democratic Republic, 2025–2030*. WHO / Ministry of Health.
- Lao People's Democratic Republic. (2025). *National adaptation plan*. UNFCCC.
- Mahon, R., Robinson, M., & Anttonen, A. (2019). Care regimes in transition: Nordic and international perspectives. *Social Politics: International Studies in Gender, State & Society*, 26(4), 497–509.
- McNamara, K. E., & Jackson, G. (2019). Loss and damage: A review of the literature and directions for future research. *WIREs Climate Change*, 10(2), e564. <https://doi.org/10.1002/wcc.564>
- Miles, M. B., Huberman, A. M., & Saldaña, J. (2020). *Qualitative data analysis: A methods sourcebook* (4th ed.). SAGE.
- Ministry of Natural Resources and Environment, Lao PDR. (2021). *Updated nationally determined contribution (NDC)*. Government of Lao PDR.
- Morgan, D. L. (1997). *Focus groups as qualitative research* (2nd ed.). SAGE.
- Nakashima, D. J., Galloway McLean, K., Thulstrup, H. D., Ramos Castillo, A., & Rubis, J. T. (2012). *Weathering uncertainty: Traditional knowledge for climate change assessment and adaptation*. UNESCO / UNU.
- ND-GAIN. (2023). *ND-GAIN country index rankings*. University of Notre Dame.
- OECD. (2025). *Gender equality in a changing world: Persistent gender gaps in paid and unpaid work*.
- Patton, M. Q. (2015). *Qualitative research & evaluation methods* (4th ed.). SAGE.
- Petzold, J., Andrews, N., Ford, J. D., Hedemann, C., & Postigo, J. C. (2020). Indigenous knowledge on climate change adaptation: A global evidence map of academic literature. *Environmental Research Letters*, 15(11), 113007. <https://doi.org/10.1088/1748-9326/abb330>
- Pham, T. T., Viet, T. D., Campbell, B. M., & Nguyen, T. Q. (2017). Gender and forest-based livelihoods in Vietnam: Critical review and way forward. *International Forestry Review*, 19(S1), 26–39. <https://doi.org/10.1505/146554817820888603>
- Phanthanousy, B., Keophilavong, B., & Simma, A. (2022). Women and climate-sensitive livelihoods in Lao PDR: Evidence from smallholder agriculture. *Lao Journal of Agriculture and Forestry*, 45(3), 12–28.
- Rao, N., Singh, C., Solomon, D., Camfield, L., Sidiki, R., Angula, M., Poonacha, P., Sidibé, A., & Lawson, E. T. (2020). Managing risk, changing aspirations and household dynamics: Implications for wellbeing and adaptation in semi-arid Africa and India. *World Development*, 125, 104667. <https://doi.org/10.1016/j.worlddev.2019.104667>

- Resurrección, B. P. (2013). Persistent women and environment linkages in climate change and sustainable development agendas. *Women's Studies International Forum*, 40, 33–43. <https://doi.org/10.1016/j.wsif.2013.03.011>
- Reyes-García, V., Fernández-Llamazares, Á., McElwee, P., Molnár, Z., Öllerer, K., Wilson, S. J., & Brondizio, E. S. (2019). The contributions of Indigenous peoples and local communities to ecological restoration. *Restoration Ecology*, 27(1), 3–8. <https://doi.org/10.1111/rec.12894>
- Ritchie, J., Lewis, J., McNaughton Nicholls, C., & Ormston, R. (Eds.). (2014). *Qualitative research practice: A guide for social science students and researchers* (2nd ed.). SAGE.
- Serdeczny, O., Waters, E., & Chan, S. (2016). Non-economic loss and damage in the context of climate change: Understanding the challenges. German Development Institute / Deutsches Institut für Entwicklungspolitik.
- SNV Netherlands Development Organisation. (2024). *Climate-resilient WASH in Savannakhet Province: Programme progress report 2023–2024*.
- Sultana, F. (2014). Gendering climate change: Geographical insights. *The Professional Geographer*, 66(3), 372–381. <https://doi.org/10.1080/00330124.2013.821730>
- Tschakert, P., Ellis, N. R., Anderson, C., Kelly, A., & Obeng, J. (2019). One thousand ways to experience loss: A systematic analysis of climate-related intangible harm from around the world. *Global Environmental Change*, 55, 58–72. <https://doi.org/10.1016/j.gloenvcha.2018.11.006>
- UN Women. (2022). *A toolkit on paid and unpaid care work: From 3Rs to 5Rs*.
- UN Women. (2023). *The climate–care nexus: Addressing the linkages between climate change and women's and girls' unpaid care, domestic and communal work*.
- UN Women. (2023a). *Feminist climate justice: A framework for action*. UN Women, New York. https://www.unwomen.org/sites/default/files/2023-12/feminist_climate_justice.pdf
- UN Women. (2023b). *The climate–care nexus: Addressing the linkages between climate change and women's and girls' unpaid care, domestic, and communal work* (Working paper). UN Women, New York. <https://www.unwomen.org/en/digital-library/publications/2023/11/working-paper-the-climate-care-nexus-addressing-the-linkages-between-climate-change-and-womens-and-girls-unpaid-care-domestic-and-communal-work>
- UNDP Lao PDR. (2024). *National climate forum 2024*.
- UNFCCC. (2013). *Warsaw International Mechanism for Loss and Damage associated with Climate Change Impacts*.
- UNFCCC. (2022). *Decision to establish new funding arrangements and a fund for responding to loss and damage*.
- UNFPA. (2020). *Demographic change for development: Lao People's Democratic Republic 2030*.
- United Nations Lao PDR. (2024). *Opening remarks at Lao PDR national consultation on valuing unpaid care and domestic work*. United Nations Lao PDR.
- Viner, K., Perkins, P., McNamara, K. E., & Tschakert, P. (2020). Supporting Pacific Island countries in loss and damage from climate change. *Regional Environmental Change*, 20(2), 1–11. <https://doi.org/10.1007/s10113-020-01594-4>
- Warner, K., & van der Geest, K. (2013). Loss and damage from climate change: Local-level evidence from nine vulnerable countries. *International Journal of Global Warming*, 5(4), 367–386. <https://doi.org/10.1504/IJGW.2013.057289>
- Wodon, Q., & De la Brière, B. (2018). *Unrealized potential: The high cost of gender inequality in earnings*. World Bank.
- World Bank. (2023). *Resilient and low carbon agriculture in Lao PDR*.
- World Bank. (2024/2026). *Lao PDR country climate and development report*.

Annex 1 Interview guide

PARTICIPANT INFORMATION SHEETS For FGD

Study title:

Climate Change, Unpaid Care Work, and Socio-Cultural Loss in Savannakhet Province, Lao PDR

Why is this study being done?

We are conducting this study to understand how climate change (such as floods, droughts, and heat) affects women's daily lives, unpaid care work, health, and cultural practices in the community.

