



Gender & Malaria in the Greater Mekong Subregion

A Call to Evidence-Based Action



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EXECUTIVE SUMMARY

Background

The Greater Mekong Subregion (GMS) has made significant progress towards malaria elimination in recent years as a result of significant investments in improving surveillance systems, that contribute to better deployment of available technologies to prevent, and test and treat malaria. National Malaria Programs recognise that the last cases are likely going to be the hardest to find, particularly as they are often in the hardest-to-reach areas, and often among the most vulnerable people. Vulnerability in malaria elimination can be considered in terms of the factors that may make an individual (a) more likely to get malaria, (b) less likely to be able to **seek or access** quality health services, (c) less likely to **receive** quality health care, and (d) less likely to complete malaria treatment. These factors tend to be considered by location (proximity to mosquitos) or occupation (exposure to mosquito bites), however, other factors, such as gender, have not been systematically reviewed.

The Civil Society Organisation Platform was created in 2014 to support the

Regional Artemisinin Resistance Initiative (RAI) funded by the Global Fund for AIDS, Tuberculosis and Malaria to engage communities and civil society more directly in malaria efforts. Through its work with communities, particularly in the field, the Platform has identified gender as a factor that has been neglected in the region, and may hold some keys for accelerating progress towards elimination. It was with this backdrop that the CSO Platform and the Asia Pacific Community, Rights, and Gender Regional Platform (APCRG) – an initiative of the Global Fund’s Community Engagement Strategic Initiative (CE SI), that modest resources were found to explore this issue. Using APCRГ’s Strategic Funding, the CSO Platform was able to mobilise a consultant and data collectors better understand gender dimensions of malaria in order to seek new opportunities to accelerate malaria elimination in the GMS.

Methodology

With limited resources available, this assessment undertook a general desk review, and supported CHIAs to conduct four focus group discussions and two

key informant interviews in Taoi district, Salavan Province, Lao PDR. Thirty-nine people were interviewed, including male and female community members who have experienced malaria, village health volunteers, a local leader, and a health centre representative. This was very limited data collection, and was intended to determine to what extent gender may play a role in malaria prevention and case management in one community in the region.

Key Takeaways

Both men and women in malaria endemic areas are vulnerable to malaria. Men may be more vulnerable as they can spend more time in the forest for days or weeks at a time. However, women can also be vulnerable when they stay overnight in the field. Women are also less likely to have all their skin covered, as they wear the Lao *sinh*, or skirt, that can leave their legs exposed, compared to men who are more likely to wear long trousers.

While men and women receive equal health care in Taoi district, women's access to that care is more constrained than men's for three main reasons. Firstly, women are less likely than men to speak the Lao **language**, which is the language that all malaria informational

materials are available in – and some health care workers may not speak the local ethnic language. Secondly, women are less likely than men to be able to ride a motorbike, and they therefore face greater **transportation** barriers to reaching health centres. Thirdly, women can have lower **decision-making power**, and may need their husband's permission to seek health care, or need to be accompanied to a health centre. It should be noted, however, that the work of village health volunteers is important to helping women address all three of these barriers.

Finally, cultural and social norms can place different constraints on men and women. While women can feel bound to household chores and child care, which can deter or delay her from seeking health care, men face social norms to be "strong", whereby he would not seek health care until symptoms become serious. This can result in more severe malaria, and increased likelihood of transmission until treatment is sought.

Conclusions

1. Both men and women face different vulnerability to malaria:

While all people in forested areas are at risk of malaria, men can be at higher risk due to spending more time in forests.

However, women also stay overnight in fields with their husbands, and sometimes their entire family, increasing their exposure to mosquito bites. They may also be at higher risk than men because they are less likely than men to wear clothing that covers all their skin – in accordance with gender expectations in the community.

2. Women face higher barriers to accessing health care information and services:

While men and women receive equal treatment in health facilities, women face higher barriers in accessing information and health care due to cultural norms. Women are less likely to be educated in the Lao language, which reduces her direct access to information. Women are less likely to be able to take herself to a health centre as she is less likely to know how to ride a motorbike or have direct access to transportation. And women are less likely to have decision-making agency in her household, in addition to being expected to stay home and take care of others. These norms also constrain female VHV's ability to provide the same services as their male counterparts.

3. VHVs are helping women overcome barriers:

The work of VHVs has proven to be critical to ensuring that women receive access to malaria information in their language, and have improved access to malaria testing and treatment through the transportation services provided by VHVs.

4. Cultural norms can negatively impact men's health seeking behaviour:

Cultural norms, such as men's need to be strong in the face of illness, result in delayed treatment seeking, potentially until the malaria case is more serious, and potentially contributing to further onward transmission.

Gender-responsive Recommendations

To the CSO Platform

1. Seek or secure additional funding to conduct Malaria Matchbox-type assessments in more settings across the GMS where malaria elimination progress has slowed in order to identify gender or socio-cultural barriers.

2. Propose a gender-focused RSC meeting to the RSC secretariat, and work with them to develop a participatory meeting to help raise RSC member awareness of gender dimensions of malaria elimination and prevention of re-establishment.

