

CLIMATE CHANGE IMPACTS ON WOMEN AND GIRLS IN SESAN DISTRICT, STEUNG TRENG PROVINCE

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This partnership reflects the collective power of collaboration to foster peace, security, and leadership opportunities for women and girls, as well as their families and communities.

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Executive Summary

This study is a platform to explore the challenges women and girls, especially from the ethnic communities, face and experience in the context of climate change. Furthermore, it assessed resilience, coping mechanisms, and adaptation to climate change. Therefore, this research aims to examine the impact of climate change, explore women and girls' responses to it, and investigate their safety and security at the individual, household, and community levels.

This research adopted a qualitative approach by collecting data through focus group discussions (FGDs) and in-depth interviews, and its analysis followed the content of their concepts, meanings, and experiences. The 46-sample size for this case study was representative of five communes in the Sesan district, Stung Treng Province. The majority of respondents are female and include farmers, students, local authorities, and public health care providers.

In the findings, climate change is not perceived by local communities as an abstract or distant phenomenon. Instead, it is experienced through everyday disruption: extreme heatwaves that affect physical or mental health and productivity, floods that damage crops and isolate villages, droughts that limit water availability, and pest outbreaks that reduce yields and increase production costs. These impacts intersect with existing social norms and gender stereotypes, shaping distinct vulnerabilities for women and girls.

Women carry primary responsibility for agricultural labor, household management, water management, caregiving, and informal income generation. Girls often support household work alongside schooling, and many leave school early due to poverty, distance to the secondary schools, early marriage, or family expectations. As a result, climate change exacerbates existing inequalities related to gender, age, ethnicity, education, and socioeconomic status.

Thus, for the recommendation:

- Prioritizing the gender-responsive emergency response activities at the sub-national level, the stakeholders should expand their activities to strengthen local authorities' responses to climate change and to build relationships and trust between villagers and local authorities, especially regarding climate change impacts and measures taken in ethnic minority communities.
- The stakeholders should increase their community-based activities to support gender-responsive climate change preparedness and response for indigenous ethnic minority communities. These activities include access to early warning and response related to climate-disaster change, health protection guidance, safe farming, and pesticide use. The soft skills for empowering women include public speaking, economic empowerment, and gender equality.
- Intervention activities for the rate of school dropout among young women and girls, these activities include gender-transforming structural policy reform at the national and sub-national levels for education, vocational training, and Marriage and Family law, and the reinforcement of these reforms. In addition, there are efforts to strengthen women's rights, choice, and decision-making; provide basic knowledge of sexual and reproductive rights; and

increase community-level decision-making power over economic activities. These activities should engage men and boys to improve socio-economic conditions in households and communities.

- There is limited evidence to present the voices of communities, especially those of women's rights and women-led organizations. Therefore, they should continue organizing and collecting case studies and research on significant progress in implementing gender equality and the barriers to it across all sectors in the communities. These evident aims are to amplify the advocacy tool to inform national policymakers on socio-economic barriers and growth in the communities.

Limitations

First, the study on climate change primarily focuses on hazardous events such as heat waves, flooding, strong winds, and pesticide exposure, and their consequent challenges to the livelihoods of women and girls in remote areas. It concentrates especially on agriculture and food security from a community perspective and does not delve deeply into agricultural biology. Secondly, the study does not include the impact of the construction of the Sesan Dam in the Sesan District, or other human-made factors contributing to climate change, such as air pollution, which may also affect human health and local livelihoods. Thirdly, the analysis of health care services is not comprehensive in identifying the physical and mental health impacts on women and girls, and the perspectives of people with disability are not included. Additionally, the study does not examine the challenges men and boys face or how their roles in society may evolve.

Content

Acknowledgment:	2
Disclaimer:.....	2
Executive Summary.....	3
Limitations.....	5
I. Introduction	7
II. Literature Review	7
III. Objective	10
IV. Methodologies and Conceptual Framework.....	10
1. Methodologies	10
2. Conceptual Frameworks	10
3. Sample.....	11
V. A Case Study in Sesan District	11
1. Social-Economic Status	12
2. Women and Girls Associated to Health Correlated to Climate Change.....	12
2.1 Women and Girls Exposure Symptom Affected by Climate Change.....	13
2.2 Women and Girls Experienced Mental Stress Impacted by Climate-Disaster Change	13
2.3 Women and Girls' Perception of Access to the Public Health Care Service.....	14
2.4 The Response from the Public Health Service Providers on Health and Nutrition	15
2. 5 Health Measure and Early Warning Information	15
3. Climate Change Impacted the Female Farmers' Agricultural Productivity and Income	17
4. Triggers High Expense During Heat Wave and Flooding	19
5. Challenges for Girls' Education	20
5.1 Climate Change Impacted the Public Infrastructure	20
5.2 Expected Girls' Roles and Responsibilities in the Households	21
5.3 Girls' Early Marriage	22
6. Women and Girls in Leadership	22
6.1 Women's Participation in Decision-Making and Barrier	23
6.2 Women's Role in the Households Amid Climate Change.....	24
6.3 Women and Girls' Freedom of Expression.....	24
7. Forms of Violence Triggered by Climate Change	25
8. Climate Changes in Conjunction with Social Safety and Security	26
VI. Conclusion and Recommendation	26
References:.....	29

I. Introduction

Cambodia continues to grow in population and has a remarkably diverse ethnic population. The Khmer ethnicity has the largest share of the population, followed by the other 27 ethnicities. The population in this country remains to rely on agriculture, and the percentage of women employed in this sector is higher than that of men. Agriculture contributes 21% national GDP. However, the country experiences the climate shocks. The Cambodian population lives in hazardous areas, and 75% have experienced 4 or more environmental disasters in the past 12 months.

Despite strong national policies and firm recommendations to advance women in leadership, women remain underrepresented and have limited influence in the community during climate events and livelihood decisions. In addition, there are limited documents and gender-disagreed evidence in the local communities.

Thus, this study aims to explore the impact of changes in environmental disasters on women and girls, as well as their strategic coping responses. It will examine their safety and security at the individual and household levels. The study employed a qualitative case study approach in Sesan District, Stung Treng province.

In finding, climate change hampered agricultural activities, resulting in a decline in agricultural productivity, affecting food security, livestock, and community infrastructure, and destroying economic activities and income. In-depth study: it continues to increase the working responsibilities of women and girls, delaying their health counselling, and treatment, leading to girls' early dropout from school, and contributing to marriage. The violence against women is a concern.

II. Literature Review

A substantial study identifies Asia as one of the regions most exposed to climate change due to its ecological diversity, population, and heavy dependence on climate-sensitive activities that affect livelihoods, such as agriculture, livestock, and fisheries (Habib et al., 2022; Intergovernmental Panel on Climate Change, 2022). Regional economic analyses further suggest that climate shocks threaten inclusive and sustainable growth by undermining food security systems and rural incomes (UN ESCAP, 2018). In particular, women and other marginalized groups rely directly on natural resources and have limited adaptive capacity (Elsevier, 2020; Intergovernmental Panel on Climate Change, 2022).