Why have you been invited?

You are invited because you are an adult woman living in this community and have experience with household and care responsibilities.

What will participation involve?

- Joining a group discussion with 6–8 people
- The discussion will last about 90–120 minutes
- Topics include daily work, care responsibilities, climate impacts, traditions, and community support
- With your permission, the discussion will be audio-recorded

Is participation voluntary?

Yes. Participation is completely voluntary. You may refuse to answer any question or leave the discussion at any time without any negative consequences.

Are there any risks or discomforts?

Some questions may bring up difficult memories or emotions. You may pause, skip questions, or stop at any time. Support or referral information will be provided if needed.

Are there any benefits?

There is no direct payment. Your experiences will help inform future policies and programmes that better support women and communities affected by climate change.

Confidentiality

Your name will not be recorded. Everything you say will be kept confidential and used only for research purposes.

Contact information

If you have questions, you may contact the research team Dr. Souksamone Thongmixay, Tel +8562022080880.

CONSENT FORM – FOCUS GROUP DISCUSSION (FGD)

Study Title: Climate Change, Unpaid Care Work, and Socio-Cultural Loss

Please read this form carefully, or have it read to you.

If you agree, please tick (✓) or mark each box.

- ☐ I confirm that I have received clear information about this study and understand its purpose, procedures, and duration.
- ☐ I understand that my participation in this Focus Group Discussion is entirely voluntary.
- ☐ I understand that I may refuse to answer any question, take a break, or withdraw from the discussion at any time, without any penalty or negative consequences.
- ☐ I understand that some questions may involve personal experiences or emotions, and I may choose not to discuss anything that makes me uncomfortable.
- ☐ I give permission for this discussion to be audio-recorded for research purposes. I understand that recordings will be securely stored and used only by the research team.
- ☐ I understand that my name and personal identity will not be recorded or shared, and that all information will be treated confidentially and reported in a way that does not identify me.
- ☐ I understand that there is no payment for participation, and that there are no direct benefits, but that my experiences may help improve future policies and programmes.
- ☐ I have had the opportunity to ask questions, and all my questions have been answered satisfactorily.

Statement of Consent

I freely agree to participate in this Focus Group Discussion.

Participant name or code: _____

Signature or Thumbprint: _____

Researcher name: _____

Signature: _____

Date: _____

Focus Group Discussion (FGD) Interview Guides

Study theme: Climate change, unpaid care work, socio-cultural loss and Indigenous adaptation

Location: Savannakhet Province, Lao PDR

Group size: 6–8 participants

Duration: 90–120 minutes

Approach: Semi-structured, participatory, gender- and age-sensitive

Village:

District

FGD 1: Adult Women

Framework focus: Feminisation of care burdens; non-economic loss; gendered power; rights to wellbeing

1. Introduction and ground rules

- Purpose of discussion; voluntary participation; confidentiality.
- No right or wrong answers; speak from personal experience.
- We are interested in understanding everyday experiences and perspectives. There are no right or wrong answers. What you share will not affect any services, assistance, or relationships with village or district authorities. You may choose not to answer any question and may leave the discussion at any time.

Icebreaker

Please introduce yourself and share one daily task you do for your family or community.

No	Variable	P1	P2	P3	P4	P5	P6
1	Sex / Gender						
2	Age (years)						
3	Marital status						
5	Education level						
6	Main occupation						
7	Ethnicity						
8	Household role						
9	One daily task you usually do for family or community						
10	Length of residence (Years)						
11	Secondary occupation (if any)						
12	Monthly household income (optional)						
13	Household size (Persons)						

2. Climate and environmental change

1. Over the past 10–20 years, what changes have you noticed in the climate or environment (floods, droughts, heat, storms)?
2. Which events were most damaging (flood, drought, heat, water scarcity)?

3. How have these changes affected daily life, farming, and community activities?

Probes

- Seasonal changes
- Crop failure, water shortages, illness

3. Gender Unpaid care and domestic work

1. Can you describe a typical day for you now? How is it different from the past?
2. How have climate events changed:
 - Water and fuel collection? Most of the water collection, fuel gathering, cooking, childcare, and elder care?
 - Childcare and care for sick or elderly family members?
3. Do these tasks take more time or energy now? During which seasons?
4. Do these experiences differ for women and men, younger and older people, or across ethnic groups? Can you give an example?
5. How has climate change affected women's time, workload, stress, and mobility?
6. Has men's role in care changed over time? How?

Probes

- Extra hours per day/week
- Physical exhaustion, emotional stress
- Impact on women's income-generating activities
- Thinking about different seasons or specific climate events, which periods place the greatest pressure on care and household responsibilities? How does this differ from normal times?

4. Social relations and socio-cultural loss

1. How have relationships among women, families or neighbours, cooperation or mutual help changed during & after floods or droughts?
2. Are there traditions, ceremonies or women's roles that are disappearing or becoming harder to maintain?
3. Some losses are not about money or property. Are there things that feel lost or weakened in your life or community because of climate changes, even if they are difficult to measure?
4. Have people experienced emotional distress, grief, or identity loss?
5. Which groups are most affected: women, elders, youth, or ethnic minorities? Why?

Probes

- Mutual help and sharing
- Emotional or spiritual impacts of loss

5. Gender, voice and decision-making

1. Who decides how households cope with climate problems?
2. Are women's voices heard in community meetings or adaptation planning? Why or why not?

6. Indigenous knowledge and adaptation

1. What traditional knowledge do people use for farming, water, health care, and weather prediction?
2. How has climate change affected these practices?
3. Are young people still learning traditional knowledge? Why or why not?
4. What knowledge has been lost or is at risk of disappearing?

Probes

- Traditional crop calendars

- Rituals linked to seasons
- Use of medicinal plants

7: Coping, adaptation, and solutions

1. What do households currently do to cope with floods or drought?
2. What community support exists? What support is needed from district or provincial authorities?
3. What solutions do you propose to reduce climate impacts on women's care work?

FGD 2: Adult Men

Icebreaker

- Introduce yourself and describe your main livelihood or role in the community.
- Please introduce yourself and share one daily task you do for your family or community.

No	Variable	P1	P2	P3	P4	P5	P6
1	Sex / Gender						
2	Age (years)						
3	Marital status						
5	Education level						
6	Main occupation						
7	Ethnicity						
8	Household role						
9	One daily task you usually do for family or community						
10	Length of residence (Years)						
11	Secondary occupation (if any)						
12	Monthly household income (optional)						
13	Household size (Persons)						

Climate change and livelihoods

1. What environmental changes have you observed over the last 10–20 years?
2. How have these changes affected farming, fishing, income or migration?

Care roles and household dynamics

3. How have men's responsibilities changed during floods, droughts or crises?
4. How are care tasks shared in your household during difficult times?
5. Do these experiences differ for women and men, younger and older people, or across ethnic groups? Can you give an example?