To CHW program implementers

3. Ensure that malaria information materials are available in all necessary local languages and presented in formats that are more accessible to all community members. These materials can be designed in consultation with the community – particularly the women, using a human-centred design approach.

4. Review forest pack, LLIN,LLIHN, IEC/BCC materials distribution criteria to ensure that sufficient numbers are provided to cover all necessary individuals and households, including as children grow up.

To the RAI Regional Steering Committee (RSC)

5. Dedicate a meeting to Gender and Malaria, reviewing gender-disaggregated data, sharing the learnings of this paper,

and providing an introduction to gender responsive vs. gender transformative approaches, to identify potential changes to be made in future National Strategic Plans or through Global Fund reprogramming.

6. Request the Independent Monitoring Panel to mobilize appropriate technical assistance – either from within the IMP or externally – to work with the CSO Platform to design, conduct and/or analyse results of Matchbox assessments, and co-develop recommendations for follow-up through the RSC.

To NMCPs

7. Following Matchbox assessments in other GMS countries, organise a Gender and Malaria meeting with the Ministry of Health, and the Ministry/Commission on Gender/Women in each country to examine gender disaggregated data, review best practices, and begin exploring linkages and opportunities for joint efforts towards shared goals of malaria elimination and gender equality.

Gender transformative Recommendations

To CHW program implementers

1. Provide support to female VHVs to learn how to ride motorbikes safely – and potentially to negotiating access to one – to be able to transport people to health facilities, and to challenge gender norms.
2. Consult women in the community on how they can better protect themselves from mosquito bites in their communities, and when they stay in the field. This may include discussing how they can more fully cover their skin to protect themselves.
3. Organise community meetings to review this study’s findings and facilitate discussions among community leaders, men and women regarding how gender and cultural norms can create barriers to accessing health care.



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ACRONYMS

ACT	Artemisinin combination therapy
APCRG	Asia Pacific Community Rights and Gender regional platform
CE SI	Community Engagement Strategic Initiative
CHIAs	Community Health and Inclusion Association
CSO	Civil society organisation
FGD	Focus group discussion
GMS	Greater Mekong Subregion
HMST	Health Management Support Team
KII	Key informant interview
LLIN	Long-lasting insecticidal bed-net
NMP	National Malaria Programs
POR	Prevention of re-establishment of malaria
RAI	Regional Artemisinin Resistance Initiative
RDT	Rapid diagnostic test
RSC	Regional Steering Committee
VHV	Village health volunteer

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INTRODUCTION & BACKGROUND

The Greater Mekong Subregion (GMS) has made significant progress towards malaria elimination in recent years as a result of significant investments in improving surveillance systems, that contribute to better deployment of available technologies to prevent, and test and treat malaria. This has included the distribution of preventative tools such as general and targeted distribution of free long-lasting insecticide-treated bed nets (LLINs), expansion of malaria testing – particularly through decentralising the use of rapid diagnostic tests (RDTs) to the community level – and treatment through quality assured artemisinin combination therapies (ACTs). As the region moves closer to elimination, countries across the GMS have been increasingly quick to design, pilot and implement new response initiatives – often learning from each other – realising that what worked to move from burden reduction to elimination, will not work for clearing all parasites.