The majority of research focuses on technical or biophysical aspects rather than on social inequalities, gender relations, and power structures (Megnan et al., 2016; Elsevier, 2020). In addition, multiple reviews also identified a gap between progressive policy frameworks and effective implementation, with limited participation of affected communities and a lack of gender mainstreaming in practice (Frontiers in Climate, 2024).

These regional patterns are clearly reflected in Cambodia. According to the Cambodia Inter-censal Population Survey 2024 report, having growth population size over 17 million population, Khmer population represent 96.4%, following by Chines is 0.3%, Vietnamese is 0.1%, Lao is 0.1%, and

minorities is 3.1% (NIS, 2024). There are 24 different indigenous communities in 15 provinces, including Bunong, Kui, Tompourn, Kroeung, Brov, Karvèt, Stieng, Kroal, Mil, Karchak, Por, Khoan, Chong, Sui, Thmoun, Loun, Soauch, Rodè, Khe, Ro Orng, Spong, Loeun, Charay and Samrè (CIPA, CIYA, AIPP, 2019). Women employed in Agriculture is 56.5% higher percentage than men at 47.8% (NIS, 2024).

In Cambodia, agriculture (food and non-food products) contributes around 21% to the national GDP, but climate change is a barrier to reducing crop yield. Climate change reduces livelihoods through decreased agricultural productivity, reduced natural resource outcomes, and water scarcity, which impacts income, education, and social security (GIZ, 2023).

An estimated 87% of the Cambodian population lives in areas with high environmental risk. Approximately 99% of the total population experiences climate change-associated hazardous events, and 75% of people experience 4 or more disasters in the last 12 months (UN Women Cambodia, 2024). National disasters such as floods, droughts, storms, and landslides occur (DIMS, 2022). In agriculture, pests destroy rice at the growth stages and disrupt traditional farming cycles (Habib et al., 2022). Cambodian rice farmers' food security is not managed to adapt to hazards and risks (Bairagi et al., 2020).

Women and girls have less access to resources, information, economic opportunities, and technologies, leading to challenges when rebuilding and coping after the climate crisis. For instance, climate change and poor infrastructure make it much harder for women farmers to earn a living. They have difficulties transporting their products to market due to poor road conditions and/or accessing banking services due to unreliable internet infrastructure. Women farmers and farmworkers have to work more because the soil isn't as good. This effect means they grow less food and have less money for their families (GIZ, 2023).

Most importantly, the country's location within the Lower Mekong River Basin (LMB) has led to flooding, bringing both positive and negative outcomes. During the flooding season, LMB provides an annual average of about US\$8-10 billion in benefits. However, the negative consequence to damage infrastructure, economic development, and poverty reduction, which is estimated at an annual average of US\$60-70 million, and Cambodia alone estimates about two-thirds of the region's total annual flood damage (Mekong River Commission, n.d).

Climate change is expanding its capacity to affect fisheries and livestock. Diminishing fish stocks in the Tonle Sap Lake system (AP News, 2024). Heat stress from high temperatures increases the risk of animal disease and reduces productivity (Habib, 2022). Water stress creates a strong gender burden. Women and girls are primarily responsible for water collection and globally spend time fetching water, limiting their opportunities for education and income and reinforcing gender inequality (WHO, 2021).

On the other hand, heat and drought affect the population's health and livelihoods; for example, in Preah Vihea province, the temperature reached 42.8 °C in April, and in urban areas such as Phnom Penh, it reached 42.2 °C in May (UN Women Cambodia, 2024). Significantly, this country's

population depends on agricultural products, which means climate change affects income generation. These impacts further trigger other correlation impacts, such as violence against women and girls, stress, and limitation of the full exercise of their rights.

UNDP reported that, in 2021, gender-based violence (GBV) in Stung Treng province was higher than in other provinces. There were 32% of women aged between 15 and 45 years old who experienced intimate partner violence (UNDP, 2024). Besides, there was a finding that climate change increases food prices, and, as a result, the poorest populations are the most vulnerable (The Guardian, 2025). For example, a study at Banteay Meas district, Kampot province, documents severe crop losses and increased food insecurity after floods and storms (Korn, 2023).

Health impacts are both physical and psychological. Extreme heat waves and air pollution increase risks to maternal, newborn, and child outcomes (UNFPA, 2023; WHO, 2024), and sexual and reproductive health is often missing from disaster preparedness plans and health information management systems (UNFPA, 2023). Climate disasters are strongly associated with Post-Traumatic Stress Disorder (PTSD), anxiety, and depression (Cruz et al., 2020; Leal Filho et al., 2023).

UN Women report, 2024, pointed out that the hazardous outcome of climate change affects the mental health of 77% of the Cambodian population, while women are more likely to experience higher levels of stress and anxiety. Regarding physical health challenges, women face 48% compared to 45% for men. Giving up food to feed others: about 20% of single parents resort to it; 12% of females are more likely to decrease their food consumption than 9% of males.

Despite having the firm national policies and commitments to enhance women's leadership (Open Development Cambodia, n.d.; MoEYS, 2024). There is also a study that shows women remain underrepresented and often have limited ability to influence in the community, even during disaster events and livelihood decisions (UN CC:Learn, 2022; UN in Cambodia, 2025).

Furthermore, there is limited integrated, qualitative, and intersectional research approach with a case study in the communities and critical analysis of how climate change simultaneously produces income loss, heavier unpaid labor, poorer physical and mental health, school dropout, and reduced decision-making power for women and girls in specific rural contexts (Megnan et al., 2016; Elsevier, 2020).

Despite, the country having major challenges face by women on climate change pattern to their livelihood, income, and affecting health and passive by violence, women and girls remain a vital role to bridge the peacebuilding, peer support other women in decision making align Neary Rattanak VI: National Gender Equality, and global policy framework such as the Sustainable Development Goals (SDGs), including SDG 5 (Gender Equality) and SDG 13 (Climate Action).

Compared with gender-disaggregated evidence at the local level, it is also scarce. For instance, the case studies from Banteay Meas demonstrate the impact; however, they did not identify the exact challenges women and girls face in the communities.

III. Objective

- is to examine the impact of climate change, such as flooding or high temperatures, and other climate change events on women and girls' livelihoods, health (physical and mental), education, and social activities in Sesan district, Stung Treng province.
- is to explore how women and girls can participate in climate change intervention and prevention in communities, whether their participation can identify and address key challenges, such as gender-sensitive impacts of climate change, and what enables their participation.
- is to investigate how climate change can trigger conflict at individual, household, and community levels, impact peace, security, and rights, and assess the effectiveness of existing internal and domestic laws and mechanisms in addressing these issues.

IV. Methodologies and Conceptual Framework

1. Methodologies

This research will employ a qualitative approach, with data collected through in-depth interviews and FGDs. With the participants' consent, this study will record audio interviews and discussions and will remove them after transcription and coding. The code has been documented in the Excel Sheet, which serves as a tool for analyzing content, including its concepts, meanings, and experiences.