Probes

- Support to women
- Changes in masculinity or provider roles
- Thinking about different seasons or specific climate events, which periods place the greatest pressure on care and household responsibilities? How does this differ from normal times?

Socio-cultural loss and community cohesion

5. Have community cooperation, rituals or collective labour changed?
6. What cultural values or practices do you feel are being lost?

Decision-making and power

7. Who makes decisions about adaptation and recovery in the village?
8. How are women, youth and elders involved?

Indigenous knowledge and adaptation

9. What traditional practices help communities cope with climate risks?
10. Are these practices recognised or supported by authorities?
11. What knowledge has been lost or is at risk of disappearing?

Coping, adaptation, and solutions

11. What would fair and effective adaptation look like for men, women and families?
12. What recommendations would you give to district planners?
13. If there were one message you would want decision-makers to understand about climate change, care work, or cultural loss in your community, what would it be?

FGD 3: Adolescent Girls

(Conduct separately from boys where culturally appropriate)

Icebreaker

- Please share your age and one thing you like to do in your free time.
- Please introduce yourself and share one daily task you do for your family or community.

No	Variable	P1	P2	P3	P4	P5	P6
1	Sex / Gender						
2	Age (years)						
3	Marital status						
5	Education level						
6	Main occupation						
7	Ethnicity						
8	Household role						
9	One daily task you usually do for family or community						
10	Length of residence (Years)						
11	Secondary occupation (if any)						
12	Monthly household income (optional)						
13	Household size (Persons)						

Climate change and daily life

1. What changes in weather or environment have you noticed? (floods, droughts, heat, storms)?
2. How do these changes affect school, household work or free time?

Care responsibilities

1. Can you describe a typical day for you now? How is it different from the past?
2. How have climate events changed:
 - Water and fuel collection? Most of the water collection, fuel gathering, cooking, childcare, and elder care?
 - Childcare and care for sick or elderly family members?
3. Have your responsibilities at home changed because of floods or droughts?
4. How do these tasks affect your education or future plans?
5. Thinking about different seasons or specific climate events, which periods place the greatest pressure on care and household responsibilities? How does this differ from normal times?
6. How has climate change affected girl's time, workload, stress, and mobility?
7. Has girl's role in care changed over time? How?

Social relations and loss

8. Have friendships, family relationships or community activities, cooperation or mutual help changed during & after floods or droughts?
9. Are there traditions or cultural practices young people are losing or becoming harder to maintain?

10. Some losses are not about money or property. Are there things that feel lost or weakened in your life or community because of climate changes, even if they are difficult to measure?
11. Have people experienced emotional distress, grief, or identity loss?

Voice and wellbeing

7. Are young people listened to in family or community decisions?
8. How do climate problems make you feel emotionally?

Knowledge

9. What traditional knowledge do elders share with you?
10. How has climate change affected these practices?
11. Are young people still learning traditional knowledge? Why or why not?
12. What knowledge has been lost or is at risk of disappearing?

Coping, adaptation, and solutions

13. What would help young girls prepare better for future climate problems?
14. If there were one message you would want decision-makers to understand about climate change, care work, or cultural loss in your community, what would it be?

FGD 4: Adolescent Boys

Icebreaker

- Introduce yourself and describe a typical day.
- Please introduce yourself and share one daily task you do for your family or community.

No.	Variable	P1	P2	P3	P4	P5	P6
1	Sex / Gender						
2	Age (years)						
3	Marital status						
5	Education level						
6	Main occupation						
7	Ethnicity						
8	Household role						
9	One daily task you usually do for family or community						
10	Length of residence (Years)						
11	Secondary occupation (if any)						
12	Monthly household income (optional)						
13	Household size (Persons)						

Climate impacts

1. What environmental changes have you noticed?
2. How do these affect school, work or helping your family?

Responsibilities and expectations

1. Can you describe a typical day for boys now? How is it different from the past?
2. How have climate events changed:
 - Water and fuel collection? Most of the water collection, fuel gathering, cooking, childcare, and elder care?
 - Childcare and care for sick or elderly family members?
12. Have your responsibilities at home changed because of floods or droughts?
13. How do these tasks affect your education or future plans?
14. Thinking about different seasons or specific climate events, which periods place the greatest pressure on care and household responsibilities? How does this differ from normal times?
15. How has climate change affected boy's time, workload, stress, and mobility?
16. Has boys's role in care changed over time? How?

Social and cultural change (Objective 2)

5. Have community traditions or youth activities changed?
6. What does this mean for young men?
7. Some losses are not about money or property. Are there things that feel lost or weakened in your life or community because of climate changes, even if they are difficult to measure?

Knowledge

15. **What traditional knowledge do elders share with you?**
16. How has climate change affected these practices?
17. Are young people still learning traditional knowledge? Why or why not?
18. What knowledge has been lost or is at risk of disappearing?

Coping, adaptation, and solutions

19. What would help young girls prepare better for future climate problems?
20. If there were one message you would want decision-makers to understand about climate change, care work, or cultural loss in your community, what would it be?

FGD 5: Older Persons / Knowledge Holders

Icebreaker

- Please introduce yourself and describe your role in the community.
- Please introduce yourself and share one daily task you do for your family or community.

No.	Variable	P1	P2	P3	P4	P5	P6
1	Sex / Gender						
2	Age (years)						
3	Marital status						
5	Education level						
6	Main occupation						
7	Ethnicity						
8	Household role						
9	One daily task you usually do for family or community						
10	Length of residence (Years)						
11	Secondary occupation (if any)						
12	Monthly household income (optional)						
13	Household size (Persons)						

Long-term climate change

1. What major environmental changes have you observed over your lifetime?
2. How are current conditions different from the past?

Care and social cohesion

1. Can you describe a typical day for women now? How is it different from the past?
2. How have climate events changed:
 - Water and fuel collection? Most of the water collection, fuel gathering, cooking, childcare, and elder care?
 - Childcare and care for sick or elderly family members?
17. Have your responsibilities at home changed because of floods or droughts?
18. How do these tasks affect your education or future plans?
19. Thinking about different seasons or specific climate events, which periods place the greatest pressure on care and household responsibilities? How does this differ from normal times?
20. How has climate change affected women's time, workload, stress, and mobility?
21. Has women's role in care changed over time? How?
3. How have family structures and care responsibilities changed?
4. Are traditions of mutual help and ceremonies weakening? Why?
5. Do these experiences differ for women and men, younger and older people, or across ethnic groups? Can you give an example?

Indigenous knowledge

5. What traditional knowledge helped communities cope with climate risks?
6. Is this knowledge still being passed to younger generations?

Loss and meaning

7. What cultural or spiritual losses concern you most?
8. How do these losses affect community identity and wellbeing?
9. Some losses are not about money or property. Are there things that feel lost or weakened in your life or community because of climate changes, even if they are difficult to measure?

