Qualitative assessment of personal protection measures and behaviours among at-risk populations along the Lao PDR, Vietnam, and Cambodia borders (“Forest Triangle”)

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List of Abbreviations

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<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>ACT</td>
<td>Artemisinin based combination therapy</td>
</tr>
<tr>
<td>BCC</td>
<td>Behaviour Change Communication</td>
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<tr>
<td>CCP</td>
<td>Centre for Communication Programs</td>
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<tr>
<td>CMPE</td>
<td>Centre for Malariology, Parasitology and Entomology</td>
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<tr>
<td>DAMN</td>
<td>District Anti-malaria Nucleus</td>
</tr>
<tr>
<td>FGD</td>
<td>Focus Group Discussions</td>
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<tr>
<td>HPA</td>
<td>Health Poverty Action</td>
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<tr>
<td>IDI</td>
<td>In-depth interview</td>
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<tr>
<td>IEC</td>
<td>Information, Education and Communication</td>
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<tr>
<td>JHUCCP</td>
<td>Johns Hopkins University Center for Communication Programs</td>
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<tr>
<td>JHU</td>
<td>Johns Hopkins University</td>
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<tr>
<td>KII</td>
<td>Key informant interview</td>
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<tr>
<td>LLINs</td>
<td>Long-lasting insecticide-treated nets</td>
</tr>
<tr>
<td>LLIHNs</td>
<td>Long-lasting insecticide-treated hammock nets</td>
</tr>
<tr>
<td>PAMS</td>
<td>Provincial Anti-malaria Station</td>
</tr>
<tr>
<td>MC</td>
<td>Malaria Consortium</td>
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<tr>
<td>PMI</td>
<td>Presidents’ Malaria Initiative</td>
</tr>
<tr>
<td>RDTs</td>
<td>Rapid diagnostic tests</td>
</tr>
<tr>
<td>USAID</td>
<td>United States Agency for International Development</td>
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<tr>
<td>VHV</td>
<td>Village Health Volunteer</td>
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Analysis and report writing were conducted by Muhammad Shafique with technical support from Dr Arantxa Roca-Feltrer.

We are especially grateful to the community members, migrant workers and village health volunteers who participated in this study and share their views and experiences.
Executive Summary

Background

Despite the impressive reduction of malaria morbidity and mortality in recent years in the Greater Mekong Sub-region, there continues to be risks for malaria outbreaks. Such was the case in Lao PDR in late 2012/early 2013 where malaria cases have been steadily increasing particularly in the southern provinces of the country bordering Vietnam and Cambodia.

Malaria Consortium (MC) was commissioned by NetWorks, a five-year project funded by PMI, to conduct a qualitative assessment of personal protection measures and behaviours among at-risk populations along the Lao PDR, Vietnam, and Cambodia borders (“Forest Triangle”). The assessment aimed to help understand the knowledge and behaviours regarding malaria prevention/protection measures, health seeking behaviours and communication preferences of the community members and migrant workers to develop a well-informed behaviour change communication strategy to better reach out to the high risk groups and avoid such malaria outbreaks in the future.

Methods

A qualitative assessment using purposive sampling was carried out in the two high risk districts, Phatoumphone and Taoy of Southern Lao PDR. A total of 16 Focus group discussions (FGD), 9 Key Informant Interviews (KII), and 33 In-depth (IDI) interviews were conducted with a total of 169 participants including community members, migrant workers, village volunteers and village chiefs, to understand the malaria prevention and treatment behaviours and effective communication channels of the target communities. Potential participants were recruited based on their availability, special knowledge, interest, and willingness to participate in the study. A variety of respondents, different tools and data collections teams helped validate and triangulate the information.

Ten qualitative data collectors and three experienced supervisors from Lao PDR participated in the assessment. To develop the key qualitative research skills, 3 day training of the data collectors was carried out in Pakse, Champasak. FGDs and KIIs were audio recorded and transcribed verbatim in Lao language, translated into English and then analysed using a content analysis approach. Informed consent was obtained from all participants.

Key findings

Community members and migrant workers from both districts reported malaria as most common health problem that affected the target communities. According to majority of the participants, migrant workers, farm workers and forest goers were considered most vulnerable groups to malaria. While most respondents knew that mosquitoes transmit malaria, many also associated it with drinking dirty or unclean water.

Delayed health care seeking was norm and majority of community members and migrant workers reported starting with self-medication when they got fever. Many community members preferred going to village health volunteers for being more accessible for malaria diagnosis and treatment. However, seasonal stock-outs at village volunteers and health centre level caused hassle for community members and migrant workers to hire a transport to go the next level health facility. Participants frequently...
mentioned provincial hospital for severe malaria treatment. No preventive and treatment services were available at the private companies and migrant workplaces which limited their timely access to malaria information and treatment. Money, distance, stock-out at village and health centre, language and attitude of health care providers mentioned as key barriers to health care seeking for malaria.

The majority of the community members reported higher access to Long Lasting Insecticide Treated Nets (LLINs) than the mobile and migrant workers. However, many community members complained that LLINs distribution was not sufficient to cover their family members and they had to purchase conventional nets to fill in the gap. Many preferred the conventional nets as they were softer and bigger in height and size than the distributed LLINs. The access of migrant workers to LLINs was very low. The majority of migrants working in the private companies or farms mentioned that they did not receive any LLIN nets due to their non-eligibility for LLINs. Repellents, coils, long sleeved clothes, fire, smoke and environmental sanitation were among the other key methods cited to prevent malaria in target communities.

The community members appreciated the free distribution of LLINs, however they expressed their discontent with size, hardness, roughness and big holes of the LLIN bed nets. Many complained against the adverse effects of LLIN use including burning, itching and rashes. Most wished for soft and large size LLINs to accommodate 4-5 members of the family. Most of the migrants demanded LLINs and some specifically aspired for the long lasting insecticide hammock nets (LLIHNs).

The majority of the participants received malaria messages through health education sessions conducted by health centre staff, district and provincial health staff, doctors and village malaria volunteers. Many also mentioned receiving messages through Information Education and Communication (IEC) materials i.e. pamphlets, posters, radio and television.

Interpersonal communication through village health volunteers and health staff was the most preferred and effective communication method by both the community members and migrant workers, because they were able to get clarifications on the spot. Other suggested methods included loud speakers, colourful posters with a calendar, pictorial brochures, billboards for migrant workplaces and regular health education sessions for community members and migrant workers at their workplaces.

Recommendations

- Review/update the existing messages including benefits and motivations for the expected behaviours and develop context specific and culturally appropriate IEC materials to increase awareness on malaria prevention and control.

The misconception around malaria transmission that unclean/un-boiled water causes malaria should be addressed by interpersonal communication through village volunteers. The health education sessions should be prioritised addressing a single disease per session to avoid confusion on malaria prevention caused by mixed messages. The employed migrant workers should be engaged in the health education at their workplaces. IEC materials such as posters or billboard should be developed in various languages such as Vietnamese and Chinese and installed in the private companies to disseminate malaria prevention and treatment messages to the migrant workers.
Adequate supplies of anti-malaria drugs and Rapid Diagnostic Tests (RDTs) should be ensured at community and health facility level to ensure the timely access of community members and migrant workers to the malaria treatment services. A focused training of the health care providers on communication and counselling skills could be incorporated in their annual training programme to address the attitude issues and develop patient-friendly health facilities. Public-private partnerships already exist in several districts and could be expanded in these districts as well to increase access of migrant workers to malaria services at their workplaces.

The assessment suggests that there are various factors that affect the community members and migrant workers timely access to the malaria treatment services such as seasonal stock-outs at village volunteers and health centres, financial and transport barriers, attitude of their health care providers, language barriers and lack of knowledge for the malaria treatment services. Moreover, there are no diagnostic and treatment services available in the private companies and commercial rubber farms which further limit the access of the mobile and migrant workers. These factors may lead to self-medication and undue delays which further complicate the malaria cases.

Free and sufficient distribution of LLINs should be continued to community members and expanded to the migrant workers (e.g. through distribution of LLIHNs). The community’s preferences regarding a net with soft texture, small mesh size (holes), large size should be considered that will ensure their acceptance and enhance the net usage.

The assessment results show that community members have a higher access to LLINs than the migrant workers. There is annual distribution of LLINs to community members, however, migrant workers especially those who work in the private companies, rubber plantation forms are deprived of this distribution as the bed net policy is only for resident community members.

The health education activities should be prioritized and focussed on single topic to ensure the community’s comprehension and understanding on the key messages. Frequency of health education session should be increase from once a year to once a quarter to reinforce key messages and ensure better retention of these messages to the target audience.

Conduct more frequent interactive health education sessions engaging the key target groups such as forest goers, migrant workers and farm workers to improve their knowledge and malaria prevention and treatment behaviours. To strengthen the most preferred interpersonal communication, training of volunteers in communication skills and health education methods should be organized to ensure effective health education at the community level. Job-aids, flip charts and pamphlets with key messages should be developed to ensure consistent messaging by the volunteers to the communities. Community should be actively involved in all malaria related activities and community based structures such as village health committees should be

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1 During the study, we observed a good public-private partnership example in Coal Mining company in Taoy district where the District Anti-malaria Nucleus provided training and supplies (RDT and ACTs) to the company’s nurses to provide timely diagnostic and treatment services to migrant workers. They also refurbish medicines on monthly basis. The company’s nurses were very happy over this collaboration and happy to provide easy access to migrant factory workers for malaria.
revitalized and engaged in all the community based decision making to ensure the ownership. Local media such as loud speakers should be used to reinforce messages.

- As the volunteers are responsible for health education and interpersonal communication, they should be equipped with the key communication and facilitating skills and adult learning techniques in order to conduct effective health education activities in their communities.

Village health volunteers are the key change agent at the grass-root level. The assessment suggests that they are one of the most preferred channels of communication for the target communities. However there is no regular training or refresher training organized for the village volunteers. There are no supportive job-aids or IEC materials available for them to provide standardized information during the interpersonal communication at the households.

- The results of the qualitative assessment should be used to revise/develop a culturally appropriate behaviour change communication strategy to better reach out these at-risk groups.

The existing IPC strategy should be reviewed and revised based on the assessment findings. Consistent messages should be develop and reinforced through IEC materials, volunteers and local media. Use of ‘loud speaker’ a popular community based channel should be used to disseminate malaria related information. A CD or a script on key messages can be developed by CMPE and handed over to village chief to disseminate messages before or after the community announcements. The script could be updated on monthly basis to ensure the interest of the community in health related messages.

Introduction

1. Background

Laos PDR is a landlocked country in Southeast Asia, bordered by Burma and China to the northwest, Vietnam to the east, Cambodia to the south, and Thailand to the west. Its population was estimated to be around 6.5 million in 2012 (Est. 2012). Due to geographic proximity, there is significant connection and influence between these countries on health matters, including cross-border disease transmission, and movement of people to find work-related opportunities in neighbouring countries.

Despite the impressive reduction of malaria morbidity and mortality in recent years in the Greater Mekong Sub-region, there continues to be risks for malaria outbreaks. Such was the case in Lao PDR in late 2011/early 2012 where malaria cases have been steadily increasing particularly in the southern provinces of the country bordering Vietnam and Cambodia².

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2 Melissa A. Briggs, Mark Fukuda, Muhammad Shafique; Evaluation of increases in reported malaria cases in the six southern provinces of Laos, 2011-2013
Investigations\textsuperscript{3} conducted by the Centre for Malariology, Parasitology, and Entomology (CMPE) suggest that the factors triggering the outbreak were primarily increased forest related activities, rubber plantation farms and private companies which attracted mobile and migrant workers to find job opportunities in the area. The mobile and migrants were the most affected population with malaria.

The current literature\textsuperscript{1-3} does not provide sufficient information on the mobile and migrant workers, their migration patterns, malaria knowledge, preventive and treatment seeking behaviours to decide on how to engage and target this group for health education and increase their access to malaria diagnosis and treatment services. To fill in this knowledge gap a qualitative study on personal protection and treatment seeking behaviours of the migrant workers was proposed.

In this context, Johns Hopkins Bloomberg School of Public Health and Malaria Consortium, in collaboration with Centre for Malariology, Parasitology and Entomology (CMPE), conducted a qualitative assessment of personal protection measures and behaviours among at-risk populations along the Lao PDR, Vietnam, and Cambodia borders (“Forest Triangle”). The results of the qualitative assessment will help develop a culturally appropriate behaviour change communication strategy to better reach out these at-risk groups.

2. Study aims and objectives
To understand the malaria care-seeking and preventive (personal protection) behaviours among the at-risk mobile and migrant populations in Pathoumphone and Taoy districts of Champasak and Saravan Provinces, in Lao PDR in order to better inform appropriate behaviour change communication strategy to improve the personal protection behaviours of the target communities.

2.1. Specific Objectives:

- To assess migrant and community perspectives on malaria including etiology, prevention, and treatment
- To acquire in-depth qualitative information on knowledge, beliefs, and behaviours of the communities and migrants about malaria
- To understand health seeking behaviours of the migrants and identify potential barriers to access the malaria services
- To identify communication channels, popular media and entertainment habits and common social gathering places of the mobile and migrant populations

Methods

3. Study design

Participants recruited for the study were fully informed of the study purpose and what was required in order to participate through an information sheet in the Lao language. Only fully informed and consenting individuals were invited to participate. All investigators have undergone CITI training in human subject research. Ethical approval was granted by the Johns Hopkins School of Public Health (IRB #5130) and by Prof Eksavang Vongvichit, Minister of Health, Ethical Committee, Ministry of Health, Vientiane, Lao PDR.