The ethical principles of confidentiality, anonymity, and data security will be prioritized in this study. It will store the consent forms separately from data collection to prevent participant identification. Data will be retained for research purposes only and destroyed after the completion of the study in accordance with ethical guidelines.

2. Conceptual Frameworks

In ecofeminism, advancing women's position, especially in terms of race and class, is one of the most practical measures governments can take to mitigate the environmental crisis. Therefore, educating and empowering women can have a quantifiable impact in reducing a country's emissions, and the most impactful outcome is engaging women in climate policy discussions. The ecofeminism movement has addressed for decades gender inequality intersecting with the climate crisis. As a result, the essential discovery is that elevating women is substantial to reducing emissions and creating a more equitable society. (Earth.Org, n.d.).

The conceptualizes climate change as both a development challenge and a human rights issue that disproportionately affects women and girls in rural agrarian communities. Specifically, climatic events such as extreme heat, irregular rainfall, flooding, water scarcity, and pest outbreaks directly undermine livelihoods, health, education, and social security. These impacts are intensified by factors such as gender, access to resources, and decision-making power (UN CC:Learn, 2022).

3. Sample

There are five communes in Stung Treng province, including Kamphun, Samkhuoy, Srae Kor, Kbal Romeas, and Talat in Sesan District. In total, the interview and FGDs with 46 people (45 women), 26 in-depth interviews, who are 16 female farmers (C), 2 farmers' daughters (G), 3 female public health care service providers (nurses and midwives) (N), 5 local authorities (4 women) (CC). The total number of FGDs is 20; the first group has 8 members, the second has 6, and the third has 6.

The data collection was conducted from 1st December to 30th December 2025. Before rolling out data collection, the data collector received orientation on research ethics, including respect for interviewees' rights and freedoms, gender sensitivity, and the questionnaire and data-collection tool.

N	Sample Categories	Sample number	Farmers	Girls	Health Service providers	Local Authority
1	Kbal Romeas (target)	4	3	0	0	1
2	Srae Kor (target)	7	4	1	1	1
3	Ta Lat (target)	5	3		1	1
6	Kampun	6	3	1	1	1
7	Samkuy	4	3			1
Total = 46		26 interviews	16 interviews	2	3	5
		+ 20 from 3 FGDs	20 from 3 FGDs			
		46 participants	36 participants			

V. A Case Study in Sesan District

This chapter analyses the interconnected issues through which climate change affects women and girls, drawing exclusively on qualitative data from the perspectives and experiences of female farmers and girls, local authorities, and health service providers in five communes in Sesan District, Stung Treng Province. The findings demonstrate that climate change acts as a multiplier of existing challenges and barriers that rural women and girls face, linking their livelihoods, health, education, water access, and participation in decision-making.

1. Social-Economic Status

Stung Treng province is about 356 km from Phnom Penh. In Sesan District, one of five districts in Stung Treng Province, women represent a higher percentage than men (MWBP, 2006). About 176,488 people are located in Stung Treng province in 2024 (NIS, 2024). The province remains 14 different indigenous ethnic communities, including Khmer, Lao, Kavet, Kuoy, Vietnamese, Chinese, Phnong, Lun, Brao, Kreung, Chams, Tum Puon, Kachock, and Jarai, among which Khmer, Lao, Kavet, and Kuoy ethnicities represent a higher percentage in this province (MWBP, 2006).

It engaged 98% of women who are farmers, students, local authorities, and health service providers aged 16 to 46¹. They represent five communes, a school, and three health centers in the Season district, Stung Trieng province. About 2% is male authority. Approximately 80% of the female farmers had primary and secondary education. In contrast, 11% of local authorities have completed primary and secondary education, and 2% of young women are attending secondary school. About 7% of the health service providers have completed advanced education.

The female farmers from FGDs and in-depth interviews reported accessing water from the river, by pumping from wells, or by purchasing from water stock sellers². Some also relied on state utilities or on exchange and sharing mechanisms with neighbors. Only 13% of their households have access to state utility water, and 17% have access to electricity. Women farmers responded they own land for farming.

In this study, the main livelihood in Sesan District depends on agriculture, and most farm relief depends on rainfall, a traditional method used by farmers. Female farmers reported that the heat wave, irregular rainfall, flooding, and increasing pest outbreaks have significantly reduced agricultural productivity and income stability.

2. Women and Girls Associated to Health Correlated to Climate Change

Despite women exposing health diagnoses, they had to manage their time to get health counseling, treatment, or delay it because community infrastructure is destroyed by climate-disaster change exposure, including floods, heatwaves, and pest outbreaks. Yet, they paid close attention to their children's care.

Moreover, the female farmer responded that they tend to seek care at private clinics or pharmacies, or to self-medicate, rather than use public health care, because public health service providers don't pay sufficient attention and leave them waiting longer for treatment. In addition, Women and girls are increasingly bearing the responsibility for domestic work; meanwhile, households' economic management and income, and farming activities, especially for women, are exposed to chemical pesticide use, which can lead to falls illness.

¹ About 46 participants

² About 38 female farmers and young women from interviews and 3 FGDs

2.1 Women and Girls Exposure Symptom Affected by Climate Change

About 100% of the female farmers³ reported experiencing high temperatures, flooding, and storms. Consequently, it is a range of mild and severe symptoms of health issues. For example, during the high temperature, female farmers reported experiencing dizziness, headache, skin irritation, and 3% of respondents experienced severe high blood pressure due to the chronic illness.

About 5% of young women reported skin allergies, frequent colds, and challenges in adaptation to high temperatures⁴. During the flooding, women and girls experienced symptoms similar to the high temperature, including diarrhea and fever⁵.

Approximately 21% of female farmers reported difficulties applying protective equipment for chemical control due to pesticide exposure⁶. About 3% had not complied with this technique⁷. Yet, they responded to the sameness of their discomfort, nausea, dizziness, loss of appetite, constipation, and general weakness after being exposed to pesticides⁸.

2.2 Women and Girls Experienced Mental Stress Impacted by Climate-Disaster Change

The sharing of women's experiences was on mental stability, sense of security, and daily functioning during the interview. Women and girls often experience heightened stress when exposed to climate events. This exposure reduces their productivity—such as attending class and performing routine activities—while simultaneously increasing household demands, cumulative household expenditure, the triple responsibilities of water management, and anxiety over income generation.

In a data interview, 13% reported⁹ greater stress during the heat wave than during other climate-change events. This stress was caused by disruptions to daily farming and limited access to education during safe hours, leading to indirect income loss, increased expenses, and additional responsibilities. They also experienced physical exhaustion and disrupted sleep. About 3% of young women reported stress from discomfort, trouble concentrating on schoolwork, and limited rest due to needing frequent showers during the heat wave¹⁰.