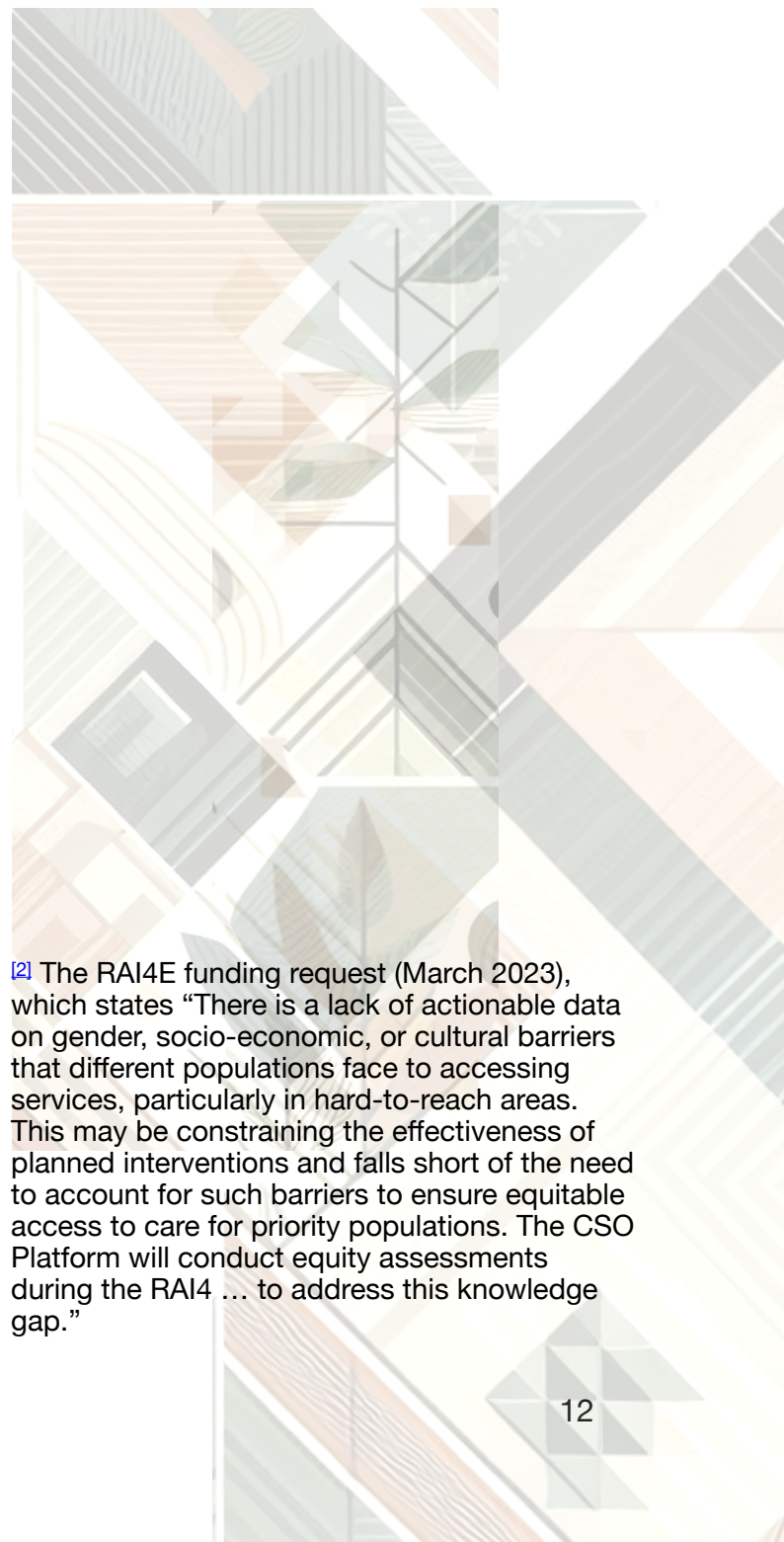
As a result of these efforts, malaria cases in the region have declined from 447,764 in 2013 to 77,177 in 2020, although they also rose slightly since this

time, to 142,676 in 2022.^[1] The National Malaria Programs recognise that the last cases are likely going to be the hardest to find. Typically, the last cases are in the hardest-to-reach areas furthest from public sector facilities, and often among the most vulnerable people in those areas. Vulnerability in malaria elimination can be considered in terms of the factors that may make an individual (a) more likely to get malaria, (b) less likely to be able to **seek or access** quality health services, (c) less likely to **receive** quality health care, and (d) less likely to **complete** malaria treatment. In the GMS, these factors have been increasingly understood to some extent, but they tend to be considered by location (proximity to mosquitos) or occupation (exposure to mosquito bites). Gender and other factors or identities that may affect someone's vulnerability or agency – have not been systematically reviewed.

[1] WHO Mekong Malaria Elimination Database and NMCP databases

The CSO Platform was created in 2014 to support the Regional Artemisinin Resistance Initiative (RAI) funded by the Global Fund for AIDS, Tuberculosis and Malaria to engage communities and civil society more directly in malaria efforts. Through its work with communities, particularly in the field, the Platform has identified gender as a factor that has been neglected in the region^[2], and may hold keys to accelerating progress towards elimination – and to prevent its re-establishment. In particular, the Platform has been bringing attention to areas that are not only close to the forest, but where different ethnic groups reside, that have proven to be more difficult to eliminate the parasite.

It was with this backdrop that the CSO Platform and the Asia Pacific Community, Rights, and Gender Regional Platform (APCRG) – an initiative of the Global Fund’s Community Engagement Strategic Initiative (CE SI), that modest resources were found to explore this issue. Using APCRG’s Strategic Funding, the CSO Platform was able to mobilise a consultant and data collectors better understand gender dimensions of malaria in order to seek new opportunities to accelerate malaria elimination in the GMS.



^[2] The RAI4E funding request (March 2023), which states “There is a lack of actionable data on gender, socio-economic, or cultural barriers that different populations face to accessing services, particularly in hard-to-reach areas. This may be constraining the effectiveness of planned interventions and falls short of the need to account for such barriers to ensure equitable access to care for priority populations. The CSO Platform will conduct equity assessments during the RAI4 ... to address this knowledge gap.”