Figure 1. Map of the study sites
The qualitative data was collected in two districts: Pathoumphone and Taoy of Champasak and Saravan provinces. A variety of qualitative methods were used including focus group discussions, key informant interviews and in-depth interviews to validate and triangulate the information.

3.1. Study population

Participants including 169 male and female adults aged 18 years and above working or living in the study area were interviewed. Participants comprised of community members\(^4\), migrant\(^5\) workers, village health volunteers, village chief and community leader.

The following inclusion and exclusion criteria were applied in the selection of the respondents:

- Respondents who are close relatives (i.e. brothers, sisters or husband and wife etc.) will not be allowed to participate in the same focus group discussion
- Respondents who have participated in the KII will not be eligible for FGDs
- Respondents who have participated in the FGD will not be eligible for KIIs

The identifiers collected from participants included sex, age, occupation, ethnicity, education level, district/province and length of residency at current site.

The assessment was conducted in the high risk villages ‘strata 3’\(^6\) of Southern Lao where recent malaria outbreaks were recorded.

3.2. Sampling

Purposive sampling technique was used to collect the qualitative information from the key respondents. Purposive sampling is a form of non-probability sampling in which decisions concerning the individuals to be included in the sample are taken by the researcher, based upon a variety of criteria which may include easy access, availability, specialist knowledge of the research issue, or capacity and willingness to participate in the research\(^7\). Potential participants were recruited based on their availability, special knowledge, interest, and willingness to participate in the study.

3.2.1. Sample size

\(^4\) The community members were mostly involved in the forest activities in the study sites

\(^5\) The term migrant worker is used for those who come from other districts or areas to work in the rubber farm or private companies.

\(^6\) According to the malaria incidence, Lao has been divided in 3 strata; strata1 [0-0.1], strata 2[0.1-10], strata 3[>10]

\(^7\) Paul Oliver: Understanding the research process
The interviews and focus group discussions were conducted in two districts: Pathoumphone in Champasak Province and Taoy in Saravan Province. Four communities (two communities per district) were purposively selected based on the discussions with CMPE and provincial malaria staff in Lao PDR.

A total of 16 focus group discussions were carried out with migrants and community members living or working within each selected community. Each FGD consisted of 8-10 participants. To ensure interactive and productive discussions, FGDs were homogenous with regard to gender of the respondents. At least two focus group discussions were conducted with each category of respondent to validate the findings. FGDs were held in an accessible yet private location in each community, such as a school, health facility, volunteer’s house or other community facility.

Key informant interviews were organized with 1-2 persons at each selected site. Participants were purposively selected based on their position as a village chief or community leader, their knowledge and familiarity with migrant issues and activities in their community, and their willingness to participate. KIIs were held at the households of the village chiefs, community leaders or other common social places.

In-depth interviews were conducted with 3 migrant workers, 3 community member and 1 village health volunteer in each site to understand their malaria knowledge, beliefs, perceptions, preventive and health-seeking behaviours, work activities, migration patterns and previous experiences with malaria. The interviews helped identify their media habits and available and/or preferred sources of communication in the community. IDIs were held at the households of the selected participants.

A total of 16 Focus group discussions, 9 Key Informant Interviews and 33 In-depth interviews were conducted with a total of 169 participants including community members, migrant workers, village volunteers and village chiefs to understand the malaria prevention and treatment behaviours and effective communication channels of the target communities.

A summary of the qualitative data collection activities, number of interviews, respondents and total number of participants is presented in Table 1.

**Table 1. Number of IDI, KII, FGDs and participants per district**

<table>
<thead>
<tr>
<th>Districts</th>
<th>Types of respondents</th>
<th># of IDIs</th>
<th># of KII</th>
<th># of FGDs</th>
<th>Number of participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phatoumphone</td>
<td>Community members</td>
<td>10</td>
<td>3</td>
<td>4</td>
<td>45</td>
</tr>
<tr>
<td></td>
<td>Migrant workers</td>
<td>8</td>
<td>2</td>
<td>4</td>
<td>41</td>
</tr>
<tr>
<td>Taoy district</td>
<td>Community members</td>
<td>8</td>
<td>2</td>
<td>4</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td>Migrant workers</td>
<td>7</td>
<td>2</td>
<td>4</td>
<td>41</td>
</tr>
<tr>
<td>Total interviews</td>
<td></td>
<td><strong>33</strong></td>
<td><strong>9</strong></td>
<td><strong>16</strong></td>
<td><strong>169</strong></td>
</tr>
</tbody>
</table>

3.3. Training and data collection

Ten data collectors and two experienced supervisors from Lao PDR participated in the qualitative assessment. As there were few experienced qualitative researchers available in Lao, the provincial malaria officials, having experience in routine data collection and malaria prevention and control, were involved to conduct the qualitative study.

To develop the key qualitative research skills, a comprehensive training of the data collectors was carried out in Pakse, Champasak Province from 28-31 May 2014. The training was facilitated by Mr.
Muhammad Shafique with the assistance of an experienced local trainer, Dr Vanhmany from Health Poverty and Action (HPA). The training covered research ethics, informed consent, facilitation and probing skills, note taking skills, methods of data collection, and topic guides. A pre-test of the topic guides was carried out in the nearby communities to practice the interviewing skills and refine the tools. Two teams of 3 data collectors (1 facilitator and 2 note takers) conducted focus group discussions. Similarly, 2 teams of 2 data collectors (one facilitator and one note taker) conducted the in-depth and key informant interviews of the key respondents.

The research team started the data collection from the Champasak Province. The team spent 5 days in each district for data collection and transcriptions.

The study team conducted key informant interview with the village chief/community leader to identify which neighbourhoods of the village are inhabited by community members and which are inhabited by migrant workers. Village chiefs/community leaders were asked to identify the household(s) of village health workers in the community. The study team then drew up a map of the village, including the two types of neighbourhoods and the Village Health Volunteers (VHV) households for the recruitment of participants.

3.4. Recruitment

The field teams contacted the selected respondents in advance to check their availability and convenience for the focus group discussions or individual interviews. A maximum of three visits were made to contact each selected respondent through map for participation in IDIs or FGDs. The advanced recruitment helped to conduct all the interviews with both community members and migrant workers during the day time. However it was ensured that the interviews with migrant workers should be conducted at their free time in order to avoid any disruption in their daily work routine.

3.5. Data management

The data collection team took notes and used digital recorders to record the interviews. A daily feedback session was held in the evening with the study team to discuss the process, issues/gaps, interesting information and emerging themes. The interviews were transcribed by the study team on the same evening to avoid any information loss or recall bias. During transport, copies of data collection materials were kept in the team leader’s possession. Hard copies of the data collection materials and transcripts have identifiers and were subsequently stored in a secured room with limited access by specified individuals. All hard copies of the data were destroyed after transcription. Audio files were erased once transcription was complete. Electronic versions of the data were stored on password-protected laptops in the possession of the research team. The data collection sheets and transcripts were redacted (de-identified) prior to the coding and analysis stage to confer anonymity. Electronic files and hard copies were only accessible by authorized study personnel. Analytic datasets were de-identified and accessed solely by the PI and co-investigators.

3.6. Data analysis

All the transcripts were translated in English language and typed in MS word. The translation took around one month after the study. The Framework Approach was used to analyse the data. This

8 Pope C, Ziebland S and Mays N., “Qualitative Research in Health Care: Analysing Qualitative Data,” *BMJ* 2000; 320; 114-116
systematic method appreciates the iterative nature of qualitative data analysis and involves deriving themes related to the research objectives, whilst adding new themes that emerge during data collection to an evolving conceptual framework, under which the data is analysed and organised. Analysis followed four key stages:

- **Familiarisation** - key themes related to the study objectives were identified during a thorough review of the transcripts.
- **Constructing a thematic framework** - themes originating from the study objectives and other key issues that emerged from the data were identified and used to assemble a coding/thematic framework in an Excel spread sheet for each geographically distinct set of data, which were then used to label and group the data in rows according to themes, sub-themes and strata.
- **Indexing** - the data were coded according to the thematic framework by target group and reorganised into sections under each theme. Emergent subthemes were added to the framework under the relevant overarching themes and the data was once again reviewed and re-sorted under relevant themes.
- **Mapping and interpretation** - each thematic area was compared between target groups and contextualised, associations between themes were identified; the findings were explained and interpreted.
Results

4. Mobile and migrants – Key activities

The focus group discussions and in-depth interviews conducted in both districts revealed that the mobile and migrant populations were mainly involved in the rubber tapping, coal mining, house construction work, rice farming and forest activities such as collecting rose wood, fire wood, bamboo shoots, rattan and bamboo trunk. The international migrant workers usually come from Vietnam, China and Thailand in search of economic activities in the target districts. The majority of the international migrants work with private companies, rubber farms and factories and stay for longer period ranging from 6 months to 10 years. They get proper registration from the District Lao trade Union to work in the country. However, the local migrant workers usually come from neighbouring districts and get a job without any formal registration in the area. The international migrant workers employed with companies or factories usually live in a camp while the local migrant workers live in the villages with their relatives. Some local migrants also live in the camps or quarters of their company.

“Mostly the Vietnamese workers come to work in the Rubber plantation farm. These people stay here for more than 6 – 7 years. They might have proper registration. Rubber tapping is the long term employment. There are Vietnamese workers; some registered, some are not registered. The local workers come from neighbouring provinces to work in the rubber farm.” FGD, male rubber tapper, Phatoumphone

The local mobile and migrant workers usually come from different areas including Phonethong, Khong, Champasack, Saravan, Pak Se and Vientiane to work in these districts. Mobile and migrant workers usually learn about the employment opportunities from the village chiefs, friends and relatives. The big companies usually advertise in the newspapers. There is no middle man involved in the employment opportunities for mobile and migrants.

The Vietnamese and Chinese migrant workers usually stay longer in these districts. Many Vietnamese workers who work in rubber plantation farm come along-with their families.

“Some Vietnamese migrant workers have lived here for 11 years. Many have brought their families with them. Some migrant married to Lao women.” FGD, Vietnamese male rubber tappers

They usually stay in the camps or quarters of their farm or company. The Chinese, Vietnamese, and Thai migrant workers usually work on skilled jobs that include administrative, technical and managerial positions in the farm or factories. The Lao workers are usually hired on short term mostly on the semi-skilled positions such as labourers, drivers, rubber tappers, coal mine workers and cement workers. The company employers mostly prefer young men and women for the job. The remunerations depend on
the skills and expertise of a person. The average daily wages are between 50,000 kip to 80,000\(^9\) kip per day for a semi-skilled labor.

Many migrant workers mentioned that rubber farming emerged as a business in the last few years which created lots of job opportunity for migrant workers. This resulted in some reduction of forest related activities such as logging.

“The employment is on daily basis. It is short term only. The compensation is 70,000 Kip per day.” IDI, migrant worker, Heuy Keur

“The employer informs the village chief about the job opportunity. The village chief passes this information on to the villagers. The village chief helps employers in finding labourers”. IDI, male rubber tapper, Dukluk

“They learn about the employment opportunities from their friends and family members.” IDI, migrant worker, Nong pakhaed

The rubber tappers mentioned that rubber tapping activities continue throughout the year without any break.

“We tap rubber all the year around in both dry and wet seasons.” IDI, rubber tappers, Nongpakhaed

“Both men and women are engaged in rubber tapping, however during off season [low season], we go back to Vietnam.” FGD male rubber tappers, Vietnam

“This activity is continuing in every season, both dry and wet seasons. I do almost all of the work here including cutting weeds, tapping and collecting rubber.” IDI woman, rubber tapper

“There is only rubber tapping activities. Previously, the main employment was logging. Tapping rubber is only emerged three years ago.” IDI, male rubber tappers, Dukluk

4.1. Forest activities

The main forest activities mentioned by the community members and migrant workers in both districts were collecting rattan, bamboo trunks, bamboo shoots, mushrooms, fire woods, insects and wild animals for food. Most of the migrant workers go to the forest in groups and stay and work together in the forest. Many migrant and community members mentioned that they go to the forest in the morning and come back in the same evening. The women also go to forest to collect bamboo shoot and other vegetables.

\(^9\) 1 USD is equal to 8000 Kip
“I go to forest to collect bamboo shoots and food; I go daily in the morning and come back in afternoon. I usually go with my friends.” IDI, female community members, Kapa village

“I go to the forest to cut bamboo trunk for making bamboo baskets. I go to the forest for 2 or 3 times a month. If I go too far, I sleep inside the forest. If not, I come back home in the same evening. I go there in a group of 6-8 people. “IDI, migrant worker, Huey Keur,

“I go to the forest to cut bamboo. I only cut a small portion of bamboo for my own use. I only cut 3 – 4 trunks of bamboo. I spend all day inside the forest, until it gets dark. I go to the forest with friends or family. IDI, male community member, Huey Keur

“We go to find firewood and rattan\textsuperscript{10} for private use.” FGD, male community members, Kiet ngong

Some migrant workers mentioned that they go to the forest to collect rose-wood. They usually go to the forest with friends and family members and stay there for one to two weeks.