“During the hot temperature, I felt tired, stressed caused no work long hours. If I cannot work, I will earn less money, but my household expenses remain the same.” C5

During the flooding, 27% of female respondents¹¹ living along the riverside, such as Samkouy, Kampun, and Talad commune, often experienced flooding from the river or after heavy rain. The pressure they faced and concerns about household safety, children's health, water contamination, and temporary loss of income when they were unable to farm or access work, or markets for selling or purchasing. In Sre Kor and Kbal Romes communes, respondents reported that flooding affected their farms and community infrastructure rather than their houses.

³ About 38 female farmers and young women from interviews and 3 FGDs

⁴ In-dept Interviewer G1 & G2

⁵ Interview C1, C3, C11, FDG 2

⁶ Interview C1, C11, FDG 2

⁷ Interview C3

⁸ Interview C2, C14, and FGD1

⁹ Interview C2, C5, C15, C16 and

¹⁰ Interview G1

¹¹ Interview C2, C5, G1, and FGD2

About 5% of respondents¹² express concern about safety and security, as well as about expanding budgets for their daughters' access to education. They said female students cannot access school because the road is cut off, so they turn to online study, which presents challenges: higher internet costs, lower signal, and slower speeds. Another consequence of traveling is needing to take a boat to leave the village; these activities require fuel.

Regarding pest outbreaks, a female farmer¹³ observed that the women farmers around her felt pressured because pests were destroying both the quality and quantity of their agricultural production. This loss reduced productivity and affected household income. In response, they applied chemical pesticides to maintain their agricultural yields. The need to do this repeatedly forced them to work more intensively than usual.

In addition, they had limited knowledge of how to apply chemical pesticides to their agricultural products. There was a lack of support and guidance from agricultural experts or local authorities regarding these issues. As a result, the farmers bought chemical pest control products from the market and used them according to instructions from shop owners or advice from neighbors.

2.3 Women and Girls' Perception of Access to the Public Health Care Service

Approximately 29% of female farmers reported that their locations were affected by flooding during the rainy season. They sometimes delay visiting the health centers due to damaged roads and transportation constraints¹⁴; however, they must overcome these obstacles to access the health center when their children get sick¹⁵. About 5% of respondents reported that they could access public health care in their communities at a reasonable cost. However, they must manage their available time to receive health counselling and treatment due to long wait times for health services¹⁶.

In addition, 3% of respondents reported rarely accessing public health care due to its distance from the community. They will receive treatment when they have a serious symptom. Meanwhile, others said they rarely have access to public health care because health service providers pay less attention to them; they choose a private clinic instead.

A similar response to the flood case: at least 16% of respondents¹⁷ visit public health centers during heatwaves, mainly to bring their children for treatment. The remaining respondents reported delaying or avoiding access to public health services due to time constraints, distance, prolonged waiting, or because earning income is important; instead, they relied on private clinics, pharmacies, or self-medication. About 4% female farmers at Srekor described the challenges they face if they have a serious chronic illness. They have spent a full day traveling from Srekor to the central province.

¹² Interview C2, C5

¹³ Interview C15

¹⁴ Interview C2, C7, C8, C14, C15, FGD 2

¹⁵ Interview C1, C3, C5, C11, FGD 2

¹⁶ Interview C1 and C7

¹⁷ Interview C1, C2, C3, C5, C11 and G1

The respondents, at 21%, reported seeking care at public health facilities for symptoms related to chemical exposure from pesticide application, including dizziness, nausea, skin irritation, weakness, and gastrointestinal discomfort¹⁸. At least 8% farmers relied on private clinics or self-medication. They pointed out that public healthcare providers provided treatment or medical prescriptions based on actual symptoms, yet the analysis of the root causes of those symptoms was absent¹⁹.

2.4 The Response from the Public Health Service Providers on Health and Nutrition

The response from public health service providers is to pay closer attention to children under 5 years old. Following the Interim Guidelines on Monitoring and Promoting the Growth of Children Under 5 Years of Age (2022)²⁰ by the Ministry of Health, health centers frequently disseminate information on health monitoring and nutrition-related check-ups for children.

Regular orientation sessions raise mothers' awareness of providing nutritious foods to their children and of the importance of vitamin supplements in strengthening their children's health. However, some villagers pay less attention to bringing children to health centers for regular appointments to receive nutritional supplements.

Responding to this, medical service providers²¹ and the commune committee for women and Children (CWCC) have noted that villagers' awareness of child nutrition is limited, while female farmers said they did not receive any systematic advice or adequate nutrition information²².

Public health service providers reported vector-borne disease, with a higher incidence during the flooding period, including an increase in diarrhea-related cases accompanied by fever and skin infections. In addition, they treated dehydration, fever, diarrhea, and skin infection during the heatwave.

They provided service treatment, particularly among children, which often results in children's accelerated absenteeism in class²³. However, they expressed related coordination with schools to prevent illness or improve school-based healthcare, which is absent. Health care staff confirmed that climate-disaster change affects infrastructure, which delays treatment and contributes to relapsing illness among girls.

2. 5 Health Measure and Early Warning Information

There were no reports about the guidance on health measures when the community used chemical pesticide control. There was no evidence of regular training on safe handling, the use of protective equipment, or the prevention of health risks related to pesticide exposure. Women who were involved in chemical spraying to prevent pests reported that they rely on personal experience,

¹⁸ Interview C2 C4 and FGD 1

¹⁹ Interview C2 C5 C14

²⁰ គោលការណ៍ណែនាំអន្តរការ ស្តីពីការតាមដាន និងលើកកម្ពស់ការលូតលាស់របស់កុមាររៀបរៀង (2022), page 41

²¹ Interview N3, N2

²² Interview c2 c7 C1 C5 and FDG 2

²³ Interview N1 and N2

advice from pesticide sellers, or informal knowledge shared within the community, rather than having formal pest control guidance²⁴.

The farmers mentioned that NGOs' partners occasionally provided general awareness sessions on agriculture or climate change, which sometimes included basic messages on safety, security, and health prevention related to climate change. However, these interventions were described as project-based, limited in coverage, and not sustained²⁵.

"No one has ever come to teach us how to use chemicals safely for pest' prevention. We just buy it and use it by ourselves. There is no training or protection equipment given... Sometimes NGOs come to talk about farming or climate change, and they mentioned health a little, but it is only for that project time; after that, there is nothing more." CC5

The cause is low agricultural productivity and income, leading them to use chemical pesticides. Besides the economic concerns, household responsibilities were already a major task for them, and the extra time required for farming management means a double burden for women farmers²⁶.

During the heatwave, the farmers received limited health guidance for daily living from local authorities. Sometimes they noted that it was overly general, focusing on basic advice such as taking medication, drinking water, or resting when they were sick. They reported that this guidance has not adapted to their daily realities, for example, financial constraints, limited access to water, long working hours, and household responsibilities.

Preventive advice on nutrition and pesticide-related health risks was largely absent, leaving households to rely on personal experience rather than on structured, community-based guidance to manage everyday health risks amid climate change²⁷.