METHODOLOGY

With the resources available, the methodology adopted was a simple one, and consisted of a desk review, primary data collection, and manual analysis. It was only possible to collect data from one area, and the partners agreed to select an area with (a) relatively high malaria cases among both men and women, (b) physical accessibility for data collectors, and (c) presence of community health workers. Taoi District, Salavan Province in Lao PDR was selected as it still demonstrated relatively high transmission compared to the rest of the country, which is otherwise heading quickly towards elimination. It is also an area that demonstrated a higher number of cases among women and children in a region where cases tend to be concentrated among working-age men. It also included members of malaria key populations, including people who live near forests, and includes ethnic minorities. Community Health and Inclusion Association ([CHIAs](#)) – a community-led organisation that advocates for health and human rights – agreed to conduct the data collection. Since 2017, CHIAs has supported 402 village health volunteers (VHVs) in Salavan province in Lao PDR, including

Salavan, Vapy, Khongsedong, Lakhongpheng, Toumlan, Taoi and Samouy districts since 2017. The VHVs provide malaria test, treatment, and referral services at the community level, as well as distribute malaria packs to forest goers. Between 2021-2023, CHIAs detected 202 cases among women, and 451 cases among men – a relatively high number in a country that detected less than 500 cases in the first half of 2023.^[3] Taoi also stood out, as according to CHIAs data, the percentage of cases among women in other districts is 31%, in Taoi, it is 45%.

^[3] WHO Mekong Malaria Elimination epidemiology summaries.

Literature review

A general internet search identified some resources related to gender and malaria, with a sample of the most credible being reviewed. These included gender and malaria briefs from [The Global Fund](#), the [RBM Partnership to End Malaria](#), the [Bill & Melinda Gates Foundation](#), and to a lesser extent, [WHO](#). No specific resources were found in relation to gender and malaria in the GMS context, although there was one [Lancet](#) comment on a gender responsive framework for malaria elimination in the Asia Pacific. These resources were reviewed to understand key themes, and issues that may be of relevance to the GMS context. A list of documents reviewed can be found in Annex.

Data Collection

Simplified tools were developed by the consultant, which were inspired by the [Malaria Matchbox Tool](#), and tested in elimination settings in Southern Africa. The original tools were revised for the GMS context, and reviewed by APCASO and a representative of the CE SI team. An online training was provided by the consultant to the lead CHIAs researcher on 21 September, and the tools were translated into the Lao language. The

tools were also refined and adapted to the expected respondents. A copy of the original English tools can be found in [Annex 2](#), and the training slides are presented in [Annex 3](#).

CHIAs staff recruited the respondents, which included 17 VHV's supported directly by CHIAs. These individuals were also able to help CHIAs identify the key informants, and discussion group participants. All respondents participated voluntarily, although those that had to travel received some compensation for their transportation. Ethics review was not required for this assessment, but all participants signed consent forms to participate, and have their responses recorded. Participants were also given the opportunity to ask questions before and at any point during the discussion.



^[4] 2015 estimate. The Ta'O'i people are known as an ethnic group from Vietnam (52,356 in 2019), but also in southern Laos. https://en.wikipedia.org/wiki/Ta_Oi_people

Four CHIAs field staffs conducted a series of xx focus group discussions (FGD) and xx key informant interviews (KII), collecting the views of 39 people. As some of the participants did not speak Lao, but an ethnic language *Ta’Oi* – a Mon-Khmer language spoken by over 45,000 people in this region of Laos^[4] – some interviews or discussions were conducted with translation support from a VHV. The following data collection activities were conducted:

1. FGD: Male community members who have experienced malaria: 10
2. FGD: Female community members who have experienced malaria: 10^[5]
3. FGD: Male village health volunteers: 10
4. FGD: Female village health volunteers: 7
5. KII: Community leader (head of village, male): 1
6. KII: Health facility member (technical staff, health centre, male): 1.

Analysis

Due to the limited number of data sets collected, analysis was conducted manually by the consultant. Initial findings were discussed with the data collectors – who are also CHIAs field staff – who provided additional

contextual information and supported data interpretation. The first draft of the report was reviewed by CHIAs, APCASO, the CSO Platform, and a representative of CE SI. The final report was presented to the CSO Platform Steering Committee for additional feedback and review of the recommendations.

Limitations

The extremely small sample size is clearly a significant limitation in the generalisability of the findings, which can only capture the context in one district. Ideally, the research would have been carried out in multiple sites in all GMS countries, including a variety of settings, with a more scientific approach to data analysis. Further KIIs with implementers would have also contributed to the depth of insight. It should also be noted that some men were present at the FGD among women community members, which is not best practice. Nor did the consultant have access to more gender-disaggregated data for analysis. However, this exercise was undertaken as an exploration to see whether or to what extent gender issues emerge, in order to spark curiosity and encourage further exploration.

^[5] Note: 3 men were also present, being the husband of some of the participants.

LITERATURE REVIEW KEY TAKEAWAYS

The key theme from the literature is the interconnected nature between progress towards malaria elimination, and gender equality. That is, malaria elimination can support gender equality, and gender equality can contribute to malaria elimination. The evidence suggests that gender equality results in improved agency and access to resources to practice malaria preventative measures and seek health services for fever by both men and women, which contributes to malaria elimination. Similarly, eliminating malaria would reduce economic and caretaking burdens, which currently fall disproportionately on women – whether she has malaria or is the care-taker of another family member – increasing gender inequality. In societies where women have less decision-making power in the household, or require a man’s permission to seek care, health outcomes are often worse for women, and malaria is no exception. More equal decision – or gender equality – will therefore have a positive impact on malaria elimination.