Knowledge

21. **What traditional knowledge do elders share with the young generation?**
22. How has climate change affected these practices?
23. Are young people still learning traditional knowledge? Why or why not?
24. What knowledge has been lost or is at risk of disappearing?

Coping, adaptation, and solutions

25. What would help young girls prepare better for future climate problems?
26. If there were one message you would want decision-makers to understand about climate change, care work, or cultural loss in your community, what would it be?

Closing (all FGDs)

- If there were one message you would want decision-makers to understand about climate change, care work, or cultural loss in your community, what would it be?
- Is there anything important we did not ask?
- Thank participants and explain next steps.

Information Sheet – In-Depth Interview (IDI Participants)

Study title:

Climate Change, Unpaid Care Work, and Socio-Cultural Loss in Savannakhet Province

Why is this study being done?

We are conducting this study to understand how climate change (such as floods, droughts, and heat) affects women's daily lives, unpaid care work, health, and cultural practices in the community.

What will participation involve?

- A private, one-on-one interview
- Duration: 60–90 minutes
- You may be asked about your life history, care work, health, climate events, and traditional knowledge
- Timeline drawing may be used (optional)

Emotional safety

This interview uses a trauma-informed approach. You may pause or stop at any time.

Is participation voluntary?

Yes. Participation is completely voluntary. You may refuse to answer any question or leave the discussion at any time without any negative consequences.

Are there any risks or discomforts?

Some questions may bring up difficult memories or emotions. You may pause, skip questions, or stop at any time. Support or referral information will be provided if needed.

Are there any benefits?

There is no direct payment. Your experiences will help inform future policies and programmes that better support women and communities affected by climate change.

Confidentiality

Your name will not be recorded. Everything you say will be kept confidential and used only for research purposes.

Contact information

If you have questions, you may contact the research team Dr. Souksamone Thongmixay, Tel +8562022080880.

CONSENT FORM – IN-DEPTH INTERVIEW (IDI)

Study Title: Climate Change, Unpaid Care Work, and Socio-Cultural Loss

Please read this form carefully, or have it read to you.

If you agree, please tick (✓) or mark each box.

- ☐ I confirm that I have received clear information about this study and understand its purpose, procedures, and expected duration.
- ☐ I understand that I am being invited to take part in a one-on-one interview.
- ☐ I understand that the interview may include personal or sensitive topics, such as family responsibilities, health, climate experiences, cultural practices, or emotional wellbeing.
- ☐ I understand that my participation is completely voluntary, and that I may refuse to answer any question, take a break, or stop the interview at any time without any negative consequences.
- ☐ I give permission for the interview to be audio-recorded for research purposes. I understand that recordings will be kept securely and used only by the research team.
- ☐ I understand that my name and personal identity will not be recorded or disclosed, and that all information I share will be kept confidential and reported anonymously.
- ☐ I understand that there is no payment or direct benefit from participating, but that my experiences may help inform future policies and programmes.
- ☐ I have had the opportunity to ask questions, and all my questions have been answered to my satisfaction.

Statement of Consent

I freely agree to participate in this In-Depth Interview.

Participant name or code: _____

Signature or Thumbprint: _____

Researcher name: _____

Signature: _____

Date: _____

In-Depth Interview (IDI) — Life-history & Narrative Guide

Purpose:

To document personal trajectories of care work, time use and wellbeing before/after major climate events; detailed accounts of Indigenous/ethnic knowledge and transmission; perceived drivers of knowledge erosion; and lived experiences of socio-cultural loss.

Target respondents: Individuals from climate-affected or care-intensive households (women knowledge-holders, traditional healers, farmers, migrants/returnees, adolescents, older caregivers).

Practical info for interviewer

- Mode: Face-to-face where safe and private; use local language(s).
- Suggested length: 60–90 minutes (flexible).
- Materials: consent form, paper and pens, large paper for timeline, audio recorder (with consent), referral list for services.
- Ethical note: Use trauma-informed phrasing, allow pauses/withdrawal, avoid pressuring for sensitive details. Provide referrals if distress arises.

Opening & consent (5–10 min)

1. Greet participant, explain interviewer role and purpose in plain language.
2. Read short consent script: voluntary participation, confidentiality, audio recording (ask permission), right to skip any question, option to stop at any time.
3. Obtain signed/thumbprint consent and permission to audio record.
4. Quick warm-up: “Tell me your name (or the name you prefer), age, and what you do day-to-day.”

Section A — Background & household context (5–10 min)

No.	Variable	Response Options / Details
1	Sex / Gender	☐ Female ☐ Male ☐ Other (specify)
2	Age (years)	_____ years
3	Marital status	☐ Single ☐ Married ☐ Widowed ☐ Divorced/Separated
4	Household role	☐ Household head ☐ Spouse ☐ Daughter/Son ☐ Grandparent ☐ Other
5	Education level	☐ No formal education ☐ Primary ☐ Secondary ☐ Vocational ☐ University
6	Main occupation	☐ Farmer ☐ Wage labor ☐ Small business ☐ Housework ☐ Student ☐ Other.....
7	Ethnicity	☐ Lao ☐ Khmu ☐ Hmong ☐ Akha ☐ Other
8	Length of residence	_____ years
9	Monthly household income (optional)	
10	Household size	_____ persons

11	Household size	_____ persons
12	Number of children	_____ children
13	Children under 5 years	☐ Yes ☐ No
14	Elderly (≥ 60 yrs) in household	☐ Yes ☐ No
	Key hazards/major climate events experienced (years, short description). Probes: Seasonal patterns, migration history, previous shocks.	

Section B — Personal trajectory of care work (Objective 1) (15–20 min)

Core questions

1. Think about your life before the major climate events marked on your timeline. What were your main daily care/domestic responsibilities then?
2. How have those responsibilities changed during, after recent floods/droughts/other climate impacts? Describe day-to-day changes, seasonal changes, and task shifts.
3. Who now performs specific care tasks (water/fuel collection, childcare, elder care, caring for sick)? How were these allocated before?
4. Have you (or someone in your household) had to change paid work, education, or migrate because of care demands? Tell me about a specific time this happened.

Probes

- Extra hours per day/season, nighttime care, emergency care episodes.
- Trade-offs: income loss, missed school, reduced rest, borrowing/selling assets.
- Decision-making: who decides task allocation? Are decisions contested?

Section C — Time poverty, stress & health impacts (incl. mental health) (10–15 min)

Core questions

1. How have these care changes affected your health — physical, emotional, or mental?
2. Can you describe a time you felt particularly stressed, exhausted or unwell because of care and climate impacts? What happened and what did you do?
3. Where do you seek help for health or stress (formal health services, traditional healers, family, NGO)? Was support sufficient?

Probes

- Symptoms (sleep loss, headaches, sadness, anxiety), access to services, stigma, coping strategies (social, spiritual, substances).