The respondents received early warnings through various channels. The female farmers received information on climate change via announcements made by the local authority speaker across the villages²⁸. The local authorities confirmed that they will make a public announcement about the climate disaster affecting the community via loudspeakers and by sharing content on the Telegram group²⁹.

In the meantime, the female farmers reported receiving early warnings from their neighbours because they are in the Telegram group. The commune members created a Telegram group to communicate and share information while attending the meeting³⁰.

Regarding increasing river floods, regular rainfall information is frequently shared in advance, yet when strong winds are involved, they are less likely to receive it before they occur. About 50% of

²⁴ Interview C2, C14 and FGD 1

²⁵ Interview C2, C14, FGD 1

²⁶ Interview C15

²⁷ Interview C1, C2, C5, C14, FGD1, FGD2

²⁸ Interview C1, C2, C5, C14

²⁹ Interview CC2 CC3

³⁰ FGD3

respondents reported rarely receiving early warning information on tropical storms; they normally travelled during these storms³¹.

The strong wind affected the villagers; for example, they knew a victim in the village was involved in an accident while taking a boat across the river after nearly falling into the river. Similarly, young women fall while farming, so farmers should review this information in advance to prevent harm from strong winds³². Approximately 16% of farmers received early warning information via the Telegram group or other social media platforms rather than through public announcements from the communes³³.

Regarding the high temperature, they said they heard a limitation in the guidance on heat stress. The female farmers and a commune chief confirmed receiving or providing guidance on preventing dehydration by drinking plenty of water from the local authority and telegram groups^{34 35}.

However, women and girls want to strengthen their knowledge and capacity regarding climate change and disaster preparedness. They expressed their opinions on the following topics. Most frequently, they expressed needs related to health protection, basic understanding of climate change information and its impacts, and minimizing vulnerability and risk³⁶.

N	Knowledge suggested	Percentage of respondents
1	Access to early-warning information related to climate-disaster change	37%
2	Health protection guidance	37%
3	Safe farming and pesticide use	24%
4	Confidence to public speak	29%
5	Awareness of participation rights	21%
6	Leadership and communication	26%

3. Climate Change Impacted the Female Farmers' Agricultural Productivity and Income

The female farmers explained the impact of the heat wave on their agricultural productivity. The extremely heat wave, it caused female farmers to reduce the labour productivity on farming, particularly for women, who have the chronic disease, illness, and pregnancy³⁷. The farmers

³¹ Interview C1, C2, C4, C5, C14, G1, G2, and FGD1, FGD2

³² Interview C16

³³ FGD2

³⁴ Interview C2, C4, C14

³⁵ Interview CC2

³⁶ 38 respondents from FGD and interview

³⁷ Interview C1, C2, C3

explained that reduced and delayed labour capacity for farming activities resulted in lower productivity during the harvest season, or, in some severe cases, incomplete cultivation cycles³⁸.

The heatwave affected crop quality, with poorer grain filling in rice, decreased productivity, damaged cassava roots, and lower-quality cashew nuts that fetched reduced market prices. As a result, even when farmers harvested crops, they often earned less income due to reduced produce quality. These outcomes weakened bargaining power with wholesalers³⁹.

In addition, heatwaves cause crop damage by increasing vulnerability to pests and diseases, further degrading produce quality and leading farmers to use chemical pest control. The farmers' concern about expenses exceeding income led to declining net income and financial insecurity⁴⁰.

Flooding is a significant constraint on the expansion of rice, cassava, and cashew production, with distinct impacts across crops and seasons. Rice fields were described where floodwaters inundated rice paddies, causing crop lodging, rotting, and grain loss, and, in some cases, forcing farmers to abandon harvesting altogether when water levels remained high near maturity.

About 24% explained that even short-term flooding could delay harvesting, altogether when water levels remained high close to maturity. It reduces grain quality and increases post-harvest losses, directly undermining household food security and cash income⁴¹.

For cassava, flooding affected root development and increased the risk of rot, while prolonged waterlogging reduced yields and lowered market quality. The farmers expressed that damaged access roads during floods further restricted the transport of cassava to or from the wholesaler, leading to delayed sales after the flood had gone, and it led to lower prices, or complete income loss during or post the flooding⁴².

Cashew production affected by flooding and heavy rainfall disrupted flowering and nut development, increased pest and disease incidence, and limited the ability to collect and sell nuts on time⁴³. Based on the female farmers in Sre Kor, there was a decrease of at least 40% to 50% after the farm was affected by a flood⁴⁴. Reflect on the farmers who rely on loans to cover agricultural inputs and daily expenses, contributing to seasonal debt accumulation and increased financial vulnerability⁴⁴.

To address the rising debt faced by some households, the local authorities stated that they were experienced in facilitating communication between farmers and loan staff at microfinance institutions and banks to minimize conflict.

³⁸ FGD1

³⁹ Interview C1, C2, C3, C4, C14, FGD1

⁴⁰ C2, C14 and FGD1

⁴¹ Interview C2, C5, C14, and FGD3

⁴² Interview C3 and C5

⁴³ Interview C14

⁴⁴ Interview C2, C14, FDG 4

4. Triggers High Expense During Heat Wave and Flooding

The farmers accessed water from different sources, such as rivers, water-container sellers, public utilities, and wells. However, for those without access to state utility water, there was concern about the high cost of purchasing water during high temperatures compared to average temperatures.

In the interview, 42% of female farmers⁴⁵ expressed concerns about both heatwaves and flooding. Based on geographic conditions, 8% of respondents⁴⁶ in the interview said their households have access to public utility water. During the heat wave, their families had access to more frequent showers than usual and used electric fans to cool down, which increased electricity and public utility water bills.

Many farmers relied more on pumped river water for their homes if their homes were close to the river. These consequences are associated with safe drinking water, bathing, and household hygiene. These combined to create a significant financial burden on low-income households, particularly since it falls to women to manage the household, including controlling water and electricity use and household expenditure.

"In the hot season, we always buy water or pump water from the river for household's cooking. For safety drinking water, we boil it. So, it is a triple cost than usual because high expending on purchasing water, electricity and fuel." C2

Another respondent said she is much better than other villagers because she has a mitigation strategy: a large storage container, and she has managed to save water longer than other families. At the same time, another described delivering water from the river as better than that of other villagers because she has a hand tractor to carry it home for storage as a coping strategy. She has enough cash to buy bottled water.

"The daily using water for cooking and safe drinking water, I still buy it from the local store." C6

Similarly, in the flooding season, the farmers reported feeling unsafe using water, even in locations with relatively better infrastructure⁴⁷. A girl reported feeling uncomfortable using the water during the flooding⁴⁸. Yet they keep practicing routine measures, such as boiling water or buying bottled water, to ensure safe drinking.

Other farmers said the flooding had prevented them from purchasing container water because it had damaged public infrastructure, such as roads, used to deliver water. They said the flood impacted the whole community⁴⁹.