“I go to the forest for cutting rose wood and some logs for fencing. I usually go there during June/July, wet season. I go with a group of friends, relatives and children. I spend 10-15 days in the forest.” IDI, migrant worker, Kietngong

“Normally they go for rose wood. They cut trees whenever it is possible. They don’t care about season whether it is wet season or dry season. They mostly come from nearby districts and provinces, like Meuang (Khong district) and Salavan.” IDI male community member, Phatoumphone

“Some people make a day trip, some stay overnight in the forest. They find place for sleeping in forest. They usually go to collect rattan”. FGD, male community members, village Kapa Taoy

“The community members go to the forest to find wood and food. Mostly they are men, because women rarely go to forest. They usually go to the forest for logging, farming and cropping.” KII, volunteer, Huey

Many community members and migrant workers go to the forest to find vegetables and food for daily consumption. The food includes bamboo shoots, mushrooms, insects and animals.

“We visit forest to find bamboo shoots, and trap rats for our children’s food.” FGD, female community members, Kapa

“I go to forest daily to find food for daily consumption. I go in the morning and come back in the afternoon. I don’t stay overnight in forest. I mostly go with friends to collect bamboo shoots.” IDI, female community member, village Kapa

“I stay in the forest for 4 - 5 nights. I mostly go with my friends to find food.” IDI, male, Huey Keur

“I go to the forest to find food, bamboo, insects, and mushrooms. I also go for fishing as other villagers do.” IDI, female migrant worker, Taoy

\textsuperscript{10} Rattan is a type of wood with a vertical grain that is often used to make woven furniture items
5. Knowledge and perceptions of malaria

5.1. Local terms for malaria

The community members and migrant workers in both districts use various local terms for malaria. The majority of the community members and migrant workers in both districts use the local term, ‘Khai Yung’ for malaria. In Lao language, Khai means fever and Yung refers to mosquito. In Phatoumphone district malaria is referred to Khai Sunn [fever with chills], Khai Yunk Buak [positive mosquito fever], Khai Pan [forest fever] and Khai ham [fever with interval]. In Taoy district, the main terms used for malaria were, Muoy ong [mosquito fever], Treid muoy, Imoy, Moy ok and Muoy Kap Ai Palah for malaria.

<table>
<thead>
<tr>
<th>Phatoumphone district</th>
<th>Taoy district</th>
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<tbody>
<tr>
<td>- Khai Yung</td>
<td>- Khai Yung</td>
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<td>- Khai Yung Buak</td>
<td>- Muoy ong</td>
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<td>- Khai Sunn</td>
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<td>- Khai pan</td>
<td>- Muoy Ok</td>
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<td>- Muoy Kap Ai palah</td>
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“It is called mosquito fever; Khai means mosquito and yueng means fever. Muoy ok or bitter fever is another term used for malaria in Taoy language.” FGD, female community members, Kapa

“It is called ‘Moy kap ai palah’, muoy means mosquito.” FGD, male community members, Kapa

“Normally, we call it ‘positive mosquito fever’. According to the doctor’s diagnosis, it is called positive mosquito fever [malaria] or ‘stripe mosquito fever’ [dengue]. Some people call it “rash fever” because there are rashes when you have the stripe mosquito fever [dengue].” FGD, female community members, Huey Keur

“In Laos, before it was called ‘malaria’ but now it is called mosquito fever. I heard this term from the health staff after the result of my blood test. Sometimes it is called mosquito fever, sometime called positive mosquito fever.” FGD, male community members, Kapa

5.2. Perception of community about malaria

Across the two districts and target groups malaria was perceived to be the main health problem. The other most mentioned health problems were dengue fever, diarrhoea, jaundice, gastritis, stomach ache, flu, liver fluke, and kidney disease.

“Mosquito fever [malaria] is the main health problem in the community.” FGD, male migrant workers, Phatoumphone
“Mostly we get malaria in the rubber farm. There is also stripe mosquito fever [dengue]. Last year, we all had fever and most of us were diagnosed with malaria. There were many malaria cases in the rainy season.” FGD, male migrant rubber worker, Phatoumphone

“The mosquito fever [malaria] situation was extremely severe in these communities last year. Buses and vans were packed with people to send them to district and provincial hospitals. Fortunately, situation is improving this year.” FGD, male community members, Keitngong, Taoy

“Mosquito fever [malaria], diarrhoea, flu and cough are the main diseases in the community. Most common disease is malaria.” FGD, male community members, Halang

Many community members and migrant workers noted that malaria is a dangerous disease that can kill.

“Positive mosquito fever [malaria] causes headache and attacks the brain. It is dangerous and might lead to fatality if not treated in time.” FGD, female migrant workers, Phatoumphone

“The most common diseases are positive mosquito [malaria] and stripe mosquito [dengue]. Mosquito fever is crucial because it can kill. People often get the fever during this [rainy] season”. FGD, male community members, Keitngong

Many community members and migrant workers were able to differentiate malaria fever from dengue.

“Rashes appear on your body when you get stripe mosquito fever [dengue]; however, there are no rashes and just fever and headache when you have positive mosquito fever [malaria].” FGD, female migrant worker, Phatoumphone

5.3. Perceived causes of malaria

The community members and migrant workers from both districts demonstrated a lack of understanding about malaria transmission. Although most of the community members and migrant workers mentioned that mosquito bite causes malaria, yet they also linked it with ingestion of unclean/un-boiled water. Many also noted that eating uncooked, unhygienic food, working hard, lack of proper rest and sleep and forest spirits cause malaria.

“There are two main causes of malaria, first from water and second from mosquitoes.” FGD, female community members, Kietngong

“From my viewpoint, there are many causes of mosquito fever, including the water we drink, the clothes we dress and the hygiene we keep. There are areas that contain polluted and stagnant water. These are the main sources of mosquitoes. Mosquito bite also causes malaria.” FGD, male members, Kietngong

“Malaria is caused by drinking dirty water and mosquito bite in the rubber plantation farm. Mosquito lays eggs in the water. We get it [malaria] because we drink water that contains mosquito eggs.” FGD, male migrant rubber tapper, Phatoumphone

“We usually get mosquito fever [malaria] because we do not sleep under mosquito nets and do not drink boiled and clean water. I guess that this is the reason.” FGD, male community members, Kietngong
“People do not carry clean drinking water with them when they go to forest or they get bitten by mosquito and get Moy kup ai palah [malaria].” FGD, male community members, Halang

“Because people don’t take care of cleanliness and do not use mosquito net. People get malaria because they do not remove the dirty stagnant water and do not sleep under mosquito nets.” FGD, male community members, Kapa

Living in an unclean environment with puddles and stagnant water was also considered to cause malaria transmission, linked to mosquito breeding.

“I believe malaria is cause by mosquito bite. There is stagnant water in ponds, puddles and water tanks. Mosquitoes lay eggs and breed in the stagnant water and then bite us and we get malaria.” FGD, male migrant workers, Phatoumphone

Some community members and migrant workers in Taoy district noted that malaria is caused by the spirit. They mentioned that some areas are considered as ‘prohibited areas’ from the forefathers and are reserved for spirits. If someone trespasses those areas for farming or any other activity, the spirits get angry and curse the intruder. The community members revealed that spirit’s anger causes malaria. In case of sickness, they have to sacrifice a cow or pig to appease the spirit.

“If you cut or burn a tree in a forbidden area [spirit area] in the forest or mountain, you make a big mistake. The spirits in the mountain and jungle get angry and curse you which may cause disease [malaria].” FGD, male forest workers, Kapa

“If we do something wrong in the forest such as trespassing the forbidden area [areas allocated for spirits], we need to apologize from the spirit. It has happened with my uncle. Spirit became angry with him and made him sick. Spirits require sacrifice of a cow or a pig for forgiving.” IDI, male community member, Kapa

Hard physical labour, tiredness, lack of rest and sleep and absence of healthy diet were also linked with malaria, particularly amongst the migrant workers.

“We do not get enough sleep and rest which causes malaria fever.” FGD, men migrant workers, Saravan

“It [malaria] happens when we take too little rest. We work hard and do not sleep and eat well in the forest. As we cannot get nutritious foods to eat in the forest, we get weak and get malaria.” FGD, male community members, Phatoumphone

A few community members stated that drinking alcohol and eating certain foods may cause malaria.

“Drinking, alcohol, beer and un-boiled water and eating uncooked food may cause malaria fever.” IDI, male community member, Huay Keur

“People get fever because they eat lotus seed and unclean food in the forest.” FGD, female community member, Huey Keur

A few community members were unaware of the malaria causes.
“I did not know before your visit that mosquitoes are poisonous and can cause a disease.” FGD, female community members, Phatoumphone

“I don’t know how people get malaria. I don’t know.” IDI, village chief, Kapa village

Many community members and migrant workers cited the correct causes of malaria.

“I think it is because of mosquito which bites people who have the germ, then bite healthy people and they then get the fever”. FGD, male community members, Kietngong

“Mosquito bite is the only cause of malaria. Some people don’t protect them from mosquito bites. It is because people do not use mosquito nets and do not wear long sleeve when they go to the forest.” FGD, female community member, Phatoumphone

“When people go to forest, they don’t use mosquito net, they don’t wear long sleeve blouse and pants and get malaria.” FDG, male community members, Halang

Table 3. Perceived causes of malaria

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<thead>
<tr>
<th>Community members</th>
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<tbody>
<tr>
<td>- Mosquito bite</td>
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<tr>
<td>- Drinking dirty or un-clean water</td>
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<tr>
<td>- Sleep without mosquito net</td>
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<tr>
<td>- By not wearing long sleeved clothes</td>
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<tr>
<td>- Living near the stagnant water</td>
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<tr>
<td>- Lack of personal hygiene</td>
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<tr>
<td>- Lack of sleep and rest</td>
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<tr>
<td>- Forest spirits</td>
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<tr>
<td>- Lack of healthy diet</td>
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<tr>
<td>- Eating uncooked food</td>
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<tr>
<td>- Working hard</td>
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<tr>
<td>- Drinking alcohol</td>
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5.4. Malaria seasonality

The majority of the community members and migrant workers from both districts revealed that malaria is very common in the rainy season. The participants from both districts mentioned that higher number of malaria cases occur during May to July though malaria season continue till September. The rainy season usually starts from April and continue till August/September in these communities. The possible reason for mentioning this period (May to July) by the respondents is that the rice planting activity is high in May, June and beginning of July. The people live in their small huts, close to the forest/farm at that time and are more at risk for malaria whereas in August/September they usually go back to their villages and are less at risk of malaria. They mentioned that mosquitoes are in abundance and breed everywhere especially in small ditches, ponds and stagnant water during the rainy season.

“Mosquito fever [malaria] is widespread during May-July. The malaria cases decrease in August.” IDI, male migrant worker, Kietngong
“People usually go to forest in the rainy season during April and May. There are plenty of mosquitoes in the forest at that time that’s why people get malaria.” FGD, male community members, Halang

“Stagnant and inactive water is everywhere during June-July. Mosquitoes like laying eggs in the stagnant pond or puddle. The people, who do not use mosquito nets are easily bitten by these mosquitoes and get malaria.” FGD, female migrant workers, Phatoumphone farm

“Grass grows quickly when it rains, giving mosquitoes a place to hide”. FGD, female migrants, Phatoumphone

“From now on [June], there will be many mosquitoes around to bite us and transfer germs into our body. Mosquitoes breed very quickly in stagnant water, coconut shells and used cans during the rainy season.” FGD, male migrant workers, Taoy

5.5. Perceived vulnerable population for malaria

Most community members and migrant workers across the districts perceived migrant workers, forest goers and farm workers as the most at risk population for malaria. They mentioned that the forest goers and farm workers especially those who work and sleep in the farm and forest are most vulnerable for malaria.

“People especially those who go to forest or work in the farm get malaria. They get malaria because they sleep inside the forest without a bed net and drink raw [un-boiled] water.” FGD, female community members, Kietngong

“When people go to the forest for logging, they do not wear protective clothes. They do not use any protective method in the forest. There are many types of mosquitoes in the forest. As soon as they return from the forest, they get disease [malaria].” FGD, migrant workers, Taoy

“Those people who go to the forest for logging and cutting rattan usually get malaria. They drink unclean water in the forest which causes malaria.” FGD, female community members, Huey Keur

“Those who go to the forest or mountains to find bamboo shoots are bitten by mosquitoes and get malaria.” FGD, male migrant workers, Phatoumphone

“People who go to forest and do not wear proper clothes and do not sleep under bed net are bitten by mosquitoes and get malaria.” FGD, female community members, Kapa

A few migrant workers mentioned that people who travel from other countries to Lao in search of job opportunities are also at high risk of malaria.

“Vietnamese migrant workers get fever as soon as they arrive in Phatoumphone district, Lao. They were healthy before traveling, but get malaria as soon as they arrive here in Lao.” FGD, Vietnamese rubber farm workers, Phatoumphone
Many community members from both districts noted that the young children are also at high risk of malaria. They thought that young children usually get bitten by mosquitoes especially when they play outside or watch TV in the evening with short sleeved clothes. Therefore they get an easy prey to mosquito bites and malaria.