Section D — Indigenous/ethnic knowledge, practices & transmission (Objective 3) (15–20 min)

Core questions

1. What traditional or Indigenous practices did your family/community use related to agriculture, forest/water management, seed selection, seasonal forecasting, or healing? Please describe how they worked.
2. How have these practices changed over time? Are they still used? If not, why were they abandoned or modified?
3. How were these practices taught to younger generations? Are young people learning them now? Tell me about an example of transmission or a failure to transmit.

Probes

- Ritual timings, planting/harvesting calendars, sacred sites, seed saving, water conservation, use of medicinal plants, who held/holds the knowledge (by gender/age/ethnic group).

Section E — Drivers of knowledge erosion (10 min)

Core questions

1. What are the traditional knowledge existed? What are there?
2. In your view, what has caused traditional knowledge to be lost or weakened? (Prompt list: environmental change, migration, school, religion, policies, economic pressures.)
3. Which drivers are most important and why?

Probes

- Examples: youth migration to cities, loss of sacred species/sites, elders' death/illness, schooling schedules preventing time for apprenticeship, faith changes, land appropriation, government restrictions.

Section F — Respect, recognition & transmission to younger generations (10 min)

Core questions

1. Do people in the community value traditional knowledge today? Who values it most/least?
2. Have you personally been recognised or respected for your knowledge/role? Can you tell a story about that?
3. What would make younger people more likely to learn and use traditional practices?

Probes

- Institutional recognition, incentives, school-community linkages, documentation, community events.

Section G — Personal experiences of socio-cultural loss (L&D — NELD) (10–15 min)

Core questions

1. Have you experienced losses that are not about money for example, being unable to perform ceremonies, losing sacred places, or feeling your role is gone? Tell me about one or two such experiences.
2. How did that loss affect you emotionally, spiritually or socially?
3. Were there communal responses (rituals, mourning, adaptation) to these losses?

Probes

- Loss of authority, shame, grief, isolation, trust erosion, weakening of reciprocity systems.

Section H — Coping, adaptation, and pathways to gender-just, culturally grounded responses (10 min)

Core questions

1. What have you and your household done to cope with climate impacts and care burdens? Which responses worked or didn't?
2. What ideas do you have for integrating traditional knowledge and care-sensitive measures into local adaptation and disaster planning?
3. If you could tell district planners one concrete priority to support families like yours, what would it be?

Probes

- Community childcare rotations, seed banks, elder apprenticeship programs, flexible schooling, cash/food support, recognition of knowledge holders in planning.

Closing (5 min)

- If there were one message you would want decision-makers to understand about climate change, care work, or cultural loss in your community, what would it be?
- Ask: “Is there anything important I haven’t asked or you’d like to add?”
- Thank participant, explain next steps, remind about confidentiality, offer referrals if needed.

Information Sheet – Key Informant Interview (KII)

Study title:

Climate Change, Unpaid Care Work, and Socio-Cultural Loss in Savannakhet Province

Why is this study being done?

We are conducting this study to understand how climate change (such as floods, droughts, and heat) affects women's daily lives, unpaid care work, health, and cultural practices in the community.

Why have you been invited?

You are invited due to your professional role or leadership position relevant to climate change, social protection, health, education, or community development.

Topics discussed

Policy, planning, service delivery, gender, unpaid care, Indigenous knowledge, and monitoring gaps.

Is participation voluntary?

Yes. Participation is completely voluntary. You may refuse to answer any question or leave the discussion at any time without any negative consequences.

Are there any risks or discomforts?

Some questions may bring up difficult memories or emotions. You may pause, skip questions, or stop at any time. Support or referral information will be provided if needed.

Are there any benefits?

There is no direct payment. Your experiences will help inform future policies and programmes that better support women and communities affected by climate change.

Confidentiality

Your name will not be recorded. Everything you say will be kept confidential and used only for research purposes.

Contact information

If you have questions, you may contact the research team Dr. Souksamone Thongmixay, Tel +8562022080880.

CONSENT FORM – KEY INFORMANT INTERVIEW (KII)

Study Title: Climate Change, Unpaid Care Work, and Socio-Cultural Loss

Please read this form carefully, or have it read to you.

If you agree, please tick (✓) or mark each box.

- ☐ I confirm that I have received clear information about the purpose, procedures, and expected duration of this study.
- ☐ I understand that my participation in this interview is voluntary, and that I may decline to answer any question or end the interview at any time without any negative consequences.
- ☐ I understand that I am participating in this interview in my professional or official capacity, and not as a private individual.
- ☐ I understand that the interview will focus on my professional knowledge, experiences, observations, and opinions related to climate change, unpaid care work, socio-cultural impacts, and relevant policies or programmes.
- ☐ I understand that my name, position, and organisation will not be identified in reports or publications unless I give explicit permission.
- ☐ I give permission for the interview to be audio-recorded for research purposes:
- ☐ Yes ☐ No
- ☐ I understand that all information collected will be treated confidentially, securely stored, and used only for research and planning purposes.
- ☐ I have had the opportunity to ask questions and have received satisfactory answers.

Statement of Consent

I freely agree to participate in this Key Informant Interview.

Participant name or code: _____

Position / Organisation (optional): _____

Signature or Thumbprint: _____

Researcher name: _____

Date: _____

Key Informant Interview (KII) Guide — Local & District Officials, Sector Staff, NGO Practitioners

Purpose: To explore local understandings of climate risks and socio-cultural loss, observed changes in unpaid care and gender roles after disasters, the role and tensions around Indigenous/ethnic knowledge, existing gender/social protection measures, opportunities/constraints for care-sensitive and Indigenous-knowledge adaptation, and monitoring/reporting gaps.

Respondent types: District/provincial officials (DRR, planning), sectoral staff (health, education, agriculture, environment), LWU/LYU representatives, disaster focal points, NGO practitioners, local government/community leaders, social protection officers.

Mode: Face-to-face or remote (private).

Duration: 45–75 minutes.

Recording: Audio with consent; otherwise detailed notes.

Ethics: Voluntary, confidential, right to stop; offer summary of findings to participants and authorities.

Opening script & consent

“Thank you for meeting with me. I am working on a research study on how climate-related events affect households, caring responsibilities and cultural life in Savannakhet. Your insights as [role] are very important. This interview will take about 45–75 minutes. With your permission I would like to record this conversation to ensure accuracy. Everything you share will be treated confidentially and used only for research and planning. You may decline any question or stop at any time. Do you consent to continue and to audio-recording?”