“... the evidence reviewed strongly suggests that addressing gender inequalities in malaria endemic settings has the potential to accelerate burden

reduction and disease elimination. In addition, there are areas of malaria programming that, if intentionally designed and implemented, have the potential to contribute to enhancing gender equality as an objective in and of itself. Expanding and strengthening high-quality research on the relationship between gender and malaria will be critical to informing evidence-based gender integrated malaria strategies, funding priorities, and program design and implementation.”

- The Bill & Melinda Gates Foundation
Malaria & Gender Evidence Review

For example, studies show that although the disease burden was greatest amongst adult males, the **indirect economic burden of the disease was greater for women**. Related to this, a study in Colombia found that **women’s workload significantly increased** when they had to take care of sick household members or replace men in farm production. On the other hand, women’s economic power can have a positive impact on malaria control, where a study in Benin found that when women earned an income and had control over it, they

were much **more likely than men to purchase a LLIN** for their household.

The link between gender and malaria

While much of the literature focuses on the impact of malaria on gender equality, this tends not to be the focus of RAI4 partners, however important this outcome. Nevertheless, from a malaria elimination perspective, we can understand the impact of gender in terms of the difference that men and women face in terms of their likelihood to (a) be infected with malaria, (b) have their case successfully managed. The literature highlights that due to differences in the social and cultural norms and roles applied to men and women in a society, men and women can have different:

Vulnerability to malaria: For example, related to where they are or what they are doing at mosquito biting times, and how likely they are to be protected against mosquito bites at these times. In the GMS, for example, there is a common understanding that men are more likely to be working in or near forests and plantations around dusk, and are therefore most exposed to mosquito bites.

Understanding of malaria: A person's understanding of malaria – how it is transmitted, how it can be prevented, how to recognize signs and symptoms, and what to do when it is suspected – can depend on one's access to information. This can be shaped by an individual's education or literacy level, and exposure to information in an appropriate and understandable language. In most countries – including those in the GMS – men tend to have a higher educational level than women, and may also have higher exposure to external information.

Ability to practice preventative behaviours: Access to and regular use of a long-lasting insecticidal net (LLIN), and protection against mosquito bites during biting times is key to malaria prevention. Access to and use of an LLIN can vary between men and women. To address potential barriers that women can face, some distribution campaigns can target women directly, however, possession does not necessarily lead to use, and use can depend on a women's power in a household. If nets are insufficient for all the beds in a house, different households will have different ways of determining who will use them.

Ability to seek timely and quality

treatment: Being able to seek timely and quality treatment depends on knowing where to go for health care, and understanding the urgency of seeking care quickly. This requires knowledge, agency, i.e., the ability to decide when and where to seek health care. In many societies, women often have less knowledge and agency than men due to societal norms. For example, women may need a man's permission to seek health care, whereas a man is less likely to need a woman's permission to do the same.

Ability to access timely and quality

treatment: If a person knows where to go to seek care and has decided to do so, they also need the ability to access and receive treatment. In many societies, women may have less ability to reach a health care facility independently than a man. And once arrived, in some contexts, men and women may have different experiences, in terms of their wait times, health care staff attitudes, and even in terms of power differentials between a health care professional and a patient. This can be important in terms of a patient's ability or willingness to ask questions or raise concerns, with women

less likely to question a male health care professional.

Ability to complete treatment: There was a gap in the literature regarding whether a person's ability to complete malaria treatment may be affected by gender. However, this has been observed anecdotally by implementers, whereby women may be more likely to stop treatment once she is feeling better in order to save it for her family in the future, and men may stop thinking they don't need it any more. This can be related to a man or woman's education and ability to understand instructions, or whether being a man or a woman affects how instructions are explained.

Gender-specific barriers

Another way the literature looks at the link between gender and malaria is by considering the different types of barriers that men and women can face. In each of these cases, when applied to the GMS and its social norms, women tend to face higher barriers than men – particularly in some of the more remote and traditional communities where malaria remains more prevalent. These can be summarised as:

Biological barriers: Pregnant women have lower immunity to malaria.

Social barriers: Women tend to have lower education levels, and the expectation of home-bound roles and responsibilities, including housework and child care.

Cultural barriers: Women are more likely to have less decision-making power in a household than a man, and may be required to seek a man's permission to do something.

Economic barriers: Women may have less access to or control over the use of household resources.

Structural barriers: Women are less likely to be policy or decision-makers and program designers, which may result in their different needs not being fully taken into consideration in developing rules, systems, services, or programs.

Despite these linkages between gender and malaria elimination, gender dimensions of malaria have not been explored in significant detail in the GMS. One of the lessons learned identified in the RAI4E funding request was that, "There is a lack of actionable data on gender, socio-economic, or cultural

barriers that different populations face to accessing services, particularly in hard-to-reach areas. This may be constraining the effectiveness of planned interventions and falls short of the need to account for such barriers to ensure equitable access to care for priority populations."