“The children between 5-10 year age get malaria because they do not know how to protect themselves from mosquito bites. When they play outside, they get bitten by mosquitoes and therefore get sick.” FGD, female migrant worker, Phatoumphone

“There are two high risk groups; first, forest goers who stay overnight in forest and mountains; second children of ages between 8-9 years.” FGD, male forest workers, Kapa village

“The children usually get mosquito fever because they often lay down in front of a television in the evening without a mosquito net.” IDI, migrant worker, Huey Keur

6. Health seeking behaviours

Main sources of malaria diagnosis and treatment mentioned by the community members and migrant workers in Phatoumphone and Taoy districts were village malaria workers, health centres, district hospitals and provincial hospitals. Many also mentioned about military hospital in Phatoumphone district. A very few mentioned about private clinic or hospital as a source of malaria treatment. The malaria diagnosis and treatment services were free for both community members and migrant workers at all the public health facilities in both districts.

Delayed care seeking and self-medication was a norm among community members and migrant workers across the districts, with similar responses for both groups. Most of the participants cited that they start with self-medication and wait for a few days to differentiate malaria from other fevers. The majority of the community members and migrant workers noted that when they get fever, they buy medicines from a village shop or a pharmacy. If the symptoms persist or get worse, they visit a health facility. The majority waits for 2-3 days before they go for proper diagnosis and treatment.

“I buy and take medicines by myself. If I do not get better, I go to see village health volunteer.” FGD, female community members, Huey Kuer

“I observe my sign and symptoms. If it is not serious, I buy drug. However, if the symptoms do not recover within 2-3 days, I go to village health volunteer for treatment.” FGD, male member, Kapa

“I take medicines by myself and stay at home. If the fever does not subside, I go to the father ‘Pheuk’ [village health volunteer] for treatment.” FGD, female community member, Kietngong

“I take medicines by myself first. If I do not feel well, I go to the health centre. However, if I still do not recover, I go back to my country, Vietnam.” FGD, male migrant workers, Phatoumphone

“I buy medicines from a drug store when have fever. If fever continues after 2-3 days, I go to the health centre for the treatment.” FGD, female migrant worker, Phatoumphone farm

“We take medicines that we buy from a pharmacy. We wait until we can no longer withstand the fever. Then we go to the provincial hospital for treatment”. FGD, male migrant workers, Kietngong
The majority of the community members and migrant workers mentioned that malaria services are free of charge at the village volunteer or hospital level. However, they have to bear the transport and other expenses if they go to the district or provincial hospital. Therefore, majority of the community members in both districts prefers to go to the village volunteers as it is easily accessible, convenient and saves time and financial resources required to go to the hospital. However, some mentioned that there are seasonal stock-outs with the village volunteers and they have to go to the health centre or hospital for the treatment. The traveling from one health facility to another in search of treatment causes a big hassle for the community members.

“To avoid the transportation expenses, we seek treatment from the village volunteers. They are trained in malaria. When we do not feel good or have fever, we go to see them for proper diagnosis and treatment”. FGD, male community members, Kapa

“We go to the village volunteer for treatment first. If the condition remains unchanged, we go to health centre at Pouk Khoum Zone.” FGD, men community members, Halang

“I do not wait long, I just go to see father Pheuk [village volunteer] right away. It might take time to go to the hospital. I am afraid it [malaria] will attack the brain if I delay.” IDI, male community member, Kiet ngong

“If I have fever, I first go to the village volunteer. I prefer to be treated at village first. However, if there is no drug available, I go to the health centre.” FGD, male community members, Kapa

“When I had fever last time, I went to village volunteer for blood test. It was malaria. The volunteer gave me malaria drugs for 3 days. I completed the course and got well.” FGD, male community members, Kapa

“I go to village volunteer for blood test and treatment. He has malaria drugs with him. If there are medicines, I will take from him, if there are no medicines then I go to health centre”. FGD, male, Halang

“There is a village health volunteer at the village but she sometimes does not have diagnostic equipment. We have to go to health centre for a blood test and if positive then go back to the volunteer for medicines. This wastes our time and money.” IDI, community member, Dukluk

“When there is no blood test equipment with the volunteer, I then go to health center. However, if health centre is unable to treat, then I go to district hospital”. FGD, male community members, Kapa

Availability of drugs and staff, reliability of services and severity of health condition also determine where to seek the malaria treatment. Many community members and migrant workers revealed that when they have mild fever they go to the village volunteer or health centre. However, if the condition is severe, they go to provincial hospital as medicines and services are available there all the year around.

“It depends on the health condition. For fever cases, I usually go to health centre at KM 24. Sometimes I go to district hospital. However, in case of serious illness, I go to the provincial hospital.” FGD, male rubber tapper, Phatoumphone
“I go to the health centre first. If I am not recovered, I then go to the hospital at the province. If I want to be 100% sure about the availability of medicines, I have to go to the hospital at the province.” FGD, female migrant worker, Phatoumphone

“I go to health centre to seek treatment first. However, sometimes, there is no health care provider available in the health centre; therefore I have to go to provincial hospital for the diagnosis and treatment.” IDI, male community member, Kietngong

“Usually we go to the military hospital because they have sufficient equipment and medicines.” IDI, male community members, Kietngong

Many forest goers stated that they take a medicine packet (they buy from a local shop) with them when they visit forest. The packet includes a cocktail of medicines for a variety of ailments, and the patient is often not informed exactly what is included. When the forest-goers get sick with fever in the forest, they try this packet of medicines first. If the situation gets worse, they come back to the village and go to the village health volunteer or health centre for diagnosis and treatment. In case of severe malaria majority goes to the provincial hospital.

“I always carry drugs with me whenever I go to the forest. I take medicines that I carry with me first. If I still feel sick, I come back home and go to the hospital.” IDI, migrant worker, Kietngong

“If we have fever in the forest, we take medicines such as Paracetamol and Ampicillin that we carry with us in the forest to treat the sickness.” IDI, male, community members, Huey Keur

“If I get sick inside the forest, I take medicine that I carry with me and hurry back home.” IDI, male community member, Huay Kuer

A less reported theme was the role of traditional or herbal medicines in treating malaria. Many mentioned that due to the availability of free malaria services they do not use traditional medicines anymore.

“I use herbal medicine calls ‘Kabook’. I boil the herbs and drink its water. If I feel itchy it means I do not have malaria, however, if I do not feel itchy, it means I may have malaria and go to the village volunteer for blood test.” IDI, community members

“I use traditional medicines for 2-3 days before seeking proper treatment from the health centre.” IDI male, community member, Huay Keur

“I drink ‘kabook’ boiled water when I have fever.” FGD, female community members, Huey Keur

“If I get sick inside the forest, I use a herbal medicine that is available in the forest. It does not give an instant relief like prescript medicine. However, it properly cures malaria unlike the prescript medicine that may cause relapse.” IDI, migrant worker, Huay Keur

A very less mentioned theme was the role of spirits in malaria treatment. Some community members in Taoy district mentioned about the role of spiritual rituals in malaria treatment.
“When I have forest mosquito fever, I correct my mistakes for asking for forgiveness from the spirit first. If it doesn’t work I then go to health centre for treatment.” IDI, forest worker, Kapa

“Besides the malaria treatment, I also conduct spiritual ceremony. People say that we should conduct the spiritual ritual alongside the treatment to cure the disease. I do not know whether I recover from the drugs or the spiritual practices.” FGD, male migrant worker, Kapa

“First, I get blessings by sacrificing pig or chicken when I get sick. If I don’t recover, I go to village volunteer for treatment.” FGD, male community member, Halang

“If I get sick, I go to the village volunteer for the blood test. In case of serious sickness we practice a ritual and sacrifice a cow or a pig to the spirit to get blessings.” IDI, women community members, Kapa

6.1. Key barriers in health seeking behaviours

Lack of malaria preventive and treatment services at migrant work places, lack of financial resources for transportation, stock out of diagnostic tests and anti-malarial drugs at community and health facility level, impolite attitude of some health care providers and language were considered main barriers to receive malaria treatment services from the public health facilities in the target districts.

6.1.1. Access of mobile and migrants to malaria services at workplace

The migrant workers employed in rubber farms or other private companies mentioned that there are no malaria preventive and treatment services available in their workplace. There are basic health services available in some workplaces however they do not provide any malaria prevention and treatment services.

“The Vietnamese nurse at the rubber farm checks the signs and symptom and give vitamins, paracetamol, and IV solution. There is no blood test equipment in the clinic at the rubber farm. She refers us to Pakse hospital if the condition does not improve.” FGD, male migrant worker, Phatoumphone

“The nurse gives us paracetamol and IV solution and asks us to wait for 2-3 days. If someone is not recovered then she sends us to provincial hospital.” IDI, male rubber tapper, Phatoumphone

6.1.2. Financial constraints for transportation

The majority of community members and migrant workers from both districts mentioned that money is the main barrier in seeking health care from the health centre or hospitals. They noted that malaria services are free of charge from all public health facilities; however, hiring transport to go to health centre or hospital cost lots of money.

“The main difficulty is lack of money to hire a transport to go to the hospital. For me, I borrow money from my relatives or from the company I work with.” IDI, female community members, Dukluk

“I don’t have enough money. I sometimes have to borrow some money from relatives. I hire a vehicle to go there for check-up.” IDI, male community members, Kietngong

“We are poor. It takes us a week to find [borrow] money to go the hospital for check-up. It is different from one who is rich, they go to hospital immediately.” IDI, male community member, Kietngong
6.1.3. Distance and lack of transportation

Some community members and migrant workers from both districts noted that distance to health facility and lack of transportation are key challenges to get timely diagnosis and treatment for malaria.

“The Saravan provincial hospital is around 20 km far from here. It takes long to go to the Saravan hospital for malaria treatment.” FGD, male migrant workers, Taoy

“The hospital is quite far from here. It costs lots of money to hire a vehicle to go to the hospital.” FGD, female migrant worker, Phatoumphone farm

“I had a terrible fever one night and wanted to hire a car to go to the hospital. Many drivers refused because they were afraid I might die in their car.” FGD, female community members, kietngong

“Lack of money, distance, hiring transportation in the rainy season, lack of knowledge about the malaria services and absence of staff at the health facility are the main problems we face during treatment”. FGD, male community members, Heuy Keur

“I got sick and was short of money. It is difficult to find a vehicle especially in the rainy season. It is very difficult to arrange transportation to go to hospital.” FGD, male migrant workers, Phatoumphone

6.1.4. Stock-out of diagnostics and malaria drugs

Many community members and migrant workers from both districts mentioned that stock-out of diagnostics and drugs at the village and health centre level is a major challenge. The lack of drugs at the village (volunteer) or health centre causes difficulties for poor community members and migrant workers to hire a transport in order to go to the next level health facility for treatment. Sometimes the malaria drugs are available with the village volunteers but Rapid Diagnostic Tests (RDTs) are out-of-stock. They ask the patient to go to the health centre first for blood test and then come back to them if the result is positive for malaria medicines. This waste time, resources and erodes community’s trust in the village volunteers.

“The major difficulty they face is the non-availability of rapid diagnostic tests and anti-malarial medicines at the health centre. They cannot receive care because of the lack of supplies. Therefore, they have to bear extra expenses to travel to the provincial hospital.” KII, village volunteer, Heur Keur

“Sometimes there are enough medicines at the health centre, sometimes not. When there is stock-out, patients are sent to district hospital for the malaria diagnosis and treatment.” FGD, male community members, Kapa

“Lack of drugs and diagnostics is the major challenge that I face being a village health volunteer. As I have no malaria drugs to treat my people, it affects my reputation in the community. People also have to bear travelling cost to go to health centre.” KII, village health volunteer, Kietngong
6.1.5. Attitude of health care provider

Some community members and migrant workers in both districts complained about the impolite attitude of the health care providers at the public hospitals. They reported that many health care providers discriminate on the basis of economic status. Many also mentioned that people who have relatives or some contact persons in the hospitals, get quick treatment than the ones who do not know anyone in the hospital.

“They [health care providers] like talking behind our back when we go there [health centre]. That’s what makes me embarrass and I do not want to go there anymore. If we do not have money, they will say something [bad] to us.” FGD, female community members, Huey Kuer

“My fellow workers mentioned that when they go to the provincial hospital, no one wants to take care of them. The health workers at the provincial hospital speak impolitely. Some of them say that they would rather die than going to the hospital.” KII, male migrant worker, Phatoumphone

“The people [poor people] with social security card have some difficulties. They don’t know the process and it is hard to use the card. When health workers see that they have a card, they do not provide good services. It is more convenient if paying in cash directly, rather than using the card.” FGD, male, migrant Phatoumphone

“If we get fever, the authority officials draft a paper which requests special assistance for poor persons. But when we go to the health centre, the health workers abuse and mistreat us.” FGD, female community members, Huey Keur

“Things will be easier if we know someone or have a relatives working there [hospital]. The nurses do not listen to us. Life is hard when we do not have any relative working in the hospital. They do service us but not as good as they serve the one who has a relative in the hospital.” FGD, male community members, Huey Keur

“Health workers do not look after us if we do not have any money. We receive quick services if we have money.” FGD, men migrant workers, Phatoumphone

Some community members revealed that the attitude of health workers is appropriate.