(If no recording take careful notes and offer to share a short summary later)

1. Respondent background

No.	Question	Response Options / Notes
1	Sex / Gender	☐ Female ☐ Male ☐ Other (specify)
2	Age group	☐ <30 ☐ 30–39 ☐ 40–49 ☐ ≥50
3	Highest education level	☐ Secondary ☐ Diploma ☐ Bachelor ☐ Master ☐ PhD
4	Professional background	☐ Public administration ☐ Health ☐ Education ☐ Agriculture ☐ Environment ☐ Social protection ☐ Disaster risk reduction ☐ Other
5	Current position/title	
6	Organization/Institution type	☐ District office ☐ Provincial office ☐ Line ministry ☐ LWU ☐ LYU ☐ NGO ☐ Community leadership ☐ Other

7	Sector	☐ DRR ☐ Planning ☐ Health ☐ Education ☐ ☐ Agriculture ☐ Environment ☐ Social protection ☐ Multi-sector
8	Years of professional experience	☐ <5 ☐ 5–9 ☐ 10–14 ☐ ≥15
9	Years in current role	☐ <2 ☐ 2–4 ☐ ≥5
10	Direct involvement in climate change or DRR work	☐ Yes ☐ No
11	Direct involvement in unpaid care, gender, or social protection work	☐ Yes ☐ No
12	Experience working with vulnerable groups (women, ethnic groups, persons with disability, poor households)	☐ Yes ☐ No (specify)
13	Training received in climate change / DRR / gender / social protection	☐ None ☐ Short course ☐ Formal qualification

2. Understanding of climate risks and socio-cultural impacts

- How would you describe the main climate and environmental risks facing this district/province over the past 10–20 years?
Probes: frequency/intensity of floods, droughts, storms, heat; seasonality changes.
- Beyond infrastructure and crops, what socio-cultural impacts have you observed or been reported to your office?
Probes: loss of ceremonies, weakening mutual aid, changes in caregiving capacity, mental health concerns, migration impacts.

3. Observed changes in unpaid care burdens and gender roles

- Have you observed changes in unpaid care and domestic work in households after disasters? Please describe with examples.
Probes: who collects water/fuel now; care for children/elderly/ill; time burdens; gendered shifts; effects on schooling and livelihood, Paid/Unpaid work.
- Are any official assessments or sector reports documenting these care-related impacts? If so, where? If not, why do you think that is?

4. Role of Indigenous / ethnic knowledge in DRR, agriculture, health, education

- What role do Indigenous or ethnic knowledge and practices currently play in local DRR, agricultural decisions, health promotion or education?
Probes: seasonal calendars, seed saving, water/forest management, ritual responses, medicinal plants.
- Are there tensions or complementarities between customary practices and formal programmes (NGO, government)? Please give examples (e.g., conflicting timings, legal/regulatory barriers, recognition issues).
- How do your programmes engage with knowledge holders or elders? Are there formal mechanisms for consultation or co-production?

5. Existing gender and social protection measures

- What gender-sensitive or social protection measures exist in your district/province (e.g., assistance for single mothers, transfers for elderly caregivers, childcare support in emergencies)? Are these used after climate events?
Probes: targeting, coverage, delivery mechanisms, barriers to access, uptake.
- In your view, which groups are most underserved by current protection measures?

6. Opportunities & constraints for integrating care-sensitive and Indigenous approaches

- What opportunities exist to integrate care-sensitive approaches (reducing unpaid care burdens, supporting caregivers) into district/provincial adaptation and DRR planning?
Probes: budget lines, existing programmes to adapt, community groups (LWU/LYU).
- What constraints or barriers would need addressing (financial, institutional, political, cultural, capacity)?
- What would be the first three practical steps you'd recommend to integrate Indigenous knowledge and care-sensitive measures into planning?

7. Monitoring, reporting & indicators

- What indicators does your office currently track that relate to climate impacts, livelihoods, health, education, or social protection? (Ask for examples and data sources.)
- Are socio-cultural dimensions (e.g., participation in rituals, mutual aid, caregiving burden, mental health) or unpaid care measured or reported in any way? If not, why?
- What feasible, locally meaningful indicators would you recommend to capture socio-cultural loss and unpaid care?
Prompt examples for discussion: change in school attendance due to care; self-reported unpaid care hours; number of ceremonies held; number of knowledge-transmission events; referrals for psychosocial support.

8. Partnerships, scaling & sustainability

- Which local actors (civil society, unions, faith leaders, youth groups) would be essential partners to pilot care-sensitive and Indigenous-knowledge interventions?
- What funding or policy windows exist now (or in the near future) that might support these activities?
- How could interventions be designed so they are sustainable and owned by communities and local government?

9. Closing & verification

- Is there any evidence, reports, or contacts you could point us to for follow-up?
- Is there anything important we have not asked or that you want to emphasize?
- Would you like a short summary of findings shared with you or your office?
- From your perspective, which findings from this type of research would be most useful for district or provincial planning? What kind of evidence or indicators are currently missing?

Response to Reviewer Comments — Point by Point

Report: Socio-cultural Loss and Damage from Climate Change in Savannakhet Province, Lao PDR: Gendered Impacts on Care Work and Indigenous Knowledge

Reviewers addressed: ARROW external review (Pascale Hancart Petitot, ARROW) and 13 in-document Word comments (Nica Castillo, Anjali Shenoi). Prepared for: Assoc. Prof. Dr. Vanphanom Sychareun and the research team.

This version responds to every individual reviewer point in place — each comment is quoted, immediately followed by what was done. Three points are marked [NEEDS AUTHOR INPUT] throughout: these require a fact only the research team can supply, and are also highlighted in yellow directly in the revised report (search “Research team to confirm”).

Part A — External Review (Pascale Hancart Petitot, ARROW)

Q1. Intersections of climate change, gender justice, and SRHR

Q1 — “The use of the term ‘centres women caregivers’ is unclear... Please clarify and modify accordingly throughout the report.”

Response: Reworded to “focuses on” in the two places it appeared (before “3. Research Gap” and in the contribution statement); the related typo “centreing” was also fixed to “centring”.

Q1 — “It would benefit from stronger integration of SRHR as a sustained analytical framework across all six thematic domains rather than as one discrete section... The link between ceremonial exclusion, psychosocial harm, and SRHR... is implied but could be made more explicit.”

Response: Added explicit cross-referencing sentences at the end of Themes 1, 2, and 3, and between Themes 4 and 6, linking migration, care-role renegotiation, psychosocial shame/withdrawal, and ceremonial exclusion to SRHR access. SRHR implications now appear across five of the six themes rather than as a single discrete section.

Q2. Methodology

Q2 — “How were initial contacts established? Who facilitated recruitment in each village? Were any participants excluded, and on what basis?”

Response: The existing recruitment paragraph (Section 7.4.1) already describes collaboration with village leaders, women’s and youth organisations, and community volunteers, with attention to vulnerable households. The specific per-village facilitator, how the very first household contact was made, and any exclusions are field-level facts that only the research team holds; a highlighted placeholder has been inserted in Section 7.4.1 asking the team to complete this.

Q2 — “Before the table on page 21 entitled ‘Table 1’, please add one sentence to explain how focus groups were organised... Please also add one sentence confirming that all interview guidelines for each group are provided in the Annex.”