Gender responsive vs. gender transformative programming

Another theme that emerges in the literature is not just the impact that **gender-responsive programming** can have on malaria elimination, but the impact that it can have on gender equality in general, i.e., gender-transformative programming. According to the Global Fund, "Gender-responsive programs are programs where gender inequities, norms, roles, relations, power dynamics and inequalities have been considered and measures have been taken to actively address them. This means tailoring programs to ensure that everyone is reached with quality and appropriate prevention, treatment and care services with full participation and consideration of vulnerable groups. It also means that programs include a set of feasible, measurable and disaggregated targets and indicators." This is considered a minimum

expectation for Global Fund-supported programs.

The Global Fund then considers **gender-transformative programming** as the “necessary next step for malaria programming” to effectively address the underlying factors that contribute to malaria. “Gender-transformative approaches recognize how harmful gender norms and stereotypes, inequalities in power and control over resources, discriminatory laws, policies and practices impact people of all genders’ vulnerability, and take concrete actions to counter or change them. Transformative approaches address the causes of gender-based health inequity and include ways to transform harmful gender norms, roles and relations and foster equal power relationships between people of all genders by promoting meaningful participation, decision making and empowerment.”^[6]

While there is no expectation that RAI4E will shift towards a gender-transformative approach, it is important for partners to understand the difference. The Global Fund is increasingly asking its implementers to address and remove the root causes of the socio-cultural barriers that men and women face, not just

helping people overcome the barriers before them.



^[6] [The Global Fund](#), 2022, “Technical Brief: Equity, Human Rights, Gender Equality and Malaria”, Allocation Period 2023-2025, Geneva, Switzerland

DATA COLLECTION KEY TAKEAWAYS

While limited data was collected, it nevertheless revealed that gender does have an impact on malaria elimination in the GMS, and that men and women face differing barriers and challenges.

Respondent Profile

Participants in the community FGDs were known to the VHVs as members of malaria key populations (see Table 1), who had been known to have had malaria in the past year. Those selected came largely from the *Taoi ethnic group*, lived in villages, and worked either in fields, farms, or the forest in Taoi District in Salavan province.

Male Key Population respondents

Five of the ten participants in the male key population group were between the ages of 18 – 24 years old, and the other five were between 24 – 49 years old. All respondents were local to the village, although they may travel to other districts to work, or may stay in the forest overnight, or up to two weeks at a time. They all see themselves as at risk because “*mosquitos are everywhere*”, particularly in the forest, but also at home. Most live with their families, which can include extended families in the same household.

All reported having experienced malaria at some point. Each associated malaria



Figure 1. Map of Taoi district in Salavan Province, Lao PDR

Table 1. Population groups at risk of malaria in Lao PDR[7]

Static Populations	Mobile Populations
<ul style="list-style-type: none"> • At risk villages including ethnic minority villages; • Formal settlements associated with large-scale constructions projects (dams, bridges, mines); • Plantations (rubber, palm oil, food); • Army camps; • Informal settlements, e.g., roadside economic migrants, settlements adjacent to construction projects. 	<ul style="list-style-type: none"> • Forest workers: formal sector (army patrols, police, border guards, forest/wildlife protection services); • Forest workers: informal sector (hunters, small-scale gem/gold miners, people gathering forest products); • Traditional slash-and-burn and paddy field farming communities (often ethnic minority groups); • Seasonal agricultural laborers; • Camps associated with development and commercial projects (road or railway construction, logging etc.).

with a mosquito bite – typically after having spent time in the forest. The most common preventative method cited was wearing long-sleeve clothing, and some participants mentioned the need to sleep under a bed net. All were able to cite common malaria symptoms (fever, dizziness, shivering, headache, body pain, pale yellow skin, nausea, loss of appetite, and one mentioned blood nose), and at least one person was aware that malaria can become serious and lead to death.

The men mainly received information about malaria from VHVs, including during home visits. Others mentioned learning about malaria during village meetings, from pictures and posters on VHV houses, and from health care staff. One mentioned that most information is the Lao language, which is not understood by everyone.

[7]Global Fund Community Rights and Gender Department

All participants had experienced malaria, sometimes quite recently, with some respondents reporting having had it twice or three times in the last year. Each reported going to see the VHV when they suspected they had malaria, and potentially to the health centre. It should be noted that these responses differed from the VHVs' observations, which was that treatment seeking could often be delayed. Some did report buying paracetamol at the first onset of symptoms, then seeing the VHV if symptoms did not improve, which could be after several days.

Female Key Population respondents

Most of the women participating in the FGD were young, with seven being between 18 – 24 years, and the remaining three participants between 24 – 49 years. Some of the women FGD participants were accompanied by husbands or parents, and in addition to the ten women participating, ten men were also present. It is not known whether this influenced results, but the data collectors do not believe there was a significant influence. All women were from and continue to live in the village, although sometimes travel to visit relatives, or stay overnight in the forest

or the field. Almost all reported being gardeners or farmers, expose to mosquito bites. Most live with their families, and reported sleeping under mosquito nets.