“The health workers are good. They always ask us about how we feel. The services are also free of charge for malaria.” IDI, male community member, Kapa

“Mostly money is the only problem. Once you get to the hospital, doctors are very nice and give good care to us.” IDI, female community members, Kietngong:

6.1.6. Language barrier

The migrant workers especially the Vietnamese migrants mentioned that the language is a major barrier in receiving proper services at the hospital as they cannot communicate in the Lao language. Many also
mentioned that they are not aware of the availability of malaria services in the area. The ethnic group in Taoy district also noted that they cannot read or understand the IEC material which is mainly in Lao language.

“If we get fever and go to the hospital, there is no one who can understand our language. The staff cannot understand us well. Therefore, most of the Vietnamese migrants go back to Vietnam for proper treatment.” FGD, Vietnamese migrant workers, Phatoumphone

“When we go to the provincial hospital for check-up, the Lao health workers cannot understand Vietnamese. They without any proper diagnosis prescribe us IV solution. If we do not recover, we go back to Vietnam for treatment.” FGD, Vietnamese male migrant workers, Phatoumphone

“It is difficult to explain our illness to the local health staff. We are from Vietnam and cannot speak Lao language. If we go to the hospital, we do not know how to explain the doctor where the pain is.” FGD, male migrant workers, Phatoumphone

“Health personnel at the hospital cannot speak or understand our language. When they check us up, they immediately prescribe us IV [intravenous] solution.” FGD, male community members, Phatoumphone

“We [Vietnamese migrant workers] do not trust in the Lao doctors. When we go to the hospital, the doctors always prescribe IV solution without any proper examination.” KII, Vietnamese worker, Phatoumphone

7. Malaria prevention measures

Following prevention methods were mentioned by community members and mobile and migrant workers from both districts:

7.1. Bed nets

Use of LLIN nets was very common among the community members in both districts. The majority of the community members believed that mosquito nets are the best preventive method to avoid mosquito bites and malaria. The qualitative assessment suggests that community members have higher access to the free distributed LLINs than the migrant workers (both local and international) in both districts. There is a regular bed net distribution, on yearly basis, in these communities. The majority of community members mentioned that they have received Long Lasting Insecticide Treated Net (LLINs) during the last distributions. Many community members stated that LLINs are more effective and powerful to kill mosquitoes as they are treated with insecticide.

The majority of the migrant workers from both districts cited that they have not received any LLIN from the government and purchased the ordinary bed nets from the market to use. Some migrant workers mentioned that they received the LLIN nets in their native villages before migrating to these districts. The Vietnamese migrant workers also mentioned that they did not receive any bed net from the national programme and purchased conventional bed nets from the local market. Many forest workers mentioned that they do not carry bed nets in the forest and use other preventive measure to avoid mosquito bites.
“I like to use the distributed LLIN bed net because it is already treated to kill mosquitoes.” FGD, female community member, Kapa

“Sleeping under the LLIN bed net can prevent malaria.” KII, village chief, Kapa

“I sleep under the distributed LLIN net. The LLINs were distributed free of charge by the village health volunteer and health centre staff at the temple last month.” IDI, community member, Kietnong

“I like the LLIN net. When I go to forest, I do not sleep without LLIN net as it kills mosquitoes. This net can easily accommodate three persons. I got 2 nets in February this year from chief of the village.” IDI, female community member, Kapa

“To prevent malaria, we sleep under the LLIN net and wear long sleeves shirts and pants at night.” FGD, male community members, Halang

“I use distributed mosquito net [LLIN] which I received from my native village and also apply repellent to avoid mosquito bites.” IDI, male migrant workers, Kietngong

“Sleeping under bed net, using repellents and cleaning of the surrounding environment can prevent malaria”. IDI, male community member, Kapa

Many community members revealed that the distributed LLINs were not enough to cover their all family members. One LLIN net was distributed for two persons in the target communities. Therefore many community members purchased conventional bed nets from the market to make up the shortage.

“I have received long lasting insecticidal mosquito nets from the health centre staff. The village volunteer along-with the health centre staff distributed the LLINs to us. We sleep under the LLIN every day. However, as there are many people in my family, the distributed 2 nets were not enough for us. Therefore, I also bought some conventional nets from the market to cover every one.” FGD, male community members, Kapa

Some noted that they use LLIN bed nets only in the rainy season when there are lots of mosquitoes around. They do not use the bed net in the hot season.

“I use the distributed bed nets only in the rainy season to prevent mosquito bites. I do not use the bed net in the hot season.” IDI, community member, Phatoumphone

Some community members/forest workers mentioned that they would like to have LLIN hammock nets. They complained that these hammock nets were only distributed to village security personnel.

“I do not have hammock net as these were only distributed to village security people. I wish I could have one to use in the forest. It is very convenient to hang in the forest.” IDI, male community member, Kapa

A few migrant workers mentioned that they purchased hammock nets from the market. The hammock nets are easy to carry and use in the forest.

“When I go to the forest, I carry mosquito nets with me. I usually bring the hammock net that I bought from the market. I bought hammock nets for 150,000 Kip.” IDI, male migrant worker, Kietngong
7.2. Limited access of LLINs to migrant workers

The majority of the migrant workers mentioned that they did not receive any LLIN. The information was validated with village volunteers who cited that LLINs are only for the resident community members. Some migrant workers mentioned that they purchased conventional nets to use in the farm.

“No one distributed any LLIN net to the migrant workers. We purchased ordinary mosquito nets from Pakse and Luk 14 (14KM) market.” KII, migrant worker, Phatoumphone

“I did not receive any mosquito net here. I only apply mosquito repellent and light a coil when I sleep in the farm.” IDI, male migrant worker, Phatoumphone

“The company does not provide mosquito nets to the rubber tappers. We did not receive LLIN from the project [health centre] as well. We have to buy the bed nets from a market.” KII, migrant rubber tapper

“The company owners do not provide any bed nets to the company workers. Yesterday we bought some fans to avoid mosquito bites.” KII, male migrant worker, Phatoumphone farm

7.3. Issues with LLIN nets

7.3.1. Size and fabric

A very frequently highlighted theme was the size and texture of the distributed LLIN net. Many community members expressed their discontent with the size, fabric and texture of the free distributed LLIN bed nets. The majority complained about its hard texture and small size. Many mentioned that they like bigger nets which could accommodate 4-5 family members.

“I received three LLIN nets from the project last year. I don’t like these LLIN nets as these are hard, short, and narrow in size. We need to put a piece of wood on it as it rolls back when hanged. I cannot use the distributed LLIN nets.” FGD, male community members, Kapa

“The distributed net [LLIN] by the village volunteer is too small. It is regrettable that we cannot use it as it is too small, hard and rolls back when hanged.” FGD, male community members, Halang

“LLIN net is short in size and it rolls back when hanged. At first it is long enough, but later on it becomes shorter. It is durable, but too hard to use.” FGD, male community members, Kapa

“The distributed LLINs are so small that only children can sleep under these bed nets. For me, I sleep under the big size conventional bed net that I bought from the market.” IDI, female member, Huey Keur

“The insecticide-coated mosquito nets [LLIN] provided by the village health volunteer are good but can only accommodate two persons inside. The mosquito net that I bought is much bigger. Our all family
members, 5 persons can sleep under it. I have to pay 1,000 Kip extra per net for retreatment.” IDI, male community member, Huey Keur

“I received an LLIN from them [health centre staff] last year, but I don’t really use it because it is too hard.” IDI, migrant worker, Phon Bok

“I just want to complain that the net is too small with large holes which allow mosquitoes to enter and bite.” FGD, female community members, Kietngong

“The holes of distributed LLINs are too big that allow mosquitoes to get inside easily.” IDI, migrant worker, Kietngong

7.3.2. Adverse effects of LLIN use

Many participants across the districts reported various side effects linked with LLIN use including a burning of eyes, itching of skin and rashes on the body.

“I feel burning and itching when I used LLIN net. I don’t know if it was due to the insecticide or something else. I checked with other people about this issue and they said that it was due to insecticide. Therefore, I stopped using it.” FGD, male community member, Kietngong

“If we use distributed net for fishing, we can observe shrimps die as soon as they are trapped in the net. This shows how strong the insecticide is. When we sleep under the LLIN net, we also feel burning eyes and nose.” FGD, male community members, Kapa

“If I sit or sleep near it [LLIN net], I feel like my eyes are burning.” FGD, male community members, Kapa

“My skin burns when I use LLIN net.” FGD, female community members, Huey Keur

“The LLIN net contains insecticide. I got very bad sore eyes when I used it.” FGD, male community members, Kietngong

7.3.3. Preference of conventional nets

Many community members mentioned that they like the conventional bed nets mainly because they are soft and available in large sizes and widths that can accommodate 4-5 family members.

“I want a big and large size mosquito net. Lao people are short but the LLIN nets are even shorter. I want a size that can fit 4-5 persons in it. I want LLIN net as big as the net [conventional nets] available in the market. The market bed net is softer than the LLINs.” FGD male community members, Kietngong

“The mosquito nets [conventional] that I bought from the market are much better than the ones they distributed last year. It is big enough that everyone can sleep under this net. The distributed LLIN is too small. It is hard, small and not in a proper rectangle shape. It is very difficult to put under a mattress. It flies in the air when we switch on a fan.” FGD, male community members, Kietngong

“I use a mosquito net that I bought from the market. I paid around 70,000 Kip for the net. I like this one the most and use it daily.” IDI, female migrant worker, Dukluk
“I prefer normal mosquito nets [conventional nets]. I do not like the insecticide-treated mosquito nets. They are too hard and difficult to tuck under a mattress.” IDI, community member, Kiet nong

“The bed net from the market is better than the LLIN as it can accommodate many family members in it. However, it is not impregnated.” FGD, male community members, Halang

A few community member also mentioned that they use LLIN for fishing.

“I do not sleep under the LLIN and only use this [LLIN] net as a fishnet to catch fish.” FGD, male community members, Kietngong

7.3.4. LLIN distribution issues

Some community members across the districts revealed that they paid 10,000-15,000 Kip per LLIN net they received from the health centre. They mentioned that they did not sign any form for the payment of LLIN nets. Some noted that there were some discrepancies in the LLINs distribution. Some people get more nets than the other due to their special links with the LLINs distributors.

“I gave 10,000 kip to get one LLIN from the health staff. I don’t know what for; maybe it is for transportation charges. I didn’t sign when I collected LLIN.” FGD, male, Kapa

“Some people get special favour from the LLIN distributors and get more nets than other community members. I have many family members but I received only one LLIN for my family. As it was not enough for my family, I sold it to someone else.” FGD, male community members, Kapa

“In my family there are 13 people, however, I get only 2 nets.” FGD, female community member, Kapa

7.4. Environment sanitation

Many community members and migrant workers from both districts revealed environmental measures to prevent mosquitoes from breeding such as clearing of bushes, removing coconut shells, changing water from the pots, getting rid of empty cans and burying the ditches. This may be due to receiving mixed health education session on malaria and dengue.

“I clean the house to prevent mosquitoes from hiding inside the house. This can help reduce the number of mosquito to some extent. I also remove all cans and coconut shell from the house.” FGD female community member, Kietngong

“Keep the surrounding areas of the household clean and get rid of stagnant water and tyres in order to destroy breeding sources of mosquito. Change the water in a tank on regular basis to avoid mosquitoes from spreading.” FGD, male community members, Phatoumphone

“I take care of good hygiene of my family and remove all cans and tins to avoid breeding of mosquitoes.” IDI, male community member, Dukluk

7.5. Repellent, mosquito coils and use of long sleeved clothes
Repellents and mosquito coils were the key prevention methods for migrant workers and forest goers from both districts. However, many mentioned that cost and availability of repellent is a key barrier. Some forest goers and farm workers considered wearing long sleeved clothes as effective prevention methods in the farm and forest.

“We apply cream repellent or spray repellent, which cost 5,000 Kip per bottle and enough for 5 days. When it is about to finish, we buy a new one to replace. It is a bit expensive and sometimes not available in the village. We use it when we go to the forest.” IDI, female farm worker, Dukluk

“We spray mosquito killer, apply repellent, and wear long sleeve shirt, trousers, boots and hat to prevent mosquito bites in the rubber farm.” IDI, female rubber tapper, Dukluk

“There is no repellent available in the village. I burn a mosquito coil and a use a hammock net that I bought from the market. It is not dipped in insecticide.” IDI, community member male, Kietngong

“When we work in the rubber farm, we wear long sleeves and pants to prevent mosquito bites.” FGD male rubber tappers, Dukluk

“We light a mosquito coils and put it in the back pocket. It is available in Vietnam also. Some people put it on the hat when they tap rubber. The rubber tappers wear long sleeved clothes provided by the rubber farm.” IDI, female migrant worker,

“When I go and sleep inside the forest, I burn a coil and hang up a mosquito net. I make a small hut when sleeping inside the forest and hang up a mosquito net.” FGD, female community members, Kietngong

7.6. Smoke fires

Many migrant workers and forest goer from both districts reported that making fire with available materials such as bushes, wood, dry leafs is an effective method to ward away mosquito in the farm and forest.