⁴⁵ 16 interviewers

⁴⁶ Interview C11, C2 and G1

⁴⁷ Interview C1 C3, C5, C11, and FGD2

⁴⁸ Interview G1

⁴⁹ Interview C2, C7, and C14

“In the flooding season, the road is difficult to pass, and the water-container truck for selling cannot come. Even if we want to buy clean water, sometimes it is not available, so we have to use the water we have.” C7

In Talad and Kampun communes, flooding affected water access differently but was equally constraining due to these communes' access. However, in Kampun commune, access to clean water is much better than in Talad because the commune is located close to Stung Treng City. However, in Talad commune, during the flooding, the villagers faced greater challenges due to the commune's geography and the villagers' limited access to water for pumping from the river.

Although public utility water is more widely available in Samkuy Commune, flooding still affects water access by increasing turbidity, interrupting supply at times, and raising household reliance on treated or purchased drinking water.

The infrastructure reduced server shortages, but it did not fully eliminate concerns about water quality and safety during floods⁵⁰. Across communities, it found that women remained primarily responsible for managing water under these conditions, including additional boiling, filtering, or sourcing alternative supplies.

5. Challenges for Girls' Education

Stress from climate change impact on girls' education, particularly referencing the limited infrastructure, the role of girls in the family, and leading to early marriage. In two communes, Talat and Rom Pat, the female farmers reported that girls normally get married around 13 to 14 years old.

5.1 Climate Change Impacted the Public Infrastructure

The farmers reported that public schools often lack adequate safety measures, drinking water, and facilities for hygiene and sanitation, as well as a cooling system, making learning difficult during hot periods. Due to the flooding, some roads were destroyed, preventing girls from reaching school safely. Despite the school still being open, the girls discouraged themselves⁵¹.

A girl described infrastructure-related discomfort as a direct barrier to attendance and concentration. One girl explained the impact of the heat wave and school conditions:

“When it is very hot in the class, I felt tired and could not concentrate. Sometimes I don't want to go because it is uncomfortable.” G1.

During the interview, most interviewees stated that the primary school access was close to home and accessible for most households across the Sesan district. The Farmer and local authorities from Srekor, Kampun, and Talad communes reported that primary schools are usually located within or near villages, allowing young children to attend without major travel or safety concerns.

⁵⁰ Interview C9

⁵¹ Interview C3 C5 C14

Therefore, there is no concern about distance-related barriers in the primary school, even for households affected by the heatwave⁵². However, the isolated cases during the flooding covered the road to the school, distracted students from attending, and raised parents' concerns about the safety of their children's access to school.

The farmers described access to secondary school and high school as more challenging. For lower secondary school access, female farmers and local authorities reported that those located at the commune center require daily travel from the village. Distance, transportation costs, and poor road conditions, particularly during flooding, affect families struggling to manage travel expenses and safety concerns, contributing to the learning gap and increasing the risk of dropout⁵³.

Regarding high school access, it was consistently described as the most challenging across all the communes. Farmers, girls, public health providers, and local authorities reported that high schools are located outside villages, often in distant communities, which increases the burden of transportation for students and their parents. The cost of transportation increased due to concerns about safety, the need for accommodation, and seasonal road inaccessibility during flooding. One respondent explained why the girls do not continue to high school:

“High school is not near here. Even if the child wants to study, we can't afford the travel cost every day, so most girls stop after lower secondary.”C3

As a result, students pursuing high school were described as rare among girls from farming households, particularly in climate-affected, low-income contexts, reinforcing early dropout after lower secondary education⁵⁴.

5.2 Expected Girls' Roles and Responsibilities in the Households

The gendered social norms, unequal time allocation, and economic necessity together constrained girls' ability to continue their education. The respondents expected that girls would assist their families after school or upon leaving school and take on household responsibilities.

Regarding the perspective on girls' roles, they have remained within the household and have been shaped. The families expected girls to be responsible for domestic work, including assisting with cooking, cleaning, caring for the younger ones, and sometimes helping their mothers with farming activities⁵⁵. As a result, the young women are absent from class, miss school, arrive late, or lack attention in class activities, which leads them to drop out of school⁵⁶.

They said girls and boys should have the same opportunity to attend school, whether or not climate change is present⁵⁷. One female farmer expressed her daughter's access to education as interconnected to domestic work:

⁵² Interview C1 C3, C5 C9, CC1, CC5

⁵³ Interview C1, C5, C14, G2, CC1, CC3

⁵⁴ Interview C1 C3 C5 C14 G1 C2 CC1, CC3

⁵⁵ Interview C1, C3, C5, G1, G2, FGD2, N2, N3

⁵⁶ Interview C1, C3, C5, G1, G2, FGD2, N2, N3

⁵⁷ Interview C5 FGD2

"I don't stop my daughter from studying, but she still must help me at home. If there is work, she may be absent from class, while the boys must attend to the classes." C2

Importantly, respondents emphasized that girls' attendance is not limited by a lack of interest in education but by structural and social constraints, including following social media and being influenced by the old generation. In addition, this perspective is not directly discouraging. Still, the family is unable to support them due to household conditions, which are economic and gender stereotypes, such as becoming a young teenager, and there is a time to quit school.

5.3 Girls' Early Marriage

The farmers acknowledged that girls and boys have the same opportunity to access education. However, they wanted their children to go to school, which depends on the household's economic condition, available time, or the school's location in the community. Having said that, the rate drops out of the school, intertwined with early marriage, while girls are aware of the normative tradition surrounding early marriage. More specifically, there is a perspective in the community that if a girl quits school, it means they have nothing to do, and it is a good time for them to get married.

Girls' early marriage typically occurs between the ages of 13 and 14. Girls' interviews confirmed that early marriage is rarely their first choice but emerges from no choice, which their parents or neighbours insist on. This action often reflects that once they are out of school, social expectations and the pressure to marry increase, especially when they are no longer students⁵⁸. This norm happened through villagers introducing each other, leading to arranged marriages, or respondents choosing each other⁵⁹.

To respond to this concern, public health care staff expressed their observation and experiences related to the early pregnancy cases, which frequently involved girls who had already dropped out of school⁶⁰.

"Most young women came for maternity care are no longer in school, and for the post-delivery baby, it is very difficult for them to continue studying."

The local authority explained that they have improved villagers' behaviour, particularly regarding early marriage, through orientation and explanations when they were at the commune to request a marriage certificate registration. By law, the legal registration does not apply to young couples under 18 years old⁶¹.

6. Women and Girls in Leadership

The participants defined leadership. The "leadership" described as understanding is someone who assists, communicates information mutually, and responds to the community's needs, particularly in crises such as flooding or livelihood disruption⁶². The women contributing are known for their

⁵⁸ Interview G1, G2

⁵⁹ Interview C5 and C6

⁶⁰ Interview N1, and N3

⁶¹ 4 female farmers G1, FGD2 CC1, and CC3

⁶² Interview C1 C2, C5, C14, G1, FGDs CC1, CC2

social engagement at the household, community, and national levels. Social engagement means that "A good relationship with people around. For example, we stay next to each other, we have a mutual communication."⁶³

6.1 Women's Participation in Decision-Making and Barrier

The farmers in the interview understood that women are underrepresented in leadership positions in the community. CCWC in Srekor commune perceived limitations for women in leading positions due to limited access to education, consistent with social norms, family economic status issues, and the distance to schools.