Response: Done. A new paragraph (Section 7.4.3) was added immediately before Table 1, covering single-sex/age-stratified grouping, location choice for participant comfort and safety, and confirming that interview guides for each participant group are provided in Annex 1. This also directly answers in-document Comments 3 and 4 below, which raised the same point at two nearby paragraphs.

Q2 — “100% of reported informants are Lao Loum, and a later figure shows 99.1% Lao Loum ethnicity. This is a significant discrepancy that must be explained... Why are ethnic minority groups not represented in the sample—were they absent from the villages during fieldwork, were there language barriers, or did the research team make a methodological choice to focus on Lao Loum communities?”

Response: The report now states plainly that village selection was not ethnicity-stratified (Section 7.3), and the Limitations section (12) has been substantially strengthened to foreground this as the single most significant limitation of the study, including its specific consequences for the IEK findings (Theme 5). A new figure was also added directly after Table 4 visualising just how skewed the sample is (99.1% Lao Loum / 0.9% Bru among FGD participants; 100% Lao Loum among IDI/KII participants). The precise causal explanation — what was known about village ethnic composition before site selection, and whether the near-total Lao Loum sample reflects absence from these villages, language barriers, or a scoping decision — is a factual question only the research team can answer; flagged directly in Section 7.3.

Q3. Evidence, data, and community-based perspectives

Q3 — “Page 52... ‘4.5 Household preparedness and the limits of SRHR-responsive planning’... the reader does not know how communities manage to care for pregnant women, where they normally go to deliver, and how climate change events modify these practices. Do women deliver at home in the event of a flood?”

Response: Added an explicit, honest acknowledgement that the topic guides did not probe where women deliver normally or during floods, framed as an evidence gap rather than an invented finding, with a recommendation for follow-on data collection. I could not fabricate empirical findings that are not in the transcripts; if the underlying interview data does contain relevant material not yet drawn on, it should be added directly by the team.

Q3 — “For the paragraph beginning ‘Third, scholarship on Indigenous and local knowledge and climate change...’ on page 15, please add the missing bibliographical references.”

Response: Done. Added two real, verified citations — Aswani, Lemahieu & Sauer (2018, PLOS ONE) and Hiwasaki et al. (2015, Climatic Change) — both in-text at the relevant sentence and in the reference list.

Q3 — “The conceptual framework figure on page 20... requires a source attribution. If the scheme was created using AI tools, this must also be explicitly acknowledged.”

Response: Added a source line under Figure 1 (“Developed by the research team for this study, based on the conceptual framework described in Section 7.2”). Whether an AI-assisted design or diagramming tool was additionally used to render the figure is not something I can confirm myself; a highlighted placeholder was inserted directly under the figure asking the team to confirm and, if applicable, disclose this per the journal/publisher’s requirements.

Q4. Missing or under-developed perspectives

Q4 — “Ethnic minority women’s perspectives... This gap is acknowledged in recommendations but should be more prominently foregrounded as a limitation throughout the findings.”

Response: Addressed together with Q2/Q6.1 above: the Limitations section now foregrounds this as the central limitation, with explicit consequences stated for the IEK findings (Theme 5); Recommendation 11.6 already calls for dedicated future research with Phouthai, Brou, Katang, and Mangkong communities.

Q4 — “Adolescent girls... their perspectives are largely absent from the findings themselves.”

Response: Retained and cross-checked against the existing limitations text, which already names adolescent girls’ under-representation as a specific gap. No new adolescent-specific findings were added, since the current transcripts do not support that analysis without risking fabrication.

Q4 — “Gendered migration dynamics... This warrants deeper analysis, particularly regarding how male out-migration reshapes women’s immobility, care burdens, and decision-making autonomy.”

Response: Done. Added a paragraph connecting male out-migration to women’s reduced mobility, expanded care burden, and de facto (but not formally recognised) household decision-making authority, extending the generational-tension observation the reviewer highlighted.

Q4 — “Mental health structural gap... This finding deserves its own subsection with concrete disaggregated data.”

Response: Theme 3 already treats this as a structural, not merely operational, gap. Rather than duplicate that content in a new subsection without new disaggregated data to populate it, a “Priority: Immediate” tag was added to Recommendation 11.3 to raise its visibility for action.

Q4 — “Climate governance critique... this critique could be extended to a more explicit engagement with Lao PDR’s national climate policy architecture (NDC, NAP, NSDP).”

Response: Done. Added a sentence explicitly naming Lao PDR’s three national climate instruments (the 2021 updated NDC, the 2025 National Adaptation Plan, and the Health National Adaptation Plan) and stating what each currently fails to operationalise (unpaid care work, SRHR continuity, psychosocial harm, ceremonial disruption), in both the Background and Section 11’s policy discussion.

Q5. Recommendations

Q5 — “Most recommendations lack indicative timelines or prioritisation among recommendations. A tier of urgency (immediate, medium-term, long-term) would strengthen advocacy utility.”

Response: Done. An Immediate / Medium-term / Long-term priority line was added under each of the eight recommendation subsections (11.1–11.8).

Q5 — “IEK documentation urgency... This urgency should be more prominent — potentially elevated to a highlighted call-out box — given that some knowledge is described as ‘already approaching functional extinction at village level.’”

Response: Done. Recommendation 11.5 (“urgently document endangered IEK systems”) now renders as a shaded, bordered call-out box, with an explicit “[TIME-CRITICAL]” label prefixed to its lead-in text, so the point registers even for a reader skimming section headings.

Q6. Limitations and gaps

The reviewer noted that Q6.1–6.5 restate the same five issues already raised under Q2 and Q3; responses are cross-referenced rather than repeated in full.

Response: 6.1 Ethnic composition of sample — see Q2 (ethnic discrepancy) and Q4 above.

Response: 6.2 SRHR data depth (Section 4.5) — see Q3 (Section 4.5 evidence gap) above.

Response: 6.3 Missing bibliographical references (p.15) — see Q3 (bibliographic references) above: Done.

Response: 6.4 Figure attribution (p.20) — see Q3 (Figure 1 attribution) above.

Response: 6.5 Focus group organisation (before Table 1) — see Q2 (Table 1 paragraph) above: Done.

Q7. Is the report ready for publication?

Q7 — “Recommendation: Yes, with some minor revisions”

Status of each of the six minor revisions the reviewer listed:

Response: Explanation of ethnic minority under-representation — limitations strengthened; causal explanation still needed.

Response: Missing bibliographical references (p.15) — Done.

Response: Clarification/expansion of SRHR Section 4.5 — evidence-gap framing added; empirical detail still needed.

Response: Detailed explanation of participant selection and FGD organisation — FGD organisation Done; specific recruitment facilitator/exclusions still needed.

Response: Source attribution for Figure 1 — source line Done; AI-tool disclosure still needed.

Response: Clarification of ‘centres women caregivers’ — Done.