“I make a fire camp in the forest. Smoke can prevent mosquitoes. There is nothing else to do. I do not use repellent.” IDI, community member, Dukluk

“I do not carry a mosquito net when I go to the forest. I typically make a fire camp under the hut to avoid mosquitoes in the forest.” IDI, female community member, Dukluk

“I usually forget carrying a mosquito net with me in the forest. I make fire even if it feels hot, and stay near the fire to prevent mosquito bites in the forest.” FGD, female community members, Kapa

7.7. Boiled water and personal hygiene

Owing to the misconception that malaria is transmitted through drinking dirty, unclean water, most of the community members and migrant workers considered ingestion of clean or boiled water as a key malaria prevention method. Many participants across the districts also noted that consuming clean food and keeping good personal hygiene prevent malaria.

“I drink boiled water to prevent malaria. I also take boiled water pot with me when I go to the forest.” FGD, male migrant workers, Kapa
“Keeping good personal hygiene, drinking clean water, eating cooked food can avoid malaria.” IDI, male migrant worker, Kietngong

“Taking care of cleanliness, washing clothes, wearing long sleeves shirts and trousers can prevent malaria.” FGD, female community member, Kapa

“We get malaria if we drink unclean water and eat un-cooked food”. FGD, male members, Halang

7.8. Bed net retreatment campaigns

Many community members in both districts demanded for the re-continuation of insecticide re-impregnation of conventional bed nets campaign. They noted that there used to be a regular campaign to re-treat the conventional bed nets that have been stopped over the last few years. They noted that re-treatment campaign was an effective social activity which not only help re-treat their bed nets but also provided them a platform to meet and discuss various health and social issues.

“There used to be a mosquito net impregnation campaign long time ago. We miss that activity very much. We want to resume that again to impregnate our bed nets.” ID, rubber farm workers, Phatoumphone

“If there is impregnation activity again, we will bring our conventional bed nets to re-impregnate and meet with our friends again.” FGD, female community members, Kapa

“Every year they [health centre staff] would come and informed everyone in the village to have their mosquito nets re-treated.” FGD, male community members, Keitgong

8. Communication channels

Community members from both districts described array of communication methods they use to disseminate or receive health or other information. According to an overwhelming majority of the participants, health centre staff, district and provincial health staff, doctors, nurses and village health volunteers are the key sources of information and health communication. However, majority of the migrant workers especially those who work in the private companies have much less access to health information and education than the resident community members.

“We receive health information from the hospital staff, doctors and village health volunteers. They promote about positive mosquito fever [malaria]. They usually come from the district or provincial hospitals.” KII, village chief, Kietngong

“Main source of information is health staff. I believe in them because the information they provide is clear.” FGD, male community members, Kapa village

“We usually receive the health-related information, mostly from the district and the health center staff.” KII, village chief, Heuy Keur

“In the past, I never heard about health information. Nowadays, health personnel come and tell what to do if we get this disease [malaria] and where we should go for the treatment.” FGD, female, Kapa
“We received information from health staff, district health staff and volunteers.” FGD, male community members, Kapa

Many participants especially community members across the districts noted that Information Education and Communication (IEC) such as posters and pamphlets are also a key source of health information.

“Posters are good to share information. People like to see picture and read messages on posters and pamphlets. Children can also read messages.” FGD, male community members, Halang

Many migrant workers who work in private companies and farms mentioned that there is no health related information or materials available in their workplaces.

“No one provides any health information in the pig farm. Your group is the first one who is talking about malaria.” KII migrant workers, Phatoumphone

“We don’t receive any health education in the farm. No one come to share any information on malaria.” FGD, male migrant worker, Phatoumphone

Some community members and migrant workers from both districts mentioned that they receive health and malaria messages from television and radio.

“I heard malaria messages from radio. There was an announcement that we should remove stagnant water, remove coconut shells and destroy used cans and clean the household surroundings.” FGD, community member, Phatoumphone

8.1. Most preferred channel of communication

The majority of the participants across the districts revealed that the most preferred communication channel is face to face, interpersonal communication, through health staff or village health volunteers. They preferred to have face to face interaction with health staff for better understanding and on the spot clarification of messages.

They also discussed to have colourful pamphlets and malaria posters with calendar in local languages to understand and remember the malaria messages. The community members also suggested providing loud speakers to disseminate malaria messages in the community on regular basis. The migrant workers revealed that billboards with key malaria messages and attractive pictures could be a very effective method for migrant workers if displayed at their workplaces. Some also noted that radio and TV spots or drama on malaria could be very interesting method for the community members to learn about malaria. However some resisted the idea and said that people watch TV to entertain them only and whenever there is health programme or message they change the channels. They suggested developing attractive IEC materials with simple messages in local languages and displaying in the common social places at village or workplace.

“I like when nurses/health workers visit us. It feels like all pains are gone. I prefer the health workers come to educate us on how to keep a good hygiene. It is important that health workers come to visit us regularly.” FGD, female community members, Kietnong
“I received health related information from the district health workers during the bed net distribution last year. I want the doctors to come often to provide us with health information so that we could ask questions if we do not understand anything.” FGD, female community member, Dukluk

“We prefer to receive messages from health workers. People don’t usually pay attention to news on the television. They only focus on T.V. dramas. When health officials from the district or province come to inform us about cleaning of the houses and removing weeds, we obey and follow their instruction.” KII, village chief, Kietngong

“I like to receive information from the health staff who tells us what disease we have and what its possible causes are. For example, if I have mosquito fever [malaria], she/he will tell me about the causes and where to go for treatment. I don’t like radio, because only one person talks. I prefer the health staff to come and provide us with health information. I can ask him/her if I don’t understand anything. In case of radio, I cannot ask to clarify if I don’t understand a message.” FGD, male rubber farm workers, Phatoumphone

“I like listening to the health staff. We have no time to watch TV because we work in the field. I like health staff to tell me directly.” FGD, male community members, Kapa

“I always request village chief and village volunteer to work together to conduct village meeting and health education session.” IDI, male community member, Kapa

“I get the information from village health worker; he tells me how serious malaria illness is; I prefer face to face talk to get information from health staff.” FGD, male migrants, Phatoumphone

9. Village health volunteer's perspective

The village health volunteers are the key prevention and treatment source at the community level. The strategy of village volunteers is different across the 3 strataums. There is at least one village health volunteers identified and trained in malaria prevention and treatment services in strata 2 and strata 3 in Lao PDR. However, they provide health education in only strata 3 which is stratified as most at-risk malaria area. The incentives of volunteers also vary across the strata. The volunteer of strata 3 gets 12 US dollars for visiting and providing health education to 12 household per month. The volunteers who are not involved in health education activities in other areas do not get any incentives.

9.1. Malaria diagnosis and treatment

The village health volunteer is usually identified by the village chief and relevant health centre staff and received 3 days training in malaria prevention, diagnosis, use of RDTs, and treatment. The village volunteers provide malaria diagnostic and treatment services in only stratum 2 and 3, which has been stratified as most at-risk areas for malaria. The village health volunteers visit to the health centre every month to submit monthly report and receive RDTs and malaria medicines. They provide free of charge diagnosis and treatment services to the community members and migrant workers.

“I conduct malaria activities here with villagers and help them to clean up their houses. I distribute insecticide-coated mosquito nets to them and retreat mosquito nets for them. I visit household to motivate them to protect themselves from malaria; I suggest people to use mosquito nets, apply
mosquito repellent when they are at home and go to the forest and tell them to clean up their houses. I also conduct blood test and provide drug if test is positive. Parache and coartem are available with me.” KII volunteer, Heuy keu

“I perform blood test to find out malaria parasite when a person comes to me with fever. If malaria test is positive, I give drugs for malaria treatment. If he/she is not cured, I refer the patient to health centre.” KII, village health volunteers, Kapa

“I follow up the selected people. I follow up only the ones who have malaria history. I follow them to ensure that they completed the medicine course. I remind them to take medicines on time.” IDI, village health volunteer, Kietkong

“I perform blood test. If it is not positive, I refer the case to health centre. If positive, I give Coartem to the patient. I visit health centre on monthly basis and receive 90,000 kip per month.” IDI, VHV, Kapa

Six of the eight village volunteers noted that one of the main challenges is stock-out of diagnostics and anti-malaria medicines. If they do not have any medicines, they refer the patient to health centre or provincial hospital.

“I want to suggest providing more blood testing equipment and more medicine; so that when patients come to see me I could serve them.” KII, village volunteer Hewy Kuer

The village health volunteers are also involved in other health issues.

“I provide initial treatment for people who have diarrhoea. I also encourage pregnant women and children to have antenatal care and vaccination. I do it free of charge for my own satisfaction.” IDI, village health volunteers, Kietngong

9.2. Capacity building of volunteers

The village health volunteers informed that as a part of their induction they received three-day training on malaria diagnosis and treatment from Provincial Anti Malaria Stations (PAMS) in Champasak or Saravan. The training briefly talks about the health education methodologies.

The assessment suggested that they were one of the most preferred channels of communication for the target communities and migrant workers. However, there was no regular training or refresher training of the village volunteers.

“Yes I had been trained in 2002 in malaria diagnosis and treatment. It was three-day training conducted at the district level. The training focussed on malaria treatment and malaria diagnosis through RDT. The training is conducted every 3 year and it is conducted at district or provincial level.” KII, village health volunteers, Kapa

9.3. Health education activities

The village volunteers across the districts described that interpersonal communication sessions were only held in strata 3. They usually visit the household and provide health education to the family on malaria prevention and control. Mosty they target the resident community members in their health
education activities at the community level. In each month they conduct 12 household visits for health education. There are no health education activities in the strata 1 and 2. The volunteers do not organize large health education session at the community level. Sometime they take advantage of a village meeting called by the village chief and conduct a malaria talk at the end of the meeting. Many volunteers did not have any IEC material such as pamphlet or poster to use during the household visit or during health education session.

“I promote malaria messages at the household level. Whenever the village chief organises a meeting, I use that opportunity to talk about malaria as well. I use posters and pictures that are provided by the project or health centre. I give advice to villagers to clean up the surrounding of the house, sleep under nets, and take mosquito net when go to forest; use repellent to prevent mosquito biting.” KII, village health volunteer, Kietngong

“I use village meeting for the health education session. Sometimes I conduct home visits, 12 houses per month. If there are many people I just do it at the same time. When they go to rice field, I just tell them, don’t wait for meeting. VHV Kapa

“I visit household because I can see reality at the house. I show them malaria posters and tell them about anopheles. I ask them whether they understand or not. The villagers can ask questions and see picture more closely. I also demonstrate how to use net. I suggest continuing this activity for malaria prevention.” KII, village health volunteers Hewy Kuer

“I encourage villagers to clean their houses. I also visit them at their house to promote malaria issues. I distributed mosquito net.” KII, village volunteer, Kietngong

The village volunteers play a key role in distributing the LLINs net along-with the health centre staff. Previously they facilitated in the bed net re-impregnation campaigns. However, bed net re-impregnation champagnes have been stopped sometimes ago.

“Yes, every year I assist in bed net distribution to villagers, 2-3 times a year. No there is no bed net impregnation activity in our village now. I only help in bed net distribution.” KII, village volunteer

“I helped them in distribution of LLIN nets this year. I also provide malaria diagnostic and treatment services to the community members, I have enough stock of Coartem drug and RDT with me.” KII, village health volunteer, Kietkong

The main challenge the village volunteers face is stock-out of medicines and RDTs. Some also mentioned that they are running short of malaria record forms.

“The main difficulty I face is lack of malaria medicines. Sometimes I don’t have a record book to record the malaria cases.” KII, village health volunteer, Kietkong

“Lack of medicines is the main issue. The community members come to see me but sometimes I have not medicines. If there are regular supply of medicine and RDTs, there will be no difficulty.”KII village health volunteer

9.4. Monthly meeting and supervision
The village malaria volunteers visit their concerned health centre to submit their reports on monthly basis. During the visit, they meet with health centre staff on individual basis. They miss the opportunity to meet and interact with their fellow volunteers as they all come on different timings. The volunteers submit their report and get their medicines and diagnostics refurbished. They go back after receiving the medicines.

In-depth interviews with the village health volunteer revealed that there are no frequent supervisory visits from the health centre staff for the village health volunteers. The health centre and district staff usually visits them once or twice a year.

“The supervision is quite rare. The health staff just visits us once a year. I submit my report every month even when there is no patient. I submit the summary report about medicines and RDT.” KII, VHV Kietkong

Discussion

The qualitative assessment of personal protection measures and behaviours among at-risk populations was aimed to explore the preventive and treatment behaviours of community members and migrant workers and understand the key challenges in accessing the preventive and treatment services in two districts of Champasak and Saravan provinces. The key findings are described here with their possible implications on malaria prevention and control programme.

The majority of the participants in both districts perceived malaria as major health problem which suggests that access to malaria preventive and treatment services for community members and migrant at community and workplace level should be prioritised in these at risk communities.

The assessment suggested that both community members and migrant workers demonstrated a lack of clear understanding of malaria transmission in both districts. The misconception that malaria is transmitted through ingestion of unclean/un-boiled water may be attributed to the mix messages the community receive in combined health education sessions on diarrhoea, malaria, dengue during the annual visits of district and provincial staff. These mixed messages may have led to the confusion regarding the mode of malaria transmission. The boiling of water is a positive behaviour but if linked with malaria could affect the malaria prevention methods i.e. boiling of water instead of using mosquito net or other preventive measures for malaria prevention. This suggest that the health education activities should be prioritized based on the season, hard to reach and at risk communities and focussed on a single health topic at a time to ensure the community’s comprehension and understanding on the key messages. This focused and tailored health education will strengthen community’s understanding on malaria transmission and the key tools to protect malaria which will positively enhance the usage of LLIN mosquito nets.