The farmers highlighted their proactive participation in community meetings⁶⁴. Similarly, local authorities addressed women's courage in raising their specific needs and the challenges they faced⁶⁵. At the grassroots level, participants commonly described gender equality as men and women sharing responsibilities and respecting one another. Nonetheless, in practice, women continue to carry a disproportionate burden of household work.

Furthermore, their understanding of leadership remains limited because their roles are largely confined by family and community as symbolic, while formal decision-making remains limited. This limitation affects their broader understanding of gender equality and women in leadership positions. In response, the respondent pointed out that women play an important role in addressing the impacts of climate change. Women also continue to have opportunities to participate in meetings and work at the commune's office, but they remain underrepresented.

The female farmers recognized that women can be good leaders, not just in the household, but also in the community. The local authorities acknowledged that women could work well, demonstrating strong management skills, responsibility, and problem-solving. Moreover, women are well-suited to administrative and financial tasks because of their nature⁶⁶.

At the family level, women are more recognized as leaders. For example, they have to manage their financial flow, making decisions on family income activities⁶⁷. However, regarding gender equality at the family level, the respondent reported that it was unequal in practice. The female farmers elaborated that women are mostly responsible for domestic work, including cooking, washing family members' clothes, water management and collection, and childcare⁶⁸. The same respondents also highlighted experiences from observing men's daily duties. Most men are responsible for the farm's activities.

When discussing leadership at the community level, most respondents reported that leadership positions are predominantly held by men, including village chiefs, commune leaders, and decision makers. Respondents emphasized that the male dominance is not due to women's lack of ability, but rather because leadership is socially associated with men, higher education, and confidence;

⁶³ Interview C8

⁶⁴ Interview C2 and C7

⁶⁵ Interview CC1, CC3, CC4, CC5

⁶⁶ Interview CC1 and CC2

⁶⁷ Interview CC1 and CC2

⁶⁸ Interview C1, C2, C5, C14

meanwhile, sometimes, it is identified as a language barrier, because most of the old generation speaks the Lao language in their daily life, and they face difficulties reading and writing the Khmer language.

Education was repeatedly identified as a major challenge limiting women's leadership opportunities. They shared that they dropped out of school early due to low-income households and the limited availability of higher education in the community, as detailed in Section 5. Other respondents also expressed the belief that leadership requires education, particularly the ability to read, write, and guide others.

"To be a leader, you need a high education. I feel unconfident to lead or talk in front of many people, because I only completed it at grade 3 in the primary school". C11

6.2 Women's Role in the Households Amid Climate Change

Women and girls in the interview strongly reported that they play major roles in addressing climate change, even though households and communities have not identified them directly; they emphasized the results of taking on these responsibilities. For example, to ensure safe drinking water for their children, they generally boil the water or use filtered water at home so their children can pack safe water to drink at school.

"The school has the filtering water system ... we didn't have it before... but I don't know if my children to drink it or not. I always give my children to pack the water from home." C16.

Due to concerns that the children are prone to illness, the women are responsible for reminding the children to limit outdoor activities during extremely hot temperatures. To prevent extremely hot temperatures, about 5% of female farmers articulated that they alert their children to drink more water during the heatwave, take frequent showers, stay home if there are no necessary activities, or stay under trees.⁶⁹

The respondents from Kampun commune, located along the river, reported that they had disciplined themselves to take care of their children more strictly during this flooding⁷⁰. Most households and farmers rely on a mix of rainwater collection, rivers and ponds, wells, and purchased water for daily domestic use. The female farmers described their daily activities, which include collecting, storing, boiling, and managing water for drinking, cooking, washing, and sanitation, regardless of whether households are engaged in farming or other livelihoods⁷¹.

6.3 Women and Girls' Freedom of Expression

The report found that women and girls identified the need to exercise their right to be heard in climate change policy implementation and gender issues, especially in decision-making. Women community members expressed that participation begins with being actively encouraged to speak

⁶⁹Interview G1 and C4

⁷⁰Interview C1, C3, C11, FDG 2

⁷¹Interview C1, C2, C3, C14, C16

in meetings, rather than merely being present. Farmers knew they had the right to express their concerns or contribute, but they dared not speak up.

"I know I have the right to speak, but I have not spoken up." C16

The women linked their ability to participate to access to information and training, noting that without understanding climate issues or policies, they feel unable to contribute meaningfully. One respondent stated:

"If we understand more about climate change and plans, we can talk. Without the information, we don't know what to say." C5

Women and girls highlighted education and courage as critical factors. Women with limited schooling reported low self-esteem in public discussions.

"I am afraid I would speak or say it correctly" C15

While girls noted gaining support and value from the communities, they should continue to pursue education, and the local authorities, recognized as important, pointed out barriers and an insufficiently structured system to support women. A commune official acknowledged that, when women were invited to meetings, there were a few mechanisms to encourage women to raise their voices. Nonetheless, she expressed concern that the level of education has prevented women from speaking up.

The women farmers confirmed their attendance at the meeting, but they did not express their opinions because they believed their views would not influence decisions.

"Even if I go to the meeting, I just listen. I don't think my opinion is important to share." C1

7. Forms of Violence Triggered by Climate Change

The farmers identified verbal violence between husband and wife or among family members as not the major concern. They believed this attitude is not harmful to other family members in the community. The female farmers addressed the verbal argument in the family, but they were not considered a severe case⁷².

Economic stress was described as leading to frustration, arguments over money miss management, and pressure to meet daily needs. The local authorities and public health service provider emphasized that community cohesion generally remained intact, but financial hardship increased stress and violence at the household level, particularly related to food consumption, medical expenses, and debt repayment⁷³.

"We have seen increasing on domestic violence when the households have restriction on their income, but we have not seen violence related the serious crime." CC1

⁷² Interview C1 C3 C5, FGD2

⁷³ Interview CC1, N2

Women and girls are perceived as more vulnerable to becoming victims, not correlated to safety and security in the community, but of economic insecurity, exploitation, and harm during climate stress. Women were described as more exposed due to their responsibilities for water collection, caregiving, market access, and household management, which increase their mobility and exposure to unsafe conditions such as flooding or extreme heat. Girls were seen as particularly vulnerable to school dropout, early marriage, and reduced retention when household income declines⁷⁴.

Men and boys were generally viewed as less vulnerable to these social risks because they retain greater mobility, decision-making power, and access to income-generating opportunities, even during periods of climate stress. Respondents emphasized that vulnerability is shaped by gender roles to resources, rather than risk-taking or criminal behaviour⁷⁵.