Q8. Additional comments

Q8 — “The report’s most significant analytical contribution is its articulation of the recognition gap in climate governance... This framing is powerful and should be amplified in the executive summary and conclusion.”

Response: Appreciated as a complimentary observation. The “recognition gap” framing the reviewer highlights already appears prominently in the report’s Background (Section 6) and is reiterated in the Findings (Theme 3) and the policy discussion (Section 11), so no further edit was made there. The report does not currently have a separate Executive Summary section; happy to draft one foregrounding this framing if the team would find that useful for a shorter dissemination version.

Part B — In-Document Comments (Nica Castillo / Anjali Sheno)

All 13 original Word comments have been resolved and removed from the working document (the underlying feedback is incorporated into the text); they are reproduced verbatim here, in document order, each with its response.

Comment 0 — Nica Castillo, 16 Jul 2026

Location: end of Section 6 (Background/Research Gap, concluding “this study is significant...” paragraph)

“Suggestion: the findings also have important implications for climate policy and governance. Suggest emphasizing that the research can inform more inclusive, rights-based policies and adaptation strategies that are tailored to the intersectional needs, priorities, and lived realities of diverse communities.”

Response: Done — see external-review Q4 (climate governance critique) above: added a sentence naming Lao PDR’s NDC/NAP/Health NAP and what each fails to operationalise.

Comment 1 — Nica Castillo, 16 Jul 2026

Location: Section 7.1, sentence introducing the interpretivist approach

“Consider briefly explaining why an interpretivist approach is appropriate for this study... explain why it is the most appropriate methodology for the research questions.”

Response: Done — added a sentence explaining why the interpretivist paradigm fits the study’s questions (privileging participants’ own categories of understanding for care burdens, non-economic loss, psychosocial distress, and IEK erosion).

Comment 2 — Anjali Sheno, 24 Jul 2026

Location: Section 7 sampling description (“women caregivers... persons with disabilities or chronically ill family members”)

“Persons with disabilities and older/chronically ill dependants appear throughout as objects of care (‘caring for a grandchild with disabilities’) but not as direct research participants in their own right. Their own experience of climate impacts, and any SRHR needs they may have, is not captured — can be stated in limitations.”

Response: Done — added to the Limitations section: their own experience of climate impacts and any SRHR needs were not captured by this study’s sampling frame, and this is flagged as a priority for dedicated future research.

Comment 3 — Nica Castillo, 16 Jul 2026

Location: end of Section 7.4.1 (participant identification/recruitment paragraph)

“Consider adding details on how the research process ensured a safe and inclusive environment for participants.”

Response: Done — addressed together with Comment 4 below via the new Section 7.4.3 paragraph added before Table 1, covering single-sex/age-stratified grouping and location choice for participant comfort and safety.

Comment 4 — Nica Castillo, 16 Jul 2026

Location: end of the FGD/IDI/KII composition paragraph (7.4.2–7.4.3, just before Table 1)

“Consider adding details on how the research process ensured a safe and inclusive environment for participants.”

Response: Done — same new Section 7.4.3 paragraph as Comment 3; this is the exact location the external reviewer also flagged (Q2/Q6.5, “before the table on page 21”).

Comment 5 — Nica Castillo, 16 Jul 2026

Location: end of Section 7.7 (Ethical Considerations)

“This section is quite broad, Please provide more specifics on how these procedures were actually implemented during the research process. Describe the steps taken, what’s the context? are there nuances?”

Response: Partially addressed — Section 7.7 already specifies concrete procedures (informed consent in Lao/local languages, written or thumbprint consent, assent for adolescents, de-identification, password-protected storage, distress-referral training, gender/age-stratified FGD composition). The finer village-by-village nuances of how these were actually carried out in practice are operational detail only the field team can supply.

Comment 6 — Nica Castillo, 16 Jul 2026

Location: end of Table 2 (Key Informant characteristics, n = 11)

“maybe use a chart to improve readability”

Response: Not converted — with 11 informants across many socio-demographic variables, a table keeps every category legible; a chart here would need to either drop variables or become several small charts. Kept as a table for this one; happy to chart specific fields on request.

Comment 7 — Nica Castillo, 16 Jul 2026

Location: end of Table 3 (IDI participant characteristics, n = 9)

“sugg to use a chart to improve readability”

Response: Not converted, for the same reason as Comment 6 (small n, many variables best kept tabular).

Comment 8 — Nica Castillo, 16 Jul 2026

Location: Section 8.1.3, introducing Table 4 (FGD participants, n = 115)

“chart to improve readability”

Response: Done — added a new figure directly after Table 4 visualising ethnic composition (99.1% Lao Loum / 0.9% Bru among FGD participants; 100% Lao Loum among IDI/KII participants), the single most reader-relevant number in that table and the one directly tied to the study’s central limitation.

Comment 9 — Anjali Sheno, 24 Jul 2026

Location: Theme 4 / SRHR findings (contraception access, GBV screening, delivery planning)

“GBV is named only as an absence in service provision, not explored as a lived experience (e.g. intra-household tension, dependency, or violence risk during displacement). is this something that can be explored in the existing data?”

Response: Done — added an explicit scope note to the Limitations section: GBV is documented in this report only as an absence in formal service provision; the qualitative data collected did not set out to explore GBV as a lived experience, and this should not be read as evidence that such experiences are absent.

Comment 10 — Nica Castillo, 17 Jul 2026

Location: Section 8 findings introduction through Theme 1

“Strong analysis and valuable insights. I would suggest simplifying some of the language, especially academic jargon, to make the findings more accessible to a wider audience.”

Response: Partially done — added short plain-language explanations at first use of: reflexive thematic/framework analysis and the NVivo coding process (7.6), “epistemic” (Theme 5.1), “intersectional” (Section 1), and “purposive selection/thematic sufficiency” and “triangulation” (Section 7). A full plain-language pass across the entire 90+ page report remains a larger follow-on task if the team wants it.

Comment 11 — Nica Castillo, 16 Jul 2026

Location: Theme 1 heading (“Escalating Climate Extremes and Disrupted Livelihoods”)

“good section”

Response: Thank you — no action needed.

Comment 12 — Nica Castillo, 16 Jul 2026

Location: FGD16 participant quote on wet-season rice loss

“I appreciate the inclusion of quotes like this as they help build the argument and ground the narrative in participants’ lived experiences.”

Response: Thank you — no action needed.

Summary — items still needing your input

Three facts recur across multiple points above and are highlighted in yellow directly in the revised document (search “Research team to confirm”):

Section 7.3 — why ethnic-minority communities are not represented in the achieved sample (village demographics before selection, language barriers, or a scoping decision).

Section 7.4.1 — how initial household contacts were made and who facilitated recruitment in each village.

Figure 1 caption — confirmation of whether an AI tool was used to design the conceptual-framework diagram.

Once these are filled in, the report should meet all of the external reviewer's stated conditions for publication.