As with the men, the women correctly identified how malaria is transmitted, and had an accurate understanding signs and symptoms, and prevention. All had experienced malaria, and one had it three times in the last year. Most reported learning about malaria from VHVs, particularly during home visits. Some referred to district health staff and posters at health centres. All reported having received bed needs and sprays from VHVs.

Vulnerability to malaria

In Taoi district, everyone is at some risk of malaria due to the village's proximity to the forest. However, men may be at more risk of malaria as they can spend more time in the forest, including sleeping in the forest for two weeks to a month. In some cases, the preventative tools – particularly the sprays received in the forest packs – are not sufficient to protect them for the entire period. One person noted that the need to find mobile phone coverage could increase the risk of malaria exposure.

“Everyone can be at risk for malaria especially my village, people always to go to the forest every day and because of our village has low mobile network coverage, so we need to find place where we can call especially youth they always use mobile phone on the tree in the day and night” (male FGD participant).

However, it also emerged that that women also spend significant time in rice fields – another mosquito breeding setting – and can also stay overnight, which will increase her exposure to bites. In some cases, the entire family – parents and children – will stay overnight in their fields. This may imply that women are more at risk of malaria in this

area than in other areas where men are more likely to spend the night in the field.

CHIAs provides malaria prevention packs to forest goers who meet certain criteria, which include insecticide repellent, a long-lasting insecticidal hammock net (LLIHN) and IEC/BCC materials like posters. All households in the village receive an LLIN. However, it appears that some of these supplies are not enough – particularly repellents (which are not WHO pre-qualified as a recognised prevention tool). LLINs are not always sufficient, particularly in households where young children grow up and move into their own beds, so there are no longer enough nets for all beds. Typically, it was the men who said

Figures 2. Examples of a long-lasting insecticidal hammock net (LLIHN) and malaria prevention pack provided to forest goers by CHIAs



they would miss out on sleeping under a net in their home.

“Mosquito net is insufficient, I have received only one bed net when my children were babies but now, I have separated bed room with my children, so I have not enough mosquito net for my family.”
(Male FGD participant)

While some of the men referred to using smoke from fires or cigarettes to repel mosquitoes, both men and women generally appeared to have a good understanding of how malaria is transmitted, and many believe that covering one’s skin is a good way to protect oneself from mosquito bites. Because of this, women see themselves as being at more risk of mosquito bites because traditionally they wear the Lao *sinh* (long skirt), which does not cover all of their skin. Men are more likely to wear long pants, boots, and gloves, offering themselves more protection against bites.

Access to malaria information and services

“Men is accessing the health care easier than women, because women cannot

ride motorbike and they have to walk to health center or sometime her husband go to the farm she will wait for her husband to take her to hospital.” (Male FGD participant)

Across all FGDs and KIIs, men and women appear to receive equal treatment at health care centres. Women believe they receive the same quality of care as men, and even the sex of a health care worker did not appear to have an impact on women’s quality of care (e.g., a female patient seeing a male health care worker). Both men and women also complained about long wait times at health facilities, due to the lack of staff. This may have different implications for men and women, and can serve as a deterrent to seeking care, for instance, if a man needs to take time away from work, or a woman has to take time away from household and childcare responsibilities.

While men and women appear to receive equal treatment once they are at the health facility, they face very different situations to actually accessing the health service in the first place. This is due to three main constraints: language, transport, and decision-making power.

Language: It was noted by all respondents – men and women, community members and leaders – that women are less likely to speak and read the Lao language, and only speak Taoi language. However, currently all malaria-related information materials are disseminated in Lao.

“I saw poster about malaria in the village but I can’t read because it’s Lao language” (female FGD participant)

This means that many women do not have accessible information about malaria, and have less access than men who can understand and read messages in the Lao language. Some women said that they receive information from VHVs, who also translate materials for them and help them to understand messages. It was also noted that some health staff do not speak Taoi, which could constrain some health care provision.

Transportation: It was also universally noted that in Taoi, women are less likely to know how to ride a motorbike. This means that they face greater transportation limitations than men, who are more likely to know how to ride a motorbike, and can take themselves to a health facility when they need to. However, some women reported

receiving transportation support from VHVs, which helped them to address this barrier. This included being taken on the (male) VHV’s motorbike to a health facility, while others received financial support to do so.

“For me, I just recovered from malaria around one month ago from testing by VHV, he referred me to the health centre, I received support transportation cost to the health centre.” (Female FGD participant)

Decision-making power: In the Taoi culture, it is commonly understood that women do not have decision-making power. This leaves her dependent on seeking her husband’s permission to seek health care for herself – and sometimes for her children as well. If a woman suspects she has malaria, or has tested positive for malaria with a VHV, she can ask the VHV to take her to a health facility, but the VHV will have to contact her husband to discuss with him first. This is increasingly the case in Lao where there are more cases of *Plasmodium vivax*, which requires additional testing and treatment that the VHVs cannot do – unlike simple testing and treatment for *Plasmodium falciparum*, which VHVs can perform

themselves during household visits. Some male FGD participants said that women do not need permission, and that they could ask someone else to take her to the health centre.