“Women and girls face more risks when families are poor, especially dropping out of school or early marriage.” CC3

8. Climate Changes in Conjunction with Social Safety and Security

The respondents stated that they did not observe a clear increase in theft, robbery, or snatching during the climate-related crisis. Local authorities confirmed that the level of serious crime remained relatively stable, even during the period of economic stress⁷⁶. However, other respondents reported heightened fear and perceived insecurity, particularly during flooding, when households were temporarily displaced, or when roads were damaged, even if actual incidents have not increased⁷⁷. This suggests that climate impacts affected perceptions of safety more than crime did.

“I didn’t see more stealing, but during flooding, we feel less safe because houses and roads are not normal.” C3

VI. Conclusion and Recommendation

This study provides insightful qualitative data for analysis, including perceptions, experiences, and meanings from rural women and girls, especially those from ethnic minority communities in Sesan district, Stung Treng province. There is a limitation to studying the addresses and echoing their voices from the communities. Remarkably, they overcame the challenges they faced through paid and unpaid work to generate income in their households, especially in climate change and adaptation.

As a result, people in the Sesan district rely on rain for farming. They generally use traditional aquaculture techniques. The environmental disaster causes irregular rainfall, flooding, high temperatures, drought, and strong winds, leading to increased pest outbreaks, reduced agricultural productivity, and household income losses.

⁷⁴ Interview G1, C3 CC1.

⁷⁵ FGD2, CC3.

⁷⁶ CC1, CC3

⁷⁷ C5, FGD2.

In the meantime, women and girls exposed to health diagnoses from physical symptoms to mental stress coherence remain the triple burden on farming management, pest control, and household responsibilities. Specifically, women may delay hospital visits due to distance, transportation disruptions, or disasters such as floods.

On top of this, they felt less attention from the healthcare service providers, waiting for hours to get health services; instead, they access a private clinic or self-medicate. Nevertheless, they prioritize their time for their children's health care and overcome to bring them to the hospital when their children fall ill. Their roles in the household associated with climate change remain substantial, including water management, supervising safe drinking water, and children carrying water to school, pest control, staying alert to their family members, especially their children, about drinking water, and staying indoors during heatwaves.

Women are more likely to receive early warning information about rain, heatwaves, and floods through public announcements and Telegram groups. Yet they face barriers to obtaining a warning of strong winds. Due to pest outbreaks associated with climate change, women applied pest control directly to measure farm productivity. They reported having no public guidelines to instruct them on safe pest control; instead, they relied on self-practice, villagers' instructions, and chemical pest sellers.

Climate change is a root cause of lost household income, a negative impact on poverty reduction, resulting in girls dropping out of school, which is associated with early marriage. The intervention by local authorities remains superficial, addressing only the legal registration of the marriage certificate for those about 18. The social norm, gender stereotype remains practiced and believed in the communities, for example, the households believe girls are responsible for domestic work and assist their mothers, while boys should get advanced education.

While women farmers viewed the verbal violence as internal to households, they identified themselves as a vulnerable group during climate change due to triple responsibilities. At the same time, men contribute less to domestic work and have more privileges in decision-making, greater freedom of movement, and access to income opportunities.

Leadership and decision-making power remain a challenge for women farmers. They believe their limited education and language barrier prevent them from holding leadership positions. In addition, men exist to predominate in the public office. In the meantime, gender-stereotypical symptoms are widespread in the community, for example, the local authorities viewed women's roles in public offices as good at administration, financial management, and assistance due to their nature. Yet, they know the importance of women's roles in addressing challenges and problems in the households and communities.

The gaps and expectations of the public staff to provide service to the community. Women farmers' expectations of local authorities' responsiveness, including proactive public warnings about strong winds and heatwaves, health measures for safety, and pest control. In response, the local authorities shared tasks related to public announcements on climate change, facilitating conflict

resolution in communities related to debt, and actively encouraging women to participate in public speaking to express their needs.

Recommendations

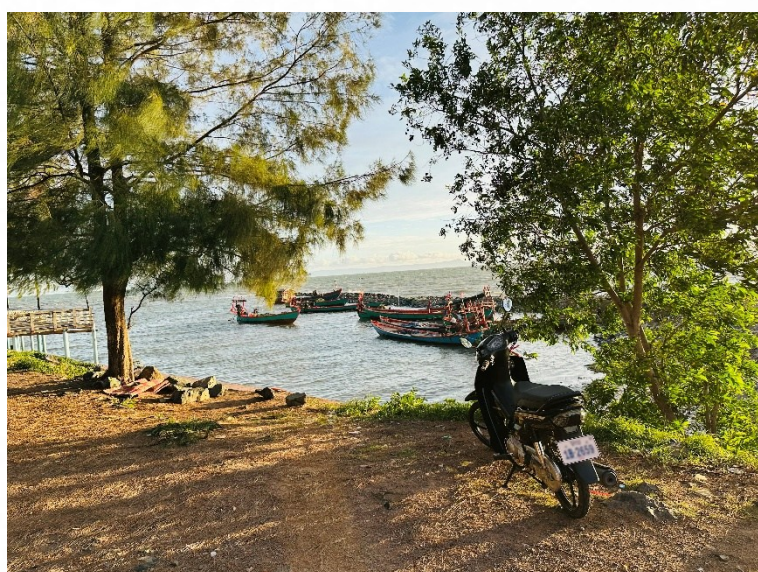
- Prioritizing the emergency response at the sub-national level, a gender-responsive climate change adaptation and response plan, particularly in relation to water management and distribution to communities during the heatwave and flooding. In addition, INGOs, NGOs, and CBOs should expand their activities to strengthen local authorities' responses to climate change, trust, and relationships between villagers and local authorities, especially regarding climate change impacts and measures taken in ethnic minority communities.
- The relevant stakeholders in community development, such as women's rights organizations, development partners, INGOs, NGOs, and CBOs, should increase their community-based activities to support gender-responsive climate change preparedness and response for indigenous ethnic minority communities. These activities include access to early warning and response related to climate-disaster change, health protection guidance, safe farming, and pesticide use. The soft skills for empowering women include public speaking, economic empowerment, and gender equality.
- The rate of school dropout among young women and girls remains a concern due to domestic work responsibilities, as a result of missing or being absent from class; meanwhile, others leave school early because of deprivation, distance, and early marriage. Intervention activities by relevant stakeholders should prioritize eradicating harmful normative practices, social norms, and gender stereotypes that impede children's development at each stage. These activities include gender-transforming structural policy reform at the national and sub-national levels for education, vocational training, and Marriage and Family law, and the reinforcement of these reforms. In addition, there are efforts to strengthen women's rights, choice, and decision-making; provide basic knowledge of sexual and reproductive rights; and increase community-level decision-making power over economic activities. These activities should engage men and boys to improve socio-economic conditions in households and communities.
- There is limited evidence to present the voices of communities, especially those of women's rights and women-led organizations. Therefore, they should continue organizing and collecting the case studies and research studies on significant progress in implementing gender equality and its barriers across all sectors in the communities. These evident aims are to amplify the advocacy tool to inform national policymakers on socio-economic barrier and growth in the communities.

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