The community members and migrant workers in both districts appreciated that malaria diagnostic treatment services are available free of charge at all the public health facilities. However, there are seasonal stock-outs at the village volunteers and health centre level. This not only limits the access of community members and migrant workers to the malaria services but also result in undue expenses to hire transport to seek health care from the hospital. This may also erode the trust of the community members and migrant workers in the reliability of services at the village health volunteers. The non-availability of services at the community level could also result in delayed care seeking and self-
medication which may increase the risk of severe malaria. The availability of malaria diagnostics and anti-malarial drugs should be ensured at all level to increase the community's timely access to malaria services.

Attitudes of the health care provider were frequently highlighted as a barrier to get proper treatment of malaria services at the public hospitals. A focused training of the health care providers on communication and counselling skills could be a positive step towards making public facilities, patient-friendly hospitals.

The assessment revealed that there are no malaria prevention and treatment services available for migrant workers in the private companies or workplaces. To increase the access of migrant workers to the timely malaria diagnostic and treatment services, there is a dire need to develop public-private partnership engaging the private companies and commercial farms in malaria prevention and treatment strategies. Collaboration between Provincial Anti-Malaria Stations (PAMS), District Anti-Malaria Nucleus (DAMN) and private companies should be developed and the existing staff in the private companies could be trained on malaria prevention and control and supplied with the rapid diagnostic tests and anti-malarial drugs to increase the access of mobile and migrant workers to malaria treatment services.

The assessment also insinuates that access of community members to LLINs through regular annual distribution was quite high; however, there were still complaints that there were not sufficient nets to cater to the needs of all family members. The LLINs were not distributed to migrant workers especially those who work in the private companies or farms. They were not entitled to a LLIN net as they were not considered permanent residents. This further increase their risk of malaria infection, particularly during their travel or nights spent in the farm or forest. The results emphasize the importance of providing sufficient LLINs to community members and expanding LLIN accessibility to the mobile and migrant workers to increase coverage. By ensuring that both community members and mobile and migrant workers possess sufficient nets, the migrant workers and forest goers may be more likely to carry and use the net in the farm and forest.

The community members acknowledged the regular distribution of LLINs, however, they registered their discontent with the size, texture, hardness and large holes of the distributed LLINs which in some cases lead to less use or resulted in purchasing of conventional nets to use instead. By listening to community’s preferences and providing more acceptable LLIN nets with regards to net size, texture and fabric, net use could potentially be optimized. Innovative preventive measures and tools should be devised for the forest goers who work and sleep in the forest such as Long Lasting Insecticidal Hammock Nets (LLIHNs). As majority of the community members still use the conventional bed nets and demanded for the re-impregnation of bed nets, the re-treatment campaigns should be reconsidered combined with the health education to encourage their bed net use. In addition, regular free or subsidized supply of repellents for the rubber plantation workers and forest goers should be made available at the community level to increase their easy access to these protective measures. Furthermore, a pilot study to assess the acceptability and feasibility of insecticide treated clothing for rubber tappers who work all night in the farm could be worth considering.

Community members raised concerns regarding some adverse effects such as burning of eyes and itching of skin after the LLIN use which discouraged the bed net use and in some cases resulted in its alternative use such as for fishing. Therefore, during the distribution of LLINs, focussed health education
sessions should be held to address community misperceptions and fears of adverse side effects associated with the use of LLINs.

Interpersonal communication was the most preferred method of health education in these communities. Regular health education sessions focusing on a single health issue should be organized at the community level and work places through volunteers and health staff to create awareness on malaria prevention and control. Revise and update motivational messages including benefits and produce culturally appropriate and context specific IEC materials in Laos, Vietnamese and Chinese as well as other local languages to support the volunteers in the health education sessions. Develop attractive and pictorial IEC materials, poster and bill boards to display in the social places, gate ways to the forest and at private companies to reinforce messages. The popular local media such as loud speakers should be used to disseminate key messages on daily basis. It is important to build the capacity of the key change agents, village volunteers, in communication and health education skills to enable them to play an effective role in raising awareness in their communities. It is also essential that funds should be allocated for the regular monthly meeting of the village volunteers at the health facility level to strengthen community-service provider linkages and build their capacity on continuous basis. Some funds for health centre staff should also be allocated to monitor the volunteers’ performance and provide supportive supervision at the community level.

Study limitations
It was difficult to identify trained qualitative researchers from Lao. Therefore, existing health staff from Lao used to collect the data. Only 4 days were allocated for the training of health staff which were not enough to develop their facilitation/moderation and probing skills. In some themes the investigator feels that there could have been more probing to get in-depth information.

Recommendations and Conclusion
The qualitative assessment based on the experience of 169 community members and migrant works provides some valuable insights into how the access of community members and migrant workers to malaria prevention and treatment services could be improved. In addition, how the key messages, interpersonal communication, and behaviour change communication strategy be focused and volunteers’ capacity be strengthened. Followings are the key programmatic recommendations to improve malaria knowledge, use of prevention measures, health seeking behaviours and appropriate channel of communication for the target audiences.

Misunderstanding about malaria transmission and prevention
The assessment indicates that both community members and migrant workers demonstrated lack of understanding about malaria transmission. The misconception of drinking unclean/un-boiled water and personal hygiene causing malaria may lead to the in-correct prevention measures.

Recommendations: The misconception about malaria transmission should be addressed through interpersonal communication through volunteers and health staff. To avoid mix messages on diarrhoea, malaria and dengue, focused health education sessions on a single disease at a time should be conducted at the community level. The existing format of annual health education session by district staff covering 4-5 diseases should be changed from once a year to at-least once a quarter. The community based volunteers should conduct regular sessions (once a month) to to reinforce the malaria prevention and treatment messages given by the district staff. Culturally appropriate and context
specific IEC materials should be developed in the local language, using the local malaria terminologies to reinforce key messages.

**Increase access to malaria treatment services**
The assessment positively highlighted that malaria services were being accessed mainly through public sector. If distribution of commodities and services is constant (no stock-outs), it could result in high uptake of services maximizing the impact. However, the assessment suggests that there are few factors that affect the community members and migrant workers timely access to the malaria treatment services. The factors include, in order of priority: seasonal stock-outs at village volunteers and sometimes at health centres, financial and transport barriers and attitude of their health care providers. The key barriers mentioned by the Vietnamese migrants were language barriers and lack of knowledge about the malaria treatment services.

**Recommendations:** The regular supplies of Artemisinin based Combination Therapies (ACTs) and Rapid Diagnostic Tests (RDTs) should be ensured at the village and health centre level. Village health volunteers should be expanded to more areas in order to reduce the transportation barrier and increase uptake of malaria prevention and treatment services. In addition, collaboration with the private companies and commercial farms should be explored and company health workers or volunteers should be trained and supplied with the ACTs/RDTs to increase migrant workers’ timely access to malaria prevention and treatment services.

**Identify/train nurses or volunteers in private companies**
There are no diagnostic and treatment services available in most of the private companies and commercial rubber farms which further limit the access of the mobile and migrant workers to timely health services. These factors may lead to self-medication and undue delays which further complicate the malaria cases.

**Recommendations:** Existing health staff such as nurses and volunteers should be trained and supplied with diagnostics and medicines in the private companies to support malaria prevention and treatment activities. Piloting and expanding this approach in companies where there are no volunteers will be worth trying.

**Limited migrants’ access to preventive measures**
The assessment results show that community members have a higher access to LLINs than the migrant workers. There is annual distribution of LLINs to community members, however, migrant workers especially those who work in the private companies, rubber plantation forms are remained deprived of this distribution as the bed net policy is only for resident community members. Community members also complained that distributed bed nets do not fulfil their complete demand and they have to buy conventional nets to make up the shortage.

**Recommendations:** Continuous LLINs distribution and top up campaigns should be conducted to ensure the coverage and use remains high in the target communities. The future LLINs distribution campaign should seriously consider the most at risk population, mobile and migrant workers, for the bed net distribution. The possibilities of collaboration with the private companies and commercial farm owners should be explored to ensure high coverage of LLINs distribution to the vulnerable populations. Innovative preventive measures and tools should be devised for the forest goers who work and sleep in the forest such as Long Lasting Insecticidal Hammock Nets (LLIHNs). Given that many forest goers
preferred to use repellents or coils to prevent malaria, BCC efforts may need to focus on promoting the malaria prevention abilities of other tools. A pilot study to assess the acceptability and feasibility of insecticide treated clothing for rubber tappers who work all night in the farm could be worth considering.

**Re-treatment of conventional bed nets**
The assessment suggests that many community members in both districts demanded for the re-continuation of insecticide re-impregnation of conventional bed nets campaign.

**Recommendations:** As per the community’s demand, the re-treatment campaign should be resumed in the target villages. This activity will not only help re-treat bed nets but also provide a platform to reinforce key messages on malaria prevention and control.

**Lack of standardization of volunteer’s strategy and tools**
The village health volunteers are the main source of interpersonal communication and malaria diagnosis and treatment at the community level. However, the volunteers’ strategy varies in each stratum which may results in lack of standardized health information. In strata 3 (high risk area), the volunteer gets $12 for visiting and providing IPC in 12 household in a month. Nevertheless, in strata 2, they are only responsible for diagnosis and treatment without any incentives as they do not conduct any interpersonal communication in the strata. There is no health education or malaria prevention and treatment activities in strata 1.

**Recommendations:** The village health volunteers activities needs to be harmonized across the strata to ensure the standardized delivery of messages to the communities and migrant workers. The village malaria volunteers should conduct the synchronized IEC/BCC strategies in each strata to reinforce messages. This will also address the relative deprivation of those volunteers who do not get any incentive despite having similar workload and expectations.

**Ensure focused health education**
The district health education unit from District Anti-malaria Nucleus (DAMN) conduct annual health education sessions in each target village. In the day-long session they provide awareness on 4-5 diseases including diarrhoea, malaria, dengue, maternal and child health etc. This may be a possible factor that reflects community’s confusion of linking unclean drinking water as potential cause for malaria. These messages are good but lead to the incorrect preventive measure for malaria such as drinking boiled water to avoid malaria instead of using LLIN bed nets.

**Recommendations:** The health education activities should be prioritized and focussed on single topic to ensure the community’s comprehension and understanding on the key messages. Frequency of health education session should be increase from once a year to once a quarter to reinforce key messages and ensure better retention of these messages to the target audience. The key target audience i.e. forest workers or mobile and migrant populations should be focused in the health education activities to ensure that the messages are reaching to the high-risk malaria groups. This focussed and tailored health education on malaria will strengthen community’s understanding on malaria transmission and prevention which will positively affect the uptake of usage of mosquito nets.

**Capacity building of the village health volunteers in communication skills**
Village health volunteers are the key change agent at the grass-root level. The assessment suggests that they are one of the most preferred channels of communication for the target communities. However there is no regular training or refresher training organized for the village volunteers. There are no supportive job-aids or IEC materials available for them to provide standardized information during the interpersonal communication at the household level.

**Recommendations:** As the volunteers are responsible for health education and interpersonal communication, they should be equipped with the key communication and facilitating skills and adult learning techniques in order to conduct effective health education activities in their communities. Regular refresher training should be organized for them to improve their knowledge and skills. Key IEC materials such as flip charts with key malaria prevention and control messages should be develop for volunteers to be used during their IPC visit to ensure the standardised health education at the community level.

**Review and revise the IEC/Behaviour Change Communication (BCC) strategy**

The assessment findings indicate that there were not enough IEC materials available with the village volunteers or at the health facilities to be used during the IPC or health education session. The IEC material i.e. malaria posters that has been developed by CMPE in three languages i.e. Chinese, Vietnamese and Lao are only developed for certain target audience and is not suitable for other areas due to different context. The existing Interpersonal Communication Strategy (IPC) strategy needs to be reviewed and updated. The strategy needs to focus on the active community participation in all malaria prevention and control activities to ensure community ownership. The private companies and commercial farms should also be engaged as a channel of communication for migrant workers.

**Recommendations:** The culturally appropriate and context specific IEC materials should be developed for the community members and migrant workers in the target communities. Interpersonal communication is the most preferred channel of communication for the community members and migrant workers. The IEC material such as flip charts with key messages should be developed for the village volunteers to be used during the household visit and health education sessions to ensure standardized messaging to the target communities. Colourful posters with calendars as suggested by the community members should be develop with key messages and displayed at the key socialization places for community members and migrant workers. Pamphlets with consistent messages and should also be developed to be distributed to the community members after the health talks by the volunteers to reinforce messages.

The IPC strategy should also include some local media such as loud speakers to disseminate messages on regular basis. Many community members mentioned loud speaker as an effective local media to share health related information. Therefore, use of ‘loud speaker’ as an appropriate channel of malaria related communication should be encouraged. The loud speaker could be used to remind community member and migrant workers some key behaviour such as carry bed net before they leave for the forest or farm on daily basis. A CD or a script on key messages can be developed by CMPE and handed over to village chief to disseminate messages before or after the community announcements. The script could be updated on monthly basis to ensure the interest of the community in health related messages.

Attractive, colourful and context specific IEC materials with consistent messages should be developed for the target communities. The pamphlets and posters should be developed in target languages such as
Vietnamese and Chinese and displayed in the private companies to increase access of migrant workers to the malaria information.