Overall, these three factors mean that a woman is less likely than a man to (a) know where to go to seek malaria care, and (b) less likely to be able to seek care in a timely manner.

Other Cultural Barriers

In addition to her lower decision-making power, women are also more likely to be responsible for children's health and household responsibilities (housework etc.). *"Women have to do house work and take care of children and difficult to access to healthcare"* (Female FGD participant). This can create challenges when she – or her children – gets sick. It was implied that some women are unwilling or unable to put aside their household responsibilities in order to take care of themselves.

Men also face their own challenges due to social norms in that they are less likely to go to a health facility for a "common illness", and will only do so for a serious illness. That is, they will put off health care until symptoms get worse. As a CHIA's field staff member noted,

"men don't take care of themselves". This can result in men presenting at health centres with more serious malaria cases, and potentially allowing malaria transmission to occur for longer periods.



CONCLUSIONS

1. Both men and women face different vulnerability to malaria:

While all people in forested areas are at risk of malaria, men can be at higher risk due to spending more time in forests. However, women also stay overnight in fields with their husbands, and sometimes their entire family, increasing their exposure to mosquito bites. They may also be at higher risk than men because they are less likely than men to wear clothing that covers all their skin – in accordance with gender expectations in the community.

2. Women face higher barriers to accessing health care information and services:

While men and women receive equal treatment in health facilities, women face higher barriers in accessing information and health care due to cultural norms. Women are less likely to be educated in the Lao language, which reduces her direct access to information. Women are less likely to be able to take herself to a health centre as she is less likely to know how to ride a motorbike or have direct access to transportation. And women are less likely to have decision-making agency in her household, in

addition to being expected to stay home and take care of others. These norms also constrain female VHV's ability to provide the same services as their male counterparts.

3. VHVs are helping women overcome barriers: The work of VHVs has proven to be critical to ensuring that women receive access to malaria information in their language, and have improved access to malaria testing and treatment through the transportation services provided by VHVs.

4. Cultural norms can negatively impact men's health seeking behaviour: Cultural norms, such as men's need to be strong in the face of illness, result in delayed treatment seeking, potentially until the malaria case is more serious, and potentially contributing to further onward transmission.

RECOMMENDATIONS

Recommendations are provided in response to the conclusions, and are directed to the organisation best positioned to respond. While RAI4E is focused on malaria elimination rather than contributing to gender equality per se, both gender responsive and gender transformative recommendations have been included.

Gender responsive

To the CSO Platform

1. Seek or secure additional funding to conduct Malaria Matchbox-type assessments in more settings across the GMS where malaria elimination progress has slowed in order to identify gender or socio-cultural barriers.
2. Propose a gender-focused RSC meeting to the RSC secretariat, and work with them to develop a participatory meeting to help raise RSC member awareness of gender dimensions of malaria elimination and prevention of re-establishment.

To CHW program implementers

1. Ensure that malaria information materials are available in all necessary local languages and presented in formats that are more accessible to all community members. These materials can be designed in consultation with the community – particularly the women, using a human-centred design approach.
2. Review forest pack, LLIN,LLIHN, IEC/BCC materials distribution criteria to ensure that sufficient numbers are provided to cover all necessary individuals and households, including as children grow up.

To the RAI Regional Steering Committee (RSC)

1. Dedicate a meeting to Gender and Malaria, reviewing gender-disaggregated data, sharing the learnings of this paper, and providing an introduction to gender responsive vs. gender transformative approaches, to identify potential changes to be made in future

National Strategic Plans or through Global Fund reprogramming.

2. Request the Independent Monitoring Panel to mobilize appropriate technical assistance – either from within the IMP or externally – to work with the CSO Platform to design, conduct and/or analyse results of Matchbox assessments, and co-develop recommendations for follow-up through the RSC.

To NMCPs

Following Matchbox assessments in other GMS countries, organise a Gender and Malaria meeting with the Ministry of Health, and the Ministry/Commission on Gender/Women in each country to examine gender disaggregated data, review best practices, and begin exploring linkages and opportunities for joint efforts towards shared goals of malaria elimination and gender equality.

Gender transformative

To CHW program implementers

1. Provide support to female VHVs to learn how to ride motorbikes safely – and potentially to negotiating access to one –

to be able to transport people to health facilities, and to challenge gender norms.

2. Consult women in the community on how they can better protect themselves from mosquito bites in their communities, and when they stay in the field. This may include discussing how they can more fully cover their skin to protect themselves.

3. Organise community meetings to review this study's findings and facilitate discussions among community leaders, men and women regarding how gender and cultural norms can create barriers to accessing health care.

ANNEXES

Annex: List of documents reviewed

Das, S. *et al*, 2022, Building a gender responsive framework for malaria elimination in Asia-Pacific, *The Lancet Regional Health - Western Pacific* 2022;22: 100448, <https://doi.org/10.1016/j.lanwpc.2022.100448>

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