**References**

2. Sustaining Malaria Control in Lao PDR, focusing on Malaria vulnerable population through multisectorial approach” (GLOBAL FUND, 2013)
3. The prevalence of *Anopheles* (Diptera: Culicidae) mosquitoes in Sekong Province, Lao PDR in relation to malaria transmission

**Appendices**

Annexure 1. Topic guide for FGD with adult community members both men and women about Malaria and Work-related Issues.

<table>
<thead>
<tr>
<th>Key topics/themes</th>
<th>QUESTIONS AND PROBES</th>
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<tbody>
<tr>
<td><strong>Generic question</strong></td>
<td>1. What are the common health problems in this community?</td>
</tr>
<tr>
<td></td>
<td>• If not mentioned, ask about malaria</td>
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<tr>
<td><strong>Knowledge of Malaria</strong></td>
<td>2. What do people call malaria in this community?  Probe for the local terminology for malaria</td>
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<td>3. According to your opinion how do people get malaria?  Probe for cause of malaria? (Explore all existing beliefs i.e. bad spirit, bathing in the stream etc.)</td>
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</tbody>
</table>
| Malaria Care-Seeking Behaviors | 7. When someone gets malaria in your community what does he/she (or family members) do for treatment?  
   • Probe for home treatment, herbal or traditional medicines  
   • Probe for all types of health care providers including private practitioners, drugs shops, traditional healers, and faith healers and who is visited first  
   • Why do they use that type of provider?  
8. How long after the malaria fever starts, do people seek care? Why |
|-------------------------------|---------------------------------------------------------------------------------------------------------------|
| Decision-Making Process       | 9. When people think they have malaria and need treatment, how do they decide where to seek care?  
   • Who decides in the family? Probe for family, friends, relatives, and employer? |
| Barriers to Care and Suggestions for Improvement | 10. What kind of difficulties do people face when trying to get treatment for malaria?  
   • Probe for distance, cost, language, health worker attitudes etc. |
|                              | 11. What suggestions do you have for improving this situation? |
| Malaria Prevention            | 12. What kinds of things do people in this community usually do to protect themselves from malaria? Probe for the following:  
   • Mosquito nets, types of nets (treated/untreated)? Who provides? When and where obtained?  
13. What do people do when they sleep outside in the forest or farm to protect them from malaria?  
   • Probe for hammock nets, repellents and other traditional methods etc. |
| Communication Channels        | 14. What are the main sources of information/communication about health for people in the community? (Probe: volunteers, facility staff, local media, radio, TV etc.).  
15. Which sources of information do they trust most? Why |
| Work-Related Questions        | 16. What types of employment do men in this community engage in? What types of employment do women engage in?  
   • Ask for different types of short-term, long-term, temporary, and permanent employment available in the area  
17. How do people in this community usually learn about employment opportunities?  
18. Which parts of the country do people who work around here usually come from?  
   PROBES:  
   • Which country or province do people come from?  
   • Do they usually migrate alone or together with their families?  
   • How long do they usually stay? |
Annexure 2. Topic Guide for In-Depth Interview with Migrant worker/community member about Work and Malaria-Related Issues

IDI NO: ____________________________   Audio IDNO ______________________________

Date of interview: ____/____/____                            Start time: ___________ End time:____________

DD /MM/ YYYY

District:__________________________________   Village:   _________________________________

CMI type (circle):   Permanent resident  / Migrant worker /  Other ____________________________

Participant age: _____         Participant education: ________   Participant gender  (circle) : Male  / Female

Participant occupation _____________________

Moderator:__________________________    Note taker____________________________________

<table>
<thead>
<tr>
<th>DOMAINS OF INTEREST</th>
<th>QUESTIONS AND PROBES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Generic questions</strong></td>
<td>1. How old are you?</td>
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<td></td>
<td>2. What is the last grade you completed in school?</td>
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<td></td>
<td>3. Where do you currently reside?</td>
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<td>4. How long have you lived in this village/area?</td>
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<td></td>
<td>5. When did you move to this area?</td>
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<td>6. Why did you move here?</td>
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<td></td>
<td>7. Did you move here alone or with family members?</td>
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<td></td>
<td>8. Where did you live before moving here?</td>
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<td>9. How long do you plan on staying?</td>
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<td>10. How often do you return to your natal village?</td>
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<tr>
<td><strong>Questions for company employee (ask if someone is employed in a company)</strong></td>
<td>11. What kinds of employment opportunities are available in this district?</td>
</tr>
<tr>
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<td>12. How do people usually find out about these employment opportunities?</td>
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<td></td>
<td>Probes:</td>
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<tr>
<td></td>
<td>• Do people find out from family, friends, or word of mouth?</td>
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<td></td>
<td>• Is the employment short-term or long-term?</td>
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<td>13. What kind of employment do you currently have?</td>
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<td></td>
<td>14. How long have you been doing this kind of work?</td>
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<td></td>
<td>15. Do you work for yourself or for someone else?</td>
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<td></td>
<td>• If they work for someone else, ask how they were recruited.</td>
</tr>
<tr>
<td><strong>Questions for Forest Workers (ask if someone work in a forest)</strong></td>
<td>16. Which forest activities do you engage in?</td>
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<tr>
<td></td>
<td>• Probe for rose wood, herbal medicine, logging etc.</td>
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<td></td>
<td>17. In which months do those activities occur?</td>
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<td></td>
<td>18. What is your usual working routine?</td>
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<tr>
<td><strong>Malaria</strong></td>
<td>19. Which types of health problems do people who live in this community suffer from the most?</td>
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<td></td>
<td>• Is malaria a common health problem in this community?</td>
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<tr>
<td><strong>Malaria Prevention Methods</strong></td>
<td>20. What kinds of things do you usually do to protect yourself from malaria?</td>
</tr>
<tr>
<td></td>
<td>• Probe for mosquito nets, types of nets (treated/untreated)? Who provides? When and where obtained? If don’t use any protection, Why?</td>
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<td></td>
<td>21. What kinds of things do you do when you sleep outside in the forest or farm to protect yourself from malaria?</td>
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<tr>
<td></td>
<td>• Probe for hammock nets, repellents and other traditional methods etc. If don’t use any protection, why?</td>
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<td></td>
<td>22. Where do you get these protection methods from?</td>
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<td></td>
<td>23. What do you think is the best way to protect you and your family from malaria?</td>
</tr>
<tr>
<td><strong>Malaria Care-Seeking Behaviors</strong></td>
<td>24. When someone gets malaria in your family, what do you or family members do for treatment?</td>
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<tr>
<td></td>
<td>• Probe for home treatment, herbal or traditional medicines</td>
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<td></td>
<td>• Probe for the time they wait at home before seeking proper treatment</td>
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<td></td>
<td>• Probe for all types of health care providers including private practitioners, drugs shops, traditional healers, and faith healers and who is visited first</td>
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<td></td>
<td>• Why do they use that type of provider?</td>
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<td>25. What do you do if you get sick in the forest?</td>
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<td></td>
<td>26. How long after the malaria fever starts, do people seek care? Why</td>
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<tr>
<td><strong>Decision-Making Process</strong></td>
<td>27. When you or your family member think they have malaria and need treatment, how do you or other family member decide where to seek care?</td>
</tr>
<tr>
<td></td>
<td>• Probe for family, friends, relatives, and employer?</td>
</tr>
<tr>
<td><strong>Barriers to Care and Suggestions for Improvement</strong></td>
<td>28. What kind of difficulties do you usually face when trying to get treatment for malaria?</td>
</tr>
<tr>
<td></td>
<td>• Probe for distance, cost, language, health worker attitudes etc.</td>
</tr>
<tr>
<td><strong>Final Malaria Comments or Suggestions</strong></td>
<td>29. What suggestions do you have for improving the malaria situation?</td>
</tr>
<tr>
<td><strong>Closing</strong></td>
<td>Thank you so much</td>
</tr>
</tbody>
</table>
Annexure 3. Topic Guide for an In-Depth Interview with a Malaria Health Volunteer (MHV)

IDI IDNO: ___________________________________________ Audio IDNO ____________________________

Date of interview: ____/____/____ Start time: ___________ End time: ___________

DD /MM/ YYYY

District: ___________________ Village: ____________________________

Participant type (circle one):     MHV/ Other ________________________

Participant age: _______ Participant education: ____________ Participant gender (circle):

Male/ Female

Duration of Residence in Village: ____________________________

IDI No (circle):     1   /   2   /   3 / 4                 Moderator:  __________________

<table>
<thead>
<tr>
<th>DOMAINS OF INTEREST</th>
<th>QUESTIONS AND PROBES</th>
</tr>
</thead>
</table>
| Recruitment and Training | 1. How did you first become interested in this kind of volunteer work?  
|                       | • Probes: What motivated you? Who recruited you?  
|                       | • When and where did you receive training? Who long did the training last?  
|                       |   What did they teach you in the training?  
|                       | • Do you receive refresher training? How often?  
|                       | 2. What kinds of malaria-related activities do you conduct in this community and how often?  
|                       | • Probe for health education activities? Which type and how often?  
|                       | 3. Do you use health education materials? Which types and where do you get them from?  
|                       | 4. Do you assist with the malaria post/health facility with bed net distribution or retreatment of nets? If yes, how often?  
|                       | 5. Do you provide follow-up to malaria patients?  
|                       | 6. Do you receive any sort of compensation? What type?  
|                       | 7. How often do you receive supervisory visits?  
|                       | 8. When was the last time you received a supervisory visit?  
|                       | 9. Who do your report your malaria activities to?  
|                       | 10. How often do you send in your malaria reports?  
|                       | 11. Do you receive any feedback on your reports?  
| Malaria cases | 12. On average, how many malaria patients do you see/treat in a day/week/month? |
13. In which months do you see the highest number of malaria cases?
14. In which months do you see the fewest number of cases?
15. Where do most of your malaria patients originally come from?
16. What proportion of your malaria patients are migrant workers or newcomers to the area?
17. How do you know if a patient is a migrant worker?
18. What are the most common types of employment that your malaria follow-up patients are engaged in?

| Barriers to treatment | 19. What kind of difficulties do you face when providing services to malaria patients?
20. What suggestions do you have for improving the situation? |

| Patient Barriers to Care and Suggestions for Improvement | 21. What kind of difficulties do people in the community encounter when trying to get treatment for malaria?  
• Are distance, cost, language, health worker attitudes, or legal issues factors?  
22. What kind of difficulties do migrants face when trying to get treatment for malaria?  
23. What suggestions do you have for improving the situation? |

| Malaria-Related Activities in the Community | 24. What kinds of malaria-related activities that have taken place in this community during the past month? Past year?  
**PROBES:**  
• Who conducted or provided these activities?  
• What preventive and treatment messages did they promote?  
• What communication methods were used?  
• Which type of malaria communication method do you think will reach most people in this community? |

| Other Work Activities | 25. 11. What other kinds of health services do you provide for the community? Do you receive compensation?  
THANK YOU FOR YOUR TIME |

Annexure 4. Topic Guide for Key Informant Interview with Village Chiefs or Community Leaders

KI NO. ________________ Audio IDNO: ________________
Date of Interview: ____/____/____ Start time: ___________ End time: ___________  
DD /MM/ YYYY
District: ________________ Village setting: ________________
<table>
<thead>
<tr>
<th>Main topics</th>
<th>QUESTIONS AND PROBES</th>
</tr>
</thead>
</table>
| Types of Employment Opportunities              | 1. What kinds of employment do people who live in this community engage in?  
• Probe for seasonal, temporary, or permanent jobs                                                                                                                                                                                                                                                                                              |
| Characteristics of Migrant Workers             | 2. Which countries or parts of Lao PDR do mobile and migrants who live or work in this area come from?  
3. When migrants first move into a community, do they have to officially register?  
  • Probe for registration process? What consequences do they face if they do not register?  
4. Where do migrants workers in this district usually live?  
5. How many migrants are currently living in this community?  
  • Probes: In which months are they usually present? How long do they usually stay?  
  • What are the characteristics of migrants in the community in terms of age, gender, and marital status?  
  • Do they usually migrant here alone or with their families?                                                                                                                                                                                                                                                                                  |
| Types of Migrant Work Activities               | 6. What different kinds employment activities do migrant workers who live in around here usually engage in?  
  • Probes: In which months do those activities take place?  
  • Is the employment usually short-term or long-term?  
  • Temporary or permanent?  
  • Day time or night time?  
7. How do employers find their workers?  
  • Probes: Do they advertise?  
  • Do they employ their relatives?  
  • Do they contact migrant workers directly or through brokers?                                                                                                                                                                                                                                                                               |
| Knowledge of Malaria and Care-Seeking Behaviors | 8. What are the most common health problems among migrants in this community?  
**If not mentioned, ask:**  
9. Is malaria a common health problem in this community?  
10. Which groups of people are most likely to get malaria?  

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<tr>
<td>11.</td>
<td>Where do community members/migrants in this community usually go for malaria treatment?</td>
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</tbody>
</table>
| 12. | What kinds of difficulties do people/migrants face when trying to get malaria treatment?  
- Are distance, cost, language, health worker attitudes, or legal issues factors? |
| **Closing** | That is the end of my questions. Thank you so much for your time. Do you have any questions for me